



St Joseph's College Knowledge Organisers Year 10

2021_2022 - All subjects

Name: _____

House: _____



My timetable:



St Joseph's College Knowledge Organisers

Why do we have knowledge organisers?

Your knowledge organisers help you to be successful in many ways. Firstly, they make clear the key elements needed in a topic to have an excellent understanding of it. If you know these elements, your teacher will help you to understand them.

What are my teachers' expectations of me?

In year 7 and 8 your teachers will give you homework based on your Knowledge Organiser. This means you will be spending time learning information from your Knowledge Organiser at home. Teachers will test you once a week to make sure that you are completing the homework and you are able to recall the information on the Knowledge Organiser. Your Knowledge Organiser exercise book is where you will complete your homework. It should show evidence of you practicing recalling the information on the Knowledge Organiser. Each time you complete your homework in the book, you should put the subject as the title and clearly write the date completed. Once complete put a ruler to show the end of the homework. Teachers and form tutors will be regularly checking that you are completing this homework. For some subjects you may be required to complete online questions such as Spark Maths to demonstrate your recall practicing. Knowledge Organisers must be brought to school everyday.

How will my teachers use them?

Each core subject will set homework once a week that will help you to learn your knowledge organiser. They will also test you once a week on certain parts to see how well you have remembered it. Research tells us that this recall practising is a really good way of helping you make sure that the knowledge stays in your memory. Over time you will build on this knowledge to make sure that you know everything you need to for your subject. Sometimes you may have high stakes quizzes, where teachers will set a certain score that you have to reach to be successful.

How will they help me revise?

When it comes to GCSEs, you have lots of information to remember. Your Knowledge Organisers will gradually build up this knowledge over 5 years to help support you in year 11 so that when you revise, you are just recalling knowledge that you have already stored. Also, you will have practised lots of revision techniques whilst using your knowledge organisers over the past 5 years, which will help prepare you for the final exams.



Using a Knowledge Organiser Guide - for Parents and Carers

What is a knowledge organiser?

A knowledge organiser contains all the important information from a particular topic, summarised in just a few pages. It includes key words, important facts, diagrams, methods and skills relating to the topic.

Why is it useful?

A knowledge organiser helps students to organise the content they need to learn. This makes it easier for them to remember the information and access the facts from their memory when they need to answer an exam question.

How can it be used?

The more memories are used, the stronger the memory becomes and the easier it is to access. For students, this means regular practice at retrieving the facts they have learnt and using them in a variety of ways. They could play games with the information, explain the facts to someone, apply the information to a new situation or organise the knowledge organiser into a different format.

How can I help?

The knowledge organiser contains all the facts needed to test someone on the content from a topic. This is great because it means you can help someone revise content even if you haven't studied it yourself!

- You could ask your child some questions on the content, for example the definition of a few key words, or challenge them to draw a diagram from memory. Testing their knowledge with one or two questions a day can make a big difference to how much information they remember. Perhaps it could become part of the after dinner or breakfast routine.

- You could prompt your child to turn some of the information on the knowledge organiser into a different format; a word list could become flashcards, facts could be transformed into a mind map to show links between ideas, information could become a song, story or comic strip, a diagram could become a poster, a collage or a model.

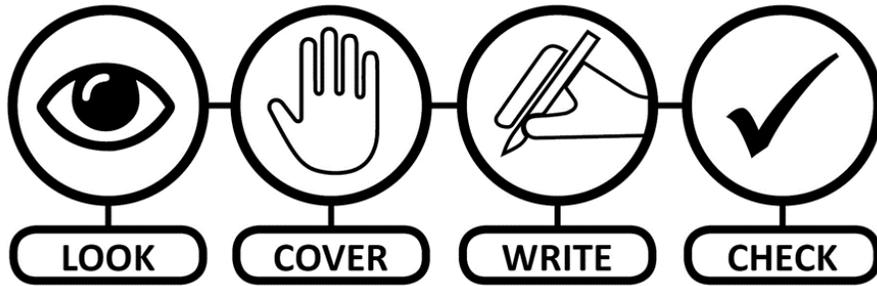
- You could ask your child to teach you about something on the knowledge organiser. Having to explain information to someone else, and answer their questions about it, is a great way to reinforce their knowledge and identify areas they need to go back and revise again.

- You could suggest turning the information into a multiple-choice quiz, either on paper or using a website. This task requires them to process the information to write questions and come up with correct and incorrect answers. You could then use it to test their knowledge or to host a quiz with family or friends, either at home or online.



Top tips for learning and revising the information in your knowledge organiser

Check the website for more subject specific revision information



Flashcards

Weight

$$F_g = m \times g$$

The gravitational force (F_g) which acts on an object on/near the surface of a planet/moon.

★ Example

Mnemonics

FOIL

the **first** terms
the **outer** terms
the **inner** terms
the **last** terms

Example 1:

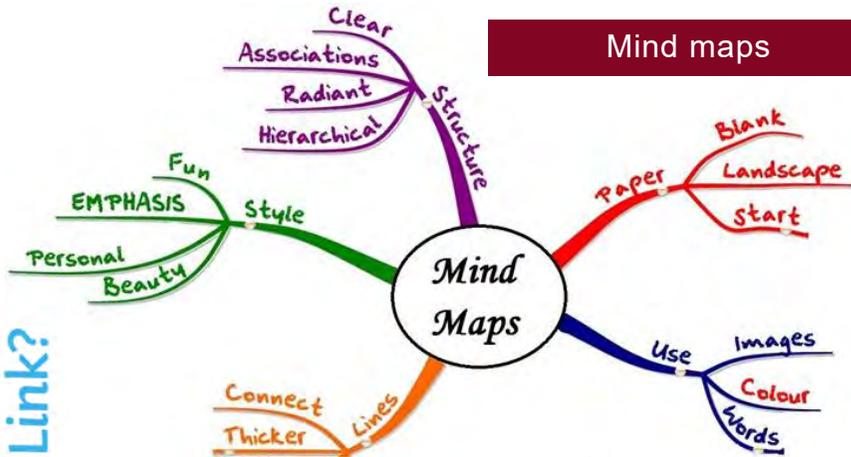
$$(x + 4)(x + 7) = x \cdot x + x \cdot 7 + 4 \cdot x + 4 \cdot 7$$

Order of Operations: Show Your Work!

$$= x^2 + 7x + 4x + 28$$

$$= x^2 + 11x + 28$$

Mind maps



Quotes

Macbeth

VALIANT
"his brandish'd steel [...] smoked with bloody execution"

RESPECTED
"O valiant cousin! worthy gentleman"

CURIOUS
"you imperfect is, tell me more"

NOT NATURALLY RUTHLESS
"...too full o' the milk of human kindness"

LOVING
"My dearest partner of greatness"

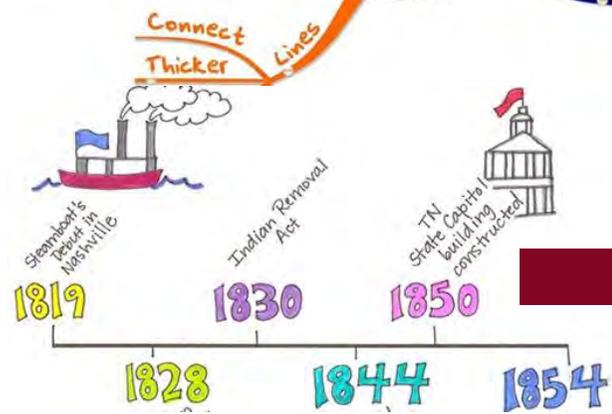
ADMIRED
"(Sergeant:) brave Macbeth-- well he deserves that name"

HONOURED
"(Duncan:) With his former title greet Macbeth"

PENSIVE
"This supernatural soliciting cannot be ill, cannot be good"

OVERWHELMED BY IMAGINATION
"function is smother'd in surmise"

What Is the Link?



Time lines

DEFINITION

Online flashcards





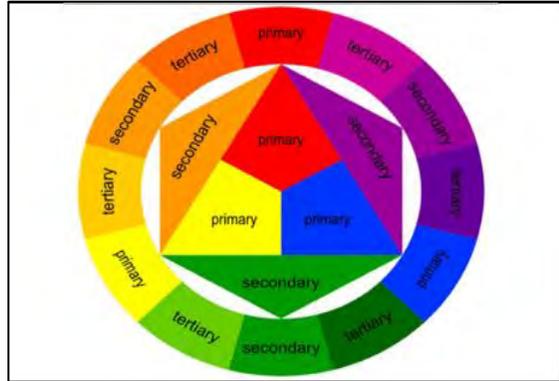
St Joseph's College Art Department

Surfaces

Exploring a variety of Materials, Media and Techniques



Colour Wheel



Assessment objective

AO2 Refine work by exploring ideas, selecting and experimenting with appropriate media, materials, techniques and processes.

Material	Types of the material	Techniques	What do you need to remember with this material?
Pencil An instrument for writing or drawing, consisting of a thin stick of graphite or a similar substance enclosed in a long thin piece of wood.	Graphite pencils Mechanical pencils Water soluble pencils Charcoal pencils Conte pencils Grease pencils	Shading is the technique of adding a range of light and dark tones to a drawing. Usually done with a 2B or 4B pencils, as these are softer and darker than a HB pencil, which allows more graphite to go onto the page. Blending - the act of moving smoothly between tones through changing pressure or layering pencil. You could use a blend stump it blend, however if you do you need to press lightly in circular motions and work carefully so it doesn't create dirty smudges.	Sketch lines lightly so you can rub them out if a mistake is made. Shade evenly in one direction with no white gaps. Use a range of dark and light tones. Look carefully at where the light and dark areas are and be sure to add light, middle and dark tones.  Use blending to move between tones. Shade neatly and sharply to the edges of your shape. Look carefully at what you are drawing, take your time to get it right.

Colour Mixing With Paint How do you make a colour lighter? 	To make a colour lighter you add white. These are called tints.
How do you make a colour darker? 	To make a colour darker you add the colour opposite it on the colour wheel. Orange- Blue Green- Red Purple- Yellow

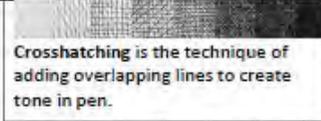
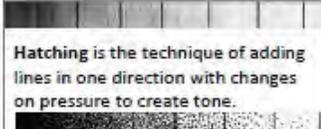
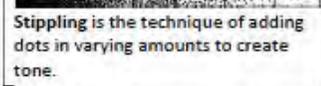
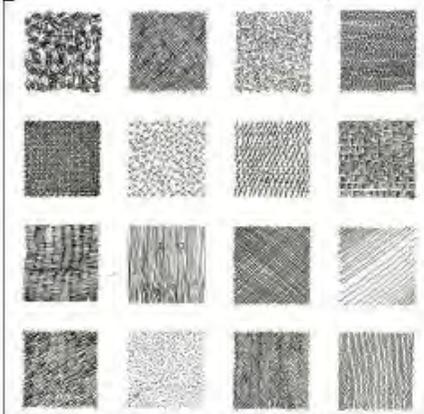
Material	Techniques	What do you need to remember with this material?
Acrylic Paint is pigment mixed with a polymer binder and is water-soluble. It can be thinned with water or gels. Once acrylic is dry it is permanent and can not be lifted in the same way as water colour. Clean up is with water but it is important to clean up while the paint is still wet on your brushes and surfaces. In school, we use Daler- Rowney System 3 acrylic. Although there are many other brands and qualities of paint. 	Blending -Painting colours so that there is a gentle and gradual transition from one to the other Layering - adding layers of paint over previous layers to create tone or add detail. Underpainting - is an initial layer of paint applied to a ground, which serves as a base for the next layers of paint. Underpainting is often monochromatic and help to define colour values for later painting. Flat base painting - filling areas of a painting with flat colour before adding detail. This gives you a better surface on which to paint. Dry Brushing -A painting technique in which a paintbrush that is relatively dry, but still holds paint.	Take your time to mix your colours. Add a range of colours and tones to your work. Colours are blended neatly and evenly. You need to look carefully at what you a drawing to get accurate shapes, colours and tones. Add a little by little don't use too much paint at once. Use your brush carefully, put gentle pressure on the brush. Think carefully about the direction you are painting in, as some will be easier for you than others. Don't use too much water. For best results paint on a strong surface such as wood, canvas or high quality paper.

Watercolour Paint is a popular paint for its translucent colours. Pigments are water based and mixed with gum Arabic as a binder. Watercolour paints can be blotted and easily lifted from the paper. Watercolours come in blocks and tubes. 	Blending - The technique of moving between different colours in watercolour. Wet on wet - Applying paint onto wet paper. This also allows to colours to bleed into each to create a subtle soft effect. Colour wash - Applying a light layer of colour as a base before adding more detail. You might also use this as a technique with another material to create an area of soft colour. It is common to layer several washes to gain a deeper, richer look.	Use a range of tones by adding darker areas then adding water to blend to lighter areas. It is best to work light to dark. Build up layers of paint as you go. Mix colours to create the tones you want. Leave areas of paper free from paint to create highlights. Try not to press too hard with the brush. Don't go over the areas time and time again as this might cause the paper to peel. Use careful paintbrush control to work neatly to the edges. Use watercolour paper for best results.
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<p>Colouring pencil An instrument for writing or drawing, consisting of a thin stick of pigment mixed with oil or wax in a long thin piece of wood.</p> 	<p>Water colour pencils Wax/oil colour pencils Pastel colour pencils Brands include Crayola, Staedtler, Faber Castell</p>	<p>Shading is the technique of adding a range of light and dark tones to a drawing. In colouring pencil, this can be done by increasing pressure on the pencil to create darker tones or building up layers of different colours to create darker colours. Blending- the act of moving smoothly between tones through changing pressure. Layering- The act of layering different colours to create tone or colour.</p>	<p>Start by sketching out in a light colour pencil, or extremely lightly in pencil. Shade or colour evenly in one direction. You might use a circular motion to blend colours together. Use a range of dark and light tones. Shade neatly and evenly to the edge of your shapes.</p>
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<p>Fineliner A fineliner is a pen with a felt tip, almost like a felt tip marker but smoother and more precise.</p> 	<p>Fine liners come in a range of sizes, from 0.05mm to 1.0cm. Available in water-resistant and water-soluble.</p>	<p>Disolving- the technique of using water on top of a water-soluble pen to create interesting marks which blend and smudge. Pattern- The technique to adding patterns and details to an image to develop your ideas. Layering- Creating layers of different colours or thicknesses of pen to create tone and detail.</p>	<p>Think carefully about what you are going to do before you do it. With fine liner and water, try not to add too much water, be selective about where you add water.</p>
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Material	Types of the material	Techniques	What do you need to remember with this material?
<p>Pen A drawing or writing instrument, where a tube or cartridge of ink held in a plastic tube.</p> 	<p>Biro/ball point pen. Gel pen Watercolour Rollerball Permanent Ink- Cartridge pen</p>	<p>Crosshatching is the technique of adding overlapping lines to create tone in pen.</p>  <p>Hatching is the technique of adding lines in one direction with changes on pressure to create tone.</p>  <p>Stippling is the technique of adding dots in varying amounts to create tone.</p>   <p>You can also use a range of mark making techniques.</p>	<p>Use pen neatly and carefully, don't press too hard. Use crosshatching or mark making to create tone. Think carefully about your work before you start because you can't rub it out. Use paper to cover to parts already completed so they don't smudge. Use cheaper pens as often you are able to create lighter tones.</p>

Which media and technique have you used successfully?

Which media would you like to explore next?

How can you refine your skills in using the media above?



Material	Techniques	What do you need to remember with this material?
<p>Chalk is a soft white limestone formed from the skeletal remains of sea creatures. Chalk Pastels are chalk-based mediums, more of a powdery substance compressed, displaying different and a variety of hues.</p> 	<p>Smudging/blending- Make or become blurred or smeared by using your finger or a smudging tool (for example a rubber). Layering- start with a base layer of a colour and work on top building up the tones and blending. Blocking in colour- quickly filling in an area in flat colour.</p>	<p>Sketch your image out lightly with a light coloured chalk. Add highlights first and then build up to darker tones. Work on a thick paper such as sugar paper or pastel paper. Be careful not to smudge your work with your hand, use a piece of paper to lean on.</p>
<p>Charcoal is a black substance typically made from burnt wood. It is a soft, brittle material in stick or pencil form used for sketching and drawing, Charcoal is rich and crumbly, and smudges easily. Charcoal It smudges easily so use a fixative to keep it in place.</p> 	<p>Hard edge- using the end of an oil pastel to draw an outline by pressing hard, this line can be refined with a blending stump. Soft edge- using the side or edge of the oil pastel to draw pressing softly. Removing colour- adding a layer of chalk, then using a rubber to remove sections of colour.</p>	<p>Sketch out your image with lightly sketched lines. Build up the tones with mark making and layering charcoal. Be careful not to smudge your work with your hand, use a piece of paper to lean on. Work on a thick paper such as sugar paper or pastel paper. You can achieve both soft and strong lines depending on the type you use, use a combination of both in your work.</p>
		<p>Oil Pastel Are made with a gum or binder, oil pastels consist of pigment (colour) mixed with a non-drying oil and wax binder. They combine the best properties of crayons (smooth, easy application) and pastels (bright, pure colour) There is a wide variety of oil pastels from cheaper and expensive brands. Often the more expensive ones such as Sennelier have more colour pigment and better quality binder.</p> 

Blending- The act of mixing one or more colour together, by layering them on top of each other or blending with a blending stick.
Layering- start with a base layer of a colour and work on top building up the tones and blending.
Blocking in colour- quickly filling in an area in flat colour.
Hard edge- using the end of an oil pastel to draw an outline by pressing hard, this line can be refined with a blending stump.
Pointillism- building up layers to dots to create colour.
Soft edge- using the side or edge of the oil pastel to draw pressing softly.
Removing colour/Sgraffito- using a blunt instrument to scrape off colour

Use blending to create smooth tones. Use a blending stump made out of paper to blending to oil pastel together, do this in a circular motion to create even coverage. Start with light colours and build to darker colours. Work carefully so you don't make the lighter colours dirty. Sketch your image out using oil pastel first, as pencil will create dark lines and disrupt your drawing.

- Explain the different qualities between chalk and oil pastel?
- When would you chose to use Charcoal and what qualities would you achieve?
- Describe some of the things you need to remember when using Chalk?
- How do you think you can refine / improve your use of Oil Pastel?



St Joseph's College Business Department

Autumn Term 1: Topic 1.1: Enterprise and Entrepreneurship



This term we will look at the dynamic nature of a business, the risks and rewards involved and what role an entrepreneur will play in it all.

Key Terms:

- Enterprise:** A business or company, can also mean entrepreneurial activity
- Entrepreneur:** Someone who creates a business, taking on financial risks with the aim of making a profit from the business
- Consumer:** Someone who buys and uses goods and services
- Customer:** Someone who buys goods and services
- Obsolete:** Out of date and not used anymore
- E-Commerce:** Using the internet to carry out business transactions
- M-Commerce:** Using mobile technologies to carry out business transactions
- Social media:** Websites that allow users to interact with other users



Key Terms:

- Risk:** The possibility that an enterprise will make lower than anticipated profits or experience a loss
- Financial Reward:** The money that an entrepreneur or investor receives when a business succeeds
- Market Research:** The process of gathering information about the market and customers' needs and wants
- Revenue forecast:** A prediction of future revenue based on expected sales; this is either a judgement or based on previous sales patterns
- Cash Flow:** The amount of money coming and going out of a business
- Sales Revenue:** The amount of money that comes in from selling a product or a service
- Investment:** Putting money into a business with the intention of making a profit
- Start-up:** A new business, usually with only a small number of employees (possibly only 1)
- Intuition:** Knowing something instinctively or understanding something without conscious thought

How do new business ideas come about?

Type of change:	Explanation:
New technology	Ideas for new products might come about due to advances in technology. Computers, smartphones, digital cameras and so on, are all examples of products where new technology is constantly allowing new products to be developed and launched for sale.
Change in consumer wants	Fashions and consumer tastes are always changing. As well as the more obvious areas of clothing, designs will also change in areas such as cars, furniture, buildings and many more consumer goods. There are also new trends in terms of healthy eating, fitness and specialist types of holidays.
Products and services becoming obsolete	Over time products become outdated as new products are developed, which is often linked to changes in technology. Other reasons for products becoming obsolete are changes in the economy, for example increased wealth will decrease demand for inferior products, such as supermarket value products and bus travel.

- Adapting an existing product to keep up with trends
- Create a new product to meet new trends

Key questions to ask!

- How can I improve a product or service?
- Can I do this better than an existing business?
- Is there a gap in the market that I can fill?



Why do businesses exist?

Businesses exist to provide either a good, a service or both to the customer.

Risk can mean several things:

- the chance of loss or damage
- the probability that something goes wrong, leading to a loss
- when a hoped-for outcome does not happen

How do you reduce risk?

Plan, research, be cautious, finance with care, avoid costs, Protect, monitor and review

What are the rewards from enterprise?

- Sense of satisfaction
- Building something from scratch
- Being in control
- Making your first sale
- Opening in a new location
- Employing new staff
- Getting an industry award
- Getting great feedback and reviews
- Having happy customers
- Making a profit



A Service is INTANGIBLE



Risks to your business!



Poor management

Poor market research

Sales lower than expected

Start-up costs too high

Unexpected shocks

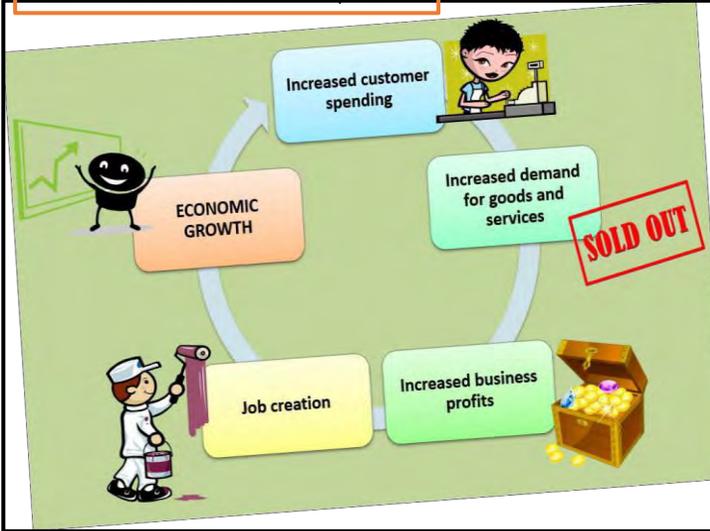
Too reliant on a small number of customers

Poor quality



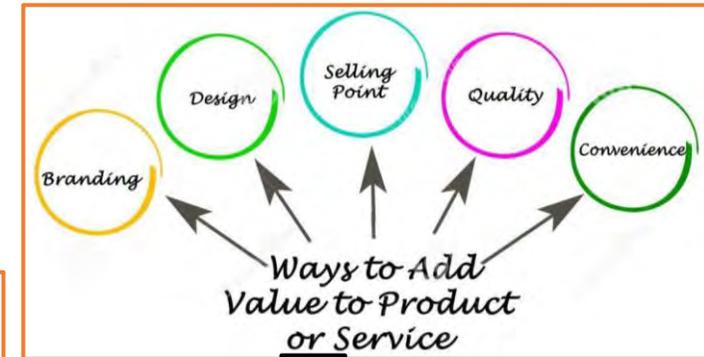
This term we will look at the dynamic nature of a business, the risks and rewards involved and what role an entrepreneur will play in it all.

The role of the business enterprise



- Purpose of enterprise activity
- Producing goods and services
- Meeting customer needs
- Adding value

Key Terms:
Stakeholder: Anyone who has an interest in the activities of a business
Ethics: The moral principles or standards that guide the behaviour of the business of a person.
Values: Standards of behaviour or moral principles
Loyalty: Supporting something or someone
Unique Selling point (USP): Something that makes a product stand out from its competitors
Economy: The system by which a country's money and goods are produced and used.

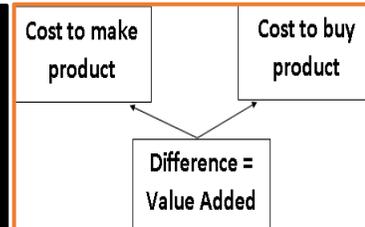


Why do entrepreneurs start their own business?

1. Financial Reasons - Make a profit
2. Non-financial Reasons - Work life balance, Skills and interests, Being their own boss

What is an entrepreneur?

Someone who takes a calculated risk through starting a business!



Qualities of Entrepreneur

geteconhelp.com



Innovative

Open Minded

Visionary

Well informed and highly skilled

Leadership

Questions:

1. Explain the difference between a product and a service.
2. What factors would be considered risks when starting a business?
3. What is the difference between a shareholder and a stakeholder?
4. How could a business add value to its product?
5. What are the advantages of running your own business?



This term we will look at the different research methods and ways a business decides how and who to target their product/services at.

1.2.1 Customer Needs

Key Terms:

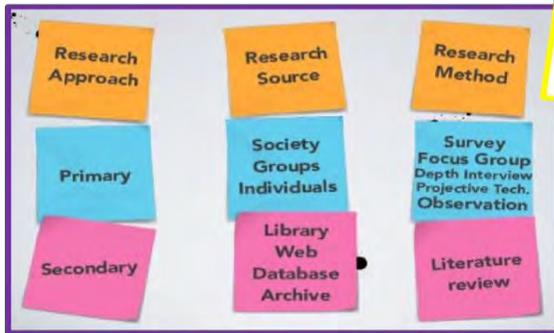
Convenience: A product or service's ability to fit in with a consumer's lifestyle, the ease in which it can be used how easy it is to acquire

Customer Needs: The wants and desires of buyers of a product or the customers of a business.



providing the right product, of the right quality, at the right price, at the right time, in the right place

How do we find out what our customers want?



Purpose of Market Research: Identify a gap in the market, promotion, knowing your customers, knowing demand.

Limitations of Market Research? Accuracy - usually only a sample is used, bias, could be out of date.

1.2.2 Market Segmentation

Key Terms:

Segmentation: The process of breaking something into small parts.

Demographics: Relating to the structure of the population



What are the benefits?

- Better matching of customer needs
- Better opportunities for growth
- More effective promotion
- Gain a higher share of the market



How do we segment a market?



Limitations of market segmentation

- Lack of information and data
- Difficulty in measuring and predicting consumer behaviour
- Customer segments could be hard to reach once identified

Market Mapping

- High price v low price
- Basic quality v high quality
- Low volume v high volume
- Necessity v luxury
- Light v heavy
- Simple v complex
- Lo-tech v high-tech
- Young v old



Is there a gap in the market for your product?

Where are customer needs not being met?



This term we will look at the different research methods and ways a business decides how and who to target their product/services at.

Key Terms

SWOT Analysis: A study undertaken by a business to identify the strengths, weaknesses, opportunities and threats of a business.

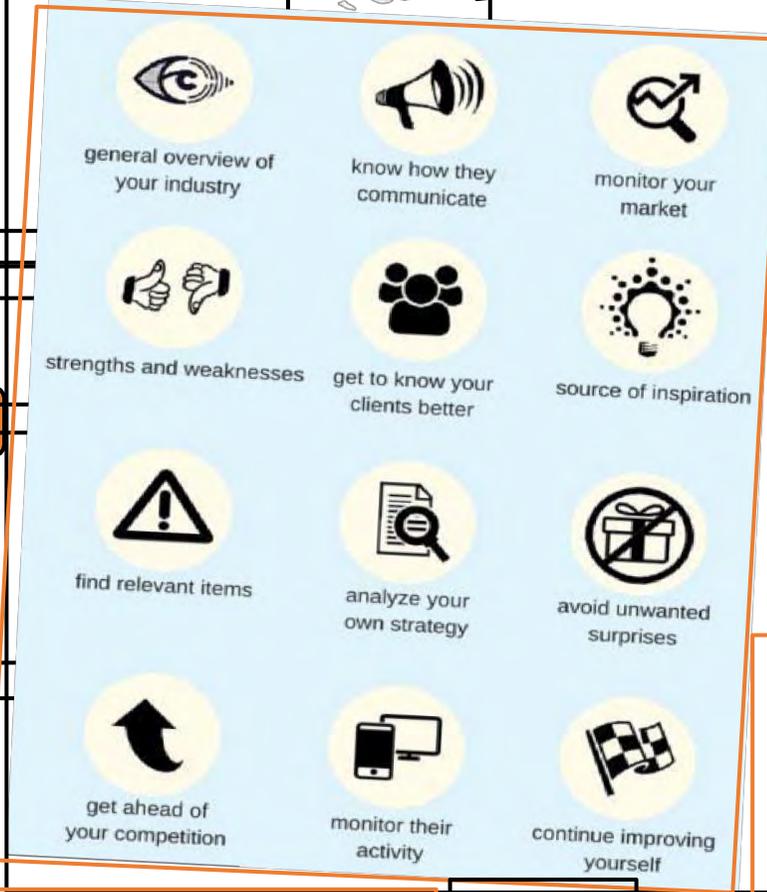


Why monitor your competition?



Similar product but not in direct competition

Similar, product, price and place



S
W
O
T

Market Share



Why is it so important to know your target market?

- Questions:**
1. What is meant by "A gap in the market?"
 2. What impact could market mapping have on a business?
 3. Why is marketing research important to the success of a business?
 4. What is meant by market segmentation?
 5. What is the difference between direct and indirect competition?





St Joseph's College Business Department

Spring term 1: Topic 1.3 Putting a business idea into practice



This term we will look at the aims/objectives of a business and all the financial considerations required in starting a business and keeping it going.

KEY TERMS:

- Market Share:** The proportion of sales in a market that are taken up by one business
- Profit:** The amount of revenue left once the costs have been deducted
- Social Objective:** Likely to be non-financial, for example to reduce carbon emissions
- Aim:** Is a goal that the business wants to achieve
- Objective:** Tasks that a business will carry out to meet an aim



Key Terms:

- Income stream:** The source of regular income that a business receives (this could be from customers or investment).
- Viable:** Capable of working and succeeding
- Revenue:** The income that a business receives from sales
- Fixed Costs:** Costs that do not change
- Variable Costs:** Costs that change dependent on how many products or services a business sells
- Income Statement:** A financial statement showing the amount of money earned and spent in a particular period and the resulting profit or loss
- Interest:** A % of an amount borrowed that is repaid in addition to the original amount
- Break Even:** The point in which a business's costs and revenue are equal

SMART tasks that a business needs to carry out to meet its aim



Why do we set aims and objectives?

- Direction
- Focus for employees
- Planning
- Measurement of success



Don't Forget:
Social objectives
Environment
Charity



Will all businesses have the same aims and objectives?



same aims and objectives?



Formula

Total costs

$$TC \text{ (total cost)} = TFC \text{ (total fixed costs)} + TVC \text{ (total variable costs)}$$

Revenue

$$\text{Revenue} = \text{price} \times \text{quantity}$$

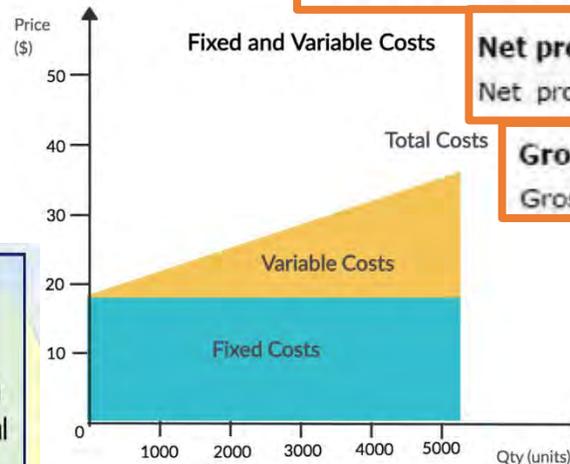
$$\text{PROFIT} = \text{TOTAL REVENUE} - \text{TOTAL COSTS}$$

Net profit

$$\text{Net profit} = \text{gross profit} - \text{other operating expenses and interest}$$

Gross profit

$$\text{Gross profit} = \text{sales revenue} - \text{cost of sales}$$



Sales		
Total Cost	Profit	
Variable Cost	Fixed Cost	Profit



$$\text{Variable cost per unit} \times \text{output}$$

Financial objectives – targets expressed in money terms, such as making a profit, earning income or building wealth.

Non-financial objectives – aims other than financial, why an individual runs their own business. Examples include personal satisfaction, challenge and to help others.



This term we will look at the aims/objectives of a business and all the financial considerations required in starting a business and keeping it going.

Sales	Costs	Profit or loss?
£100,000	£75,000	£25,000 profit
£100,000	£125,000	(£25,000) loss

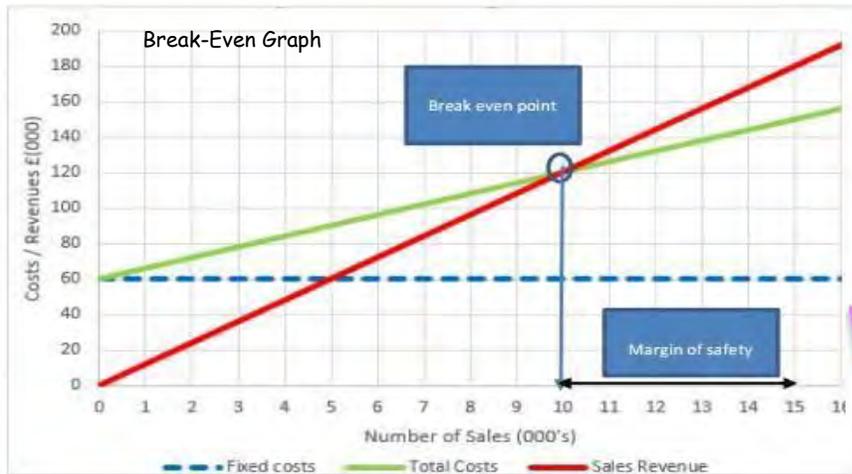
Note: negative figures are shown in brackets

- ☑ Total sales greater than total costs = PROFIT
- ☑ Total sales less than total costs = LOSS
- Total sales = total costs = BREAK EVEN

Formula

If a business borrows money from a bank they will be charged interest. Interest is calculated at the start of a loan agreement and is added on top of the loan amount.

$$\text{Interest \%} = \frac{\text{Total repayment} - \text{borrowed amount}}{\text{Borrowed amount}} \times 100$$



$$\text{Break even output} = \frac{\text{fixed cost}}{\text{sales price} - \text{variable cost}}$$

This will give you the number of units the business needs to produce and sell to break even

$$\text{Break-even point in costs/revenue} = \text{break-even point in units} \times \text{sales price}$$

This formula can be used to calculate the revenue (or costs!) at the breakeven level of output

Important

When **revenue increases** it is likely to have a **positive impact** on the business **if costs remain the same.**

When **revenue decreases** it is likely to have a **negative impact** on the business **unless costs decrease at the same time.**

When **costs increase** the business will still have to pay them, unless the business also **increases revenue** then the profit of the business will become

The increase in costs is quite often passed onto customers through a rise in prices.

When **costs decrease** it can have an immediate benefit on the business. **They will be making more money per unit sold.** However, if customers are aware that costs have decreased then they may expect so see that saving passed on to them in the form of lower prices.

Questions:

1. What is the difference between an aim and an objective?
2. Provide two examples of fixed costs and two examples variable costs.
3. Why is it important for a business to set SMART objectives?
4. How is a business impacted if the interest rates increase?
5. What is the formula for Margin of Safety?



This term we will look at different sources of finance available to a business and the importance of cash flow.

Key Terms:

Credit: The amount of money that a financial institution or supplier will allow a business to borrow

Overheads: Fixed costs that come from running an office which are not affected by the number of specific products or services that are sold.

Positive cash flow: More money coming in than going out

Negative cash flow: More money going out than coming in

Insolvent: A business that is unable to pay its debts and owes more money than it is owed

Consumables: Items that get 'used up' such as pens, paper, staples

Opening balance: The amount of money in the business's bank at the start of any period

Closing balance: The amount of money in the business's bank at the end of the month

Cash flow forecast: An estimate of how much cash will come in to and leave the business over the course of a year.

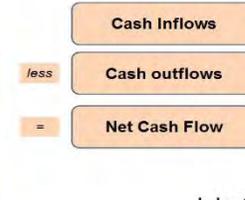
Cash inflows	Cash outflows
Cash sales	Payment of overheads, wages and salaries
Receipts from trade customers	Payment of suppliers, for example raw materials, inventories
Sale of spare assets	Buying equipment
Investment of share capital	Interest on bank loan or overdraft
Personal funds invested	Payment of dividends
Receipt of bank loan	Repayment of loans
Government grants	Income tax, VAT and corporation tax

£'000	January	February	March	April	May	June
Cash inflows	200	250	200	150	100	250
Cash outflows	250	300	300	100	250	150
Net cash-flow <i>(cash inflows – cash outflows)</i>	(50)	(50)	(100)	50	(150)	100
Opening balance <i>(same figure as the closing balance for the previous month)</i>	250	200	150	50	100	(50)
Closing balance <i>(net cash-flow + opening balance)</i>	200	150	50	100	(50)	50

What is Profit?



What is Cash Flow?



tutor2u

The importance of cash to a business

The management of a business's cash flow is important. This is because a business must have enough money in the bank to pay all the money it owes. Even if a business is making a profit, if it does not have enough cash or a reliable cash flow it can still fail.

What causes problems?

POOR CASHFLOW MANAGEMENT
THE REASON FOR A VAST PROPORTION OF BUSINESS FAILURES

70% of businesses that FAIL are profitable when they close their doors

FREQUENCY OF CASH FLOW PLANNING ²

Potential causes of cash flow problems:

- Low profits or (worse) losses
- Over-investment in capacity
- Too much stock
- Allowing customers too much credit
- Overtrading
- Seasonal Demand



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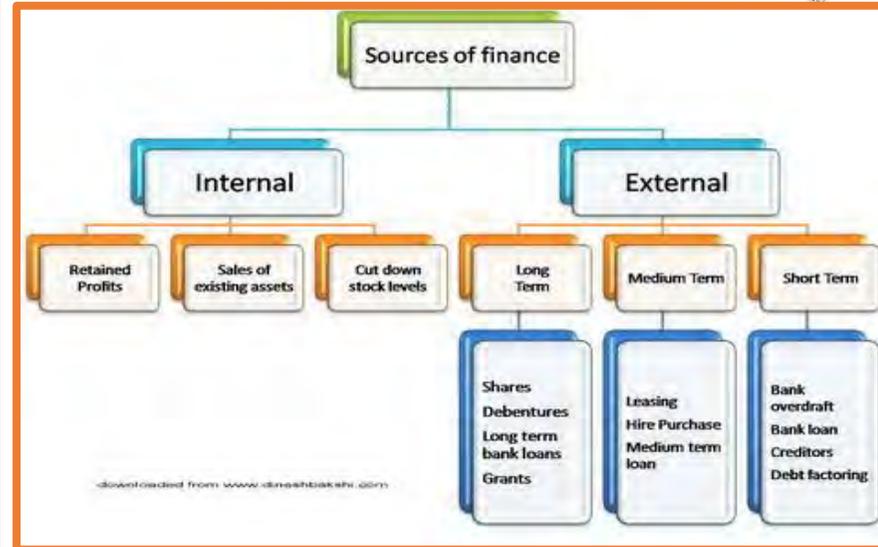
This term we will look at the aims/objectives of a business and all the financial considerations required in starting a business and keeping it going.



Key Terms:

- Trade Credit:** A credit arrangement that is offered to a business by its suppliers
- Overdraft:** A facility offered by a bank that allows an account holder to borrow more money at short notice
- Credit Limit:** The maximum a business can borrow with a company
- Credit Period:** The maximum amount of time a business can take to pay what it is owed
- Retrospective Discount:** A discount applied when a business has purchased a certain number of goods or spent a certain amount of money with a supplier
- Venture Capital:** Money that is invested in a business sourced from individuals or groups (dragonsden)
- Return on Investment:** The amount of money that an investor will get back in return for investing in a business
- Shareholders:** Investors who are part-owners in a company
- Share Capital:** Money to invest in a business which is made from selling shares in the business
- Credit Check:** A check on the financial status of a business.
- Security:** When the lender asked the business owner to put up an asset to secure lending
- Asset:** An item of value (home, machinery, premises)
- Guarantor:** A names person who guarantees to pay repayment if the person who has the loan fails to pay
- Retained Profit:** Money that a business keeps rather than paying to shareholders
- Crowdfunding:** A business obtains money from many people who each pay a small amount

Often the hardest part of starting a business is raising the money to get going.



Don't forget: Cash is King!



Questions to ask before borrowing:

- How much finance is required?
- When and for how long the finance is needed?
- What security - collateral (if any) can be provided?
- Are you prepared to give up some control (ownership) of the start-up in return for investment?
- Whether the cost of the finance, for example the interest charged is justified?



Questions:

1. What is the formula for calculating net cash flow?
2. Why is cash flow management so important to the success of a business?
3. Explain why cash and profit is not the same
4. Discuss 2 advantages of using external sources of finance to expand your business.
5. Discuss the impact of only using internal sources of finance to expand your business.



This term we will look at options for a start-up/small business, why business plans and location is so important as well as the marketing mix.

Key Terms:

Limited Liability - The level of risk that is limited to the amount of money that has been invested into the business

Assets - Property of the businesses or business owner, house, car, machinery

Incorporated - A business that is registered as a company, the business and the owners are separate in the eyes of the law

Unlimited Liability - The level of risk goes beyond the amount invested, so the personal assets of the business owner can be used to pay off the businesses debts

Unincorporated - A business that is not recognised as a company so the owners and the business are the same body in the eyes of the law

Sole Trader - A type of unincorporated business that is owned by a single person.

Partnership - A business that is owned by a group of two or more people who share the risk, the decision making and profits

Deed of partnership - A legal document that defines the terms and agreements of a partnership

Private limited company - An incorporated business that is owned by shareholders

Shareholders - Investors who are part-owners of a company, they invest in the business for a share of the company

Franchise - When one business gives another business permission to trade using its name and products in return for a fee and share of its profits

Franchisor - An established business that gives permission for an entrepreneur to trade using its name and product

Franchisee - An entrepreneur who pays a fee to trade using the name and products of an established business

Types of Business Ownership

	Advantages	Disadvantages
Sole trader	<ul style="list-style-type: none"> ☑ Quick and easy to set up – the business can always be transferred to a limited company once launched ☑ Simple to run – owner has complete control over decision-making ☑ Decision-making is quick, important in changing, fast moving markets with lots of competition ☑ Owner gets to keep all the profits ☑ Minimal paperwork 	<ul style="list-style-type: none"> ☒ Full personal liability i.e. "unlimited liability" ☒ Harder to raise finance – sole traders often have limited funds of their own and few assets against which to raise loans ☒ The business is the owner – the business suffers if the owner becomes ill, loses interest etc ☒ Limited life as the business is the owner – lack of continuity ☒ Stressful – long hours, no support with decision-making
Partnership	<ul style="list-style-type: none"> ☑ Quite simple for two or more people to form a business together ☑ Minimal paperwork once Partnership Agreement set up ☑ Partners can provide specialist knowledge and skills ☑ Jobs can be shared, so less stressful than operating as a sole trader ☑ Greater potential to raise finance compared to a sole trader, as each partner provides investment ☑ Any losses will be shared 	<ul style="list-style-type: none"> ☒ Unlimited liability ☒ Partners have to live with decisions of others; a poor decision by one partner damages the interests of the other partners ☒ Decision-making can take longer, as disagreements can occur ☒ Harder to raise finance than a company ☒ Short life, as if one partner leaves or dies the partnership ends ☒ Profits have to be shared
Private Limited company	<ul style="list-style-type: none"> ☑ Limited liability - protects the personal wealth of the shareholders ☑ Easier to raise finance as can sell shares ☑ Stable form of structure – the company continues to exist even when shareholders change ☑ Original owners are likely to retain control 	<ul style="list-style-type: none"> ☒ Shareholders have to agree about how profits are distributed ☒ Greater administrative costs than setting up as a sole trader or partnership ☒ Finance limited to "friends and family" ☒ Less privacy - public disclosure of company information, but not as extreme as for a plc ☒ Directors' legal duties are stricter



Remember: LIMITED LIABILITY is only a benefit to private (and public) limited companies. Sole traders and partnerships do not benefit from this. They have UNLIMITED LIABILITY. This is a common area of confusion, which needs revising carefully



Franchisor helps with:

- Training staff
- Setting prices
- Choosing suppliers
- Setting wages
- Determining uniform

Disadvantages of Franchising:

- Start-up fees expensive
- Pay royalties
- Little control and flexibility
- Complicated application process



Points to consider for business location:

- Proximity to: Market
- Labour
- Materials
- Competitors
- Nature of the business activity



The Impact of the Internet on Location:

Some businesses can trade solely online so they don't need a fixed location - reducing costs which is vital for a start-up business. Sometimes you don't even need your own website - you can piggyback onto a platform that has one already - EBAY or Notonthehighstreet.com



This term we will look at options for a start-up/small business, why business plans and location is so important as well as the marketing mix.

1.4.3 The Marketing Mix



- Product - the good or service that the customer obtains
- Price - how much the customer pays for the product
- Place (distribution) – how the product is distributed to the customer
- Promotion - how the customer is found and persuaded to buy the product

An effective marketing mix is one which:

- ✓ Meets customer needs
- ✓ Achieves the marketing objectives
- ✓ Is balanced and consistent
- ✓ Allows the business to gain an advantage over competitors



Changes to the marketing mix

Changing customer needs and trends

- Internet usage
- e-commerce
- m-commerce

The elements of the marketing mix must work together

Balancing the marketing mix

Price	Changing a products price to undercut its competitors, businesses do have to be careful that this does not end up in a price war.
Product	Altering aspects of the product or bringing out a new product with a new feature, this can achieve product differentiation
Promotion	Undertaking promotional activities to boost awareness of the brand to encourage brand loyalty
Place	Changing the place or increasing the number of places in which the products are available to customers in or der to maintain or increase market share. This could include introducing an e-commerce site or m-commerce technology.

The Initial Business Plan	A simple plan of the proposed business and its location
The Idea	Where the idea came from and why is it a good one?
Aims and Objectives for the business	Sales, profit, growth, ideally for the next 3-4 years
Finance required and sources of finance already in place	How much from the owners of the business, how much to be loaned? how long and from where?
Market overview	Results of market research, main segments, target market, market size, growth, market share of main competitors
Business Operations	Location of business, type of premises, staffing, distribution methods
Marketing Mix	Description of the 4P's
Cash-flow Forecast	Forecast revenue, costs and profits. Important to ensure the business doesn't run out of cash

The purpose of business plans

- It provides a focus on the business ideas
- It produces a document that helps clarify thoughts and identify any gaps in information or research
- It encourages the business entrepreneur to focus on what the business is really about
- It helps test the financial viability of the idea
- A business plan will minimise the risk of failure
- The plan provides something which can be used to measure actual performance
- A business plan is essential to raising finance from outside providers
- Reviews current performance
- Allows business objectives to be modified if required
- Allows departments of the business to produce their own plans
- Allows entrepreneurs to update their current business strategy or plans for the future

Questions:

1. Explain the difference between limited and unlimited liability and provide an example of a type of business for each.
2. Discuss the benefits to operating as a franchise.
3. What factors should be taken into consideration when looking at the location of a business?
4. Discuss the impact on a business that fails to create a business plan.
5. Identify and explain why the marketing mix elements are so important to the success of a business.



This term we will look at how different factors and events outside the business can impact the business either in a positive or negative way.

Key Terms:

Stakeholder - is anyone who has an interest in a business. This is not about ownership, it is about being interested in how the business is run. An example is bank who have lent money to the owner to start-up his/her business- a bank **do not own** the business but they are interested in it as they want to make sure they will have their money paid back.

Shareholders - Shareholders are interested in a business because they want to know if a profit will be made and if they will be paid a dividend. In a **private limited company (Ltd)** the shareholders may be friends and family of the owners. In a **public limited company (PLC)** the shareholders can be anyone.

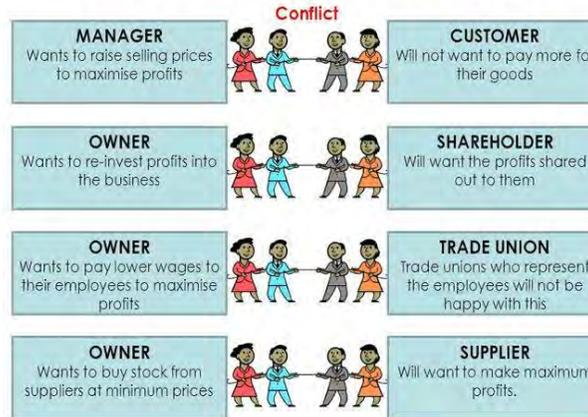
Pressure groups - A pressure group is interested in a business because they want to know that they have acted ethically.

How stakeholders (internal/external) impact business activity

Employees	→ can influence the success of an organisation by their productivity and efficiency in the tasks they do everyday. They can also resort to industrial action (strike) if they disagree with working conditions, pay or company policies
Suppliers	→ can decide whether to raise prices for orders which can obviously affect a firm's profits. Also a supplier's reliability could affect production.
Government	→ can influence a firm by introducing new laws that can affect operations such as the National Minimum Wage, or they can raise Corporation Tax which would eat into a firm's profits
Customers	→ can influence a business by deciding to continue to purchase goods and services from the organisation. They can choose to take their custom elsewhere.
Local community	→ can influence a business by protesting against the building of premises

Shareholder vs Stakeholder

STAKEHOLDER CONFLICT



The purpose of legislation - The consumer rights Act - 2015 Goods must be:

- As described** - The goods supplied must match any description given to you, or any models or samples shown to you at the time of purchase.
- Fit for purpose** - The goods should be fit for the purpose they are supplied for, as well as any specific purpose you made known to the retailer before you agreed to buy the goods.
- Satisfactory quality** - Goods shouldn't be faulty or damaged when you receive them.

Principles of consumer law

If something's gone wrong with an item a customer has bought, they may be entitled to a refund, repair or replacement. It doesn't matter whether they bought the item new or second hand - the consumer still has rights

How technology influences business activity

Sales - Use of technology can improve sales. Customers may be unhappy with slow service in a shop - whereas shopping online is instant. Customers get the convenience of shopping when they want - for shift workers this is a huge bonus as the internet can sell goods 24/7 orders can be processed by staff the next working day.

Costs - Using e-commerce and payment systems means that just about anyone can start their own business online. All they need is a simple website, a good product and a PayPal account. No need for premises like a shop which reduces costs.

Marketing mix - Technology means that now marketing campaigns have more speed, relevance and reach. If a business starts a marketing campaign on TV it can back it up with social media and then use targeting to send out e-mails.

E-commerce - E-commerce is the business term for shopping on the Internet. Selling via e-commerce is cheaper for business as less staff and premises are needed. The shop can be open 24/7 and can reach a global marketplace and orders can be processed by staff the next working day.

Social media - Businesses can now use social media campaigns to promote their products as part of their marketing strategy

Digital communication - Digital communication means communicating using digital means such as: Text, E-mail, Mobile Phone, Skype. A business will use this to communicate with their: customers, suppliers, government agencies

Payment Systems - Payment systems are a vital way of transferring funds from customers to businesses, here are a few examples: Credit and debit cards - for shopping, BACS - for wages or business to business, PayPal - for items bought over the Internet e.g. eBay.

Know your rights!



This term we will look at how different factors and events outside the business can impact the business either in a positive or negative way.

Legislation and business...

Principles of employment law: recruitment

The recruitment process involves; advertising, selecting, interviewing and hiring the staff needed for the business.. The Equality Act 2010 makes sure that there is no discrimination in this process on age, race, gender, religion etc.

Principles of employment law: pay

NATIONAL MINIMUM WAGE or NATIONAL LIVING WAGE (over 25's) is the legal minimum that can be paid to workers in the UK

Principles of employment law: health and safety

All workers have a right to work in places where risks to their health and safety are properly controlled. Health and safety is about stopping you getting hurt at work or ill through work. The employer is responsible for health and safety, but the employees must help.

The impact of legislation on businesses

A small business will have to meet all of the consumer, employment and recruitment laws. This may mean additional costs in training staff, protection equipment for staff, costs of paying NWM. Higher costs have an impact on the profit of the business. This could mean a business is pressured to increase their prices which could make them uncompetitive.

Consequences of not meeting these obligations

Failure to comply with these requirements can have serious consequences - for both organisations and individuals. Consequences include fines, imprisonment and disqualification.



**Strong
Pound
Imports
Cheap
Exports
Dear**

The Economy and business...

Changing levels of consumer income - As consumer incomes rise, they choose to buy better products - luxuries. As consumer incomes fall, they will need to buy cheaper products - inferior products

Unemployment - If unemployment rises people have no jobs, this means that they have low incomes. This also means that they have little disposable income - which is what is left after all the bills have been paid. No disposable income means no luxuries, this means that businesses make less sales and as a result may have to lower their selling prices and reduce their workforce (which will further increase unemployment) in order to reduce their costs.

Inflation - If the UK inflation rate goes up consumers will feel poorer as their earned £££ will not go as far because goods have risen in price. This means that potential customers will not be able to buy as many goods. Also an increase in inflation will likely increase costs as they will be paying more for their supplies as a result reducing profits. Inflation is a problem, if food keeps going up in price and wages don't then soon consumers will feel poorer and not be able to afford to buy as much. If prices are stable then consumers and business have a rough idea of how much items cost.

Interest rates - Interest rates are the cost of borrowing money. If consumers can borrow they can buy; clothes, cars, washing machines, houses, caravans, holidays, and just about everything else. If the cost of borrowing goes up then consumers decide to save instead of spend. If interest rates rise then the cost of borrowing will rise and this will mean that the cost of supplies for a business may increase. A fall in interest rates means that the cost of servicing debt falls which may lead to an increase in profits (costs less to borrow so less to pay back).

Tax - Government charges business with a range of taxes. **Corporation tax** of 20% on profits must be paid by any UK limited company. Tax is a cost of the business and so will have an impact on profit. **Income tax** - An increase personal allowance means you can earn more before you pay tax, this means this money could be spent on businesses goods and services. An increase in income tax could mean customers have less disposable income to spend on businesses goods and services.

Exchange rates - exchange rate is the price of one currency in exchange for another. Currencies can change in value and this is due to the demand and supply of a currency. What impact will a change in exchange rates have on the cost of supplies? It depends if they were purchased from abroad. If our pound increased against another currency this will make imported supplies cheaper e.g. cheese from France.

Questions:

1. Discuss the impact that conflict between shareholders and stakeholders can have on a business.
2. Explain the 3 factors that must be met under the consumer rights act.
3. Discuss the impact that technology can have on a business
4. What is the difference between standard of living and cost of living?
5. Discuss the impact on a business when the 'cost of borrowing' decreases



St Joseph's College Business Department

Autumn term 1-2: Enterprise Term 1: Learning A Examine the characteristics of enterprises

This term you will examine local SMEs that would provide contact beyond desk-based research.



Keywords:

- **Enterprise** - Is an organisation that provides goods and services
- **Characteristics**- Are features that are typical of a particular enterprise.
- **Goods**- are physical products that can be purchased
- **Services**- Are acts or tasks carried out by an enterprise that can be purchased
- **Small and Medium enterprises** - are enterprises with fewer than 250 staff.
- **Profit**- The amount of money earned minus the costs paid out
- **Innovative**-means coming up with new ideas
- **Private sector**- enterprises are owned by individuals as opposed to the government or local authority.

A1 What is an Enterprise?

Enterprises carry out one or more activities, such as being involved with goods, services or both. •

Most enterprises face some kind of competition.

Enterprises need to attract and keep customers happy and often face difficulties in capturing and retaining customers. •

The role of customer service in attracting new customers, securing repeat purchase, customer loyalty and an improved reputation.

Enterprises use creativity and innovation to meet customers' needs by identifying gaps in the market for goods or services, or by identifying a market for new goods or services.

Questions:

- What is the difference between an aim and objective?
- What is the difference between a small and medium enterprise?
- Why do enterprises fail?

A2 Types and characteristics of SME's

Definition of SMEs to include all of the following:

- o micro – up to 10 people
- o small – between 11–49 staff
- o medium – between 50–249 staff.

- Characteristics of SMEs should include the following:
 - o run by a single individual or small team of people
 - o small number of employees
 - o type of ownership – sole trader, partnership, ltd.
 - o physical location and/or operate online.

A3 The purpose of Enterprises

- **Aims such as** making a profit, surviving, expanding, maximising sales, providing a voluntary or charitable service, being environmentally friendly, being ethical.
- **Objectives that can provide** challenges and targets over a defined period of time.
- **How social and political pressures can influence enterprises** to consider wider ethical responsibilities.
- **Range of the types of products and services provided by enterprises** include cleaning, fitness instruction, IT consultancies, financial consultancies, selling products, for example a food stall, newsagent, artists selling work online.

A4 Entrepreneurs

- **Reasons for starting own enterprise** – to be your own boss, to pursue a hobby, flexibility.
- **Characteristics of entrepreneurs:** focus, passion, motivated and dedicated, inventive or innovative, proactive, confident, flexible and adaptable, resilient, having vision and the capacity to inspire.
- **Skills for success:** knowledge of industry/sector, technical skills, interpersonal communication skills, planning, time management, negotiation, prioritising tasks, problem solving, managing risk.



This term learners will explore the different methods of promotion used by enterprises, their suitability for different sizes of enterprise.

Keywords:

Promotional mix- The different methods of promotion used to get current and potential customers to buy products.

Public relations- A communication process which builds a relationship between the enterprise and the public

Direction marketing - When an enterprise communicates with a customer directly to try to sell them something, either by phone or written communication

B2B-An enterprise sells its goods to another enterprise

B2C- An enterprise sells its products – goods and services – directly to individuals for their own use.

Market segmentation- This is the process of breaking down a large market into much smaller groups of consumers

Subtitle for Content:

Promotional mix

There are many different methods of promotion used to get current and potential customers to buy products.

Enterprises will choose a combination of methods depending on their product and their suitability for the **size of the enterprise**. This is known as the promotional mix.

Purpose of sales promotion

Enterprises use sales promotion for different reasons.

- To entice people into a shop where they may buy the product but other products also
- To boost sales figures
- To attract first time buyers
- To sell off older or less-fashionable goods to make space for new items
- To maintain customer loyalty

Subtitle for Content:

What is promotion?

Promotion is any method of communication that tries to encourage current and potential customers to buy products. Examples include adverts on television and money-off coupons in magazines

The purpose of promotion

Promotion can be used to:

- Create a positive image of the enterprise in the minds of current and potential customers
- Encourage current and potential customers to buy products

Personal selling

This is where a representative of an enterprise contacts potential customers directly. There are 4 main methods of personal selling:

1. Face to face

The sales person is in direct personal contact with the customer

2. Telephone

The sales person makes phone calls to the customer [usually from a call centre]

3. Email

The sales person communicates electronically with the customer.

4. Video or Web conferencing

The sales person communicates with the customer through a webcam.

Questions:

What are the benefits to an enterprise of using market segmentation?

What are the two types of market in which a business operates within?

What are the two basic aspects of advertising?

How can markets be segmented?





This term learners will explore the different methods of promotion used by enterprises, their suitability for different sizes of enterprise.

Public relations

An enterprises public image is an essential aspect of its success. A poor reputation may lead to reduced sales and a fall in profits. A positive image can maintain or even increase sales. Public relations (PR) involves building and maintaining an enterprises reputation - its image - through the r...

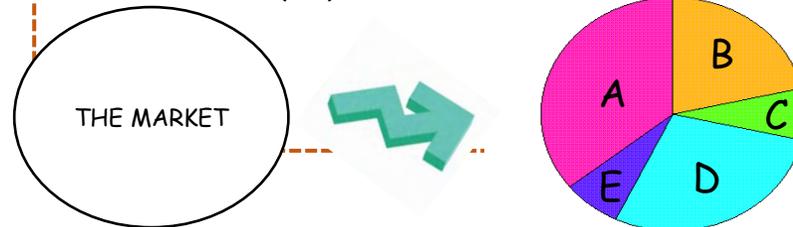
The purpose of public relations PR may be used to promote products. Its purpose is to:

- Encourage positive views
- Encourage positive publicity through media
- Protect the brand image

Targetting and segmenting the market

Markets can be sorted into different sections, known as segments. Each segment is made up of consumers with shared characteristics, needs and interests. Enterprises segment their markets for various reasons.

Enterprises decide on the most suitable promotional mix based on whether they are targeting a business-to-business (B2B) market or a business-to-consumer (B2C) market.



Market segmentation

This is the process of breaking down a large market into much smaller groups of consumers.

Enterprises analyse the market, and divide it into segments, each containing consumers with similar characteristics.

Why enterprises segment the market:

- ✓ To better understand the characteristics, needs and interests of current and potential customers
- ✓ To develop products for a particular market segment
- ✓ To develop products that suit the needs of different market segments
- ✓ To choose promotional methods that are better suited to the target market.

Large enterprises

These are likely to:

- Have a large promotional budget
- Use all of the promotional methods you have revised
- Employ specialist staff to plan and manage promotional methods
- Employ a team of sales staff to promote products
- Hire public relations specialist and agencies to promote the brand

Smaller enterprises

These are likely to have:

- A limited promotional budget
- A narrower range of promotional methods as some would be too costly

They are unlikely to employ specialist staff. Promotions may only run at certain times to keep costs down. These may be linked to the skills of the owner and employees, the type of products, the size of the market and the budget.



In this term you will learn to complete, interpret and check the information on financial documents and statements.

Keywords:
Start up cost- Before trading these help to set up the enterprise
Fixed cost- These are costs that the enterprise has to pay no matter how well it is doing.
Variable costs- These costs are directly linked with the number of items produced or sold
Total running costs
 Fixed costs + variable costs

Importance of keeping accurate records

- Ensure correct goods are delivered in correct quantities
- Check customers aren't being under or overcharged
- Ensure there is enough stock to meet customer demand
- Ensure calculations of costs and revenues are accurate
- To ensure enterprise and customer have a clear understanding of the terms of sale
- Enable the enterprise to accurately calculate the taxes it owes the government
- To allow managers to make strategic decisions

Subtitle for Content:
 Enterprise use a range of financial documents throughout the buying and selling process to record the sale and purchase of goods and services.

```

  graph LR
    A[Purchase order] --> B[Delivery note]
    B --> C[Invoice]
    C --> D[Receipt]
    D --> E[Credit note]
    E --> F[Statement of account]
  
```

Problems with inaccurate records

- Profits may be over or understated
- Not all costs are accounted for
- Investors may lose confidence in the business
- Reputation for the business can be damaged
- Financial statements will not be accurate
- It can lead to cash-flow problems
- Suppliers and other trade payables may not be paid on time
- Bad debts can increase



Gross profit margin
 To calculate gross profit margin, you will need to extract figures from the enterprises statement of comprehensive income.

Formula

$$\text{Gross profit margin} = (\text{gross profit} \div \text{sales revenue}) \times 100$$
The answer will be shown as a percentage

Net profit margin
 To calculate net profit margin, you will need to extract figures from the enterprises statement of comprehensive income.

Formula

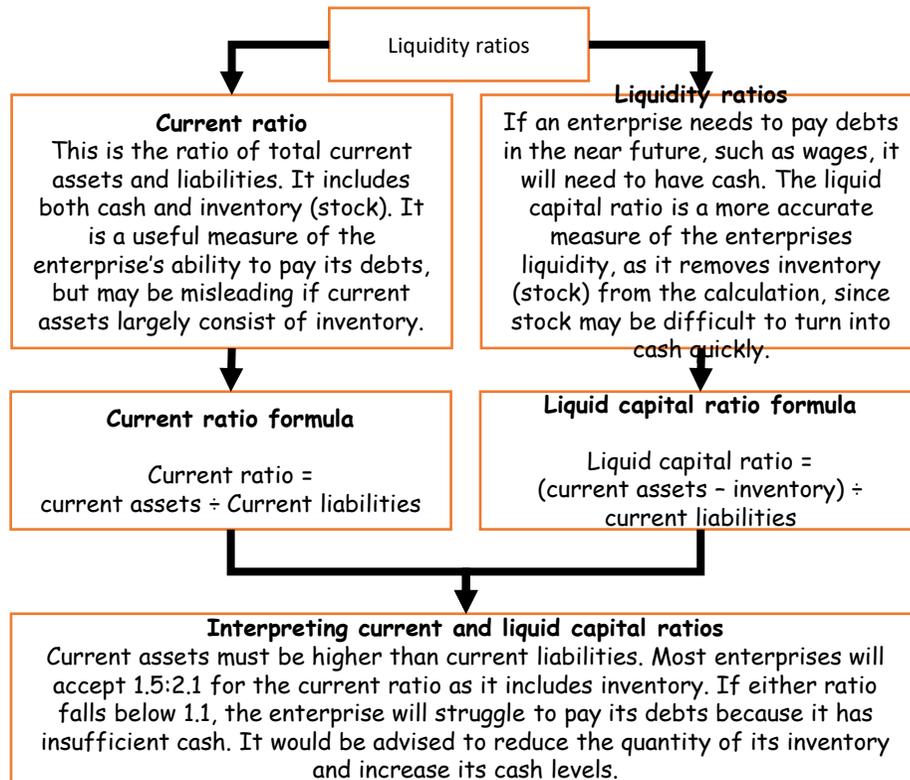
$$\text{Net profit margin} = (\text{net profit} \div \text{sales revenue}) \times 100$$
The answer will be shown as a percentage

Questions:
 What do we mean by the term profitability?
 How can an enterprise increase profitability?
 What are running costs made up of? (There are two items)
 What factors influence the consumers choice of payment?



In this term you will learn to complete, interpret and check the information on financial documents and statements.

Current ratio and liquid capital ratio
To understand the liquidity of an enterprise two ratios are calculated - one which includes the inventory (stock) and another which excludes it.



- Sales revenue** - This is the revenue received by the business from selling its products. It is also referred to as simply **sales** or **turnover** (net sales) because it takes into account any price discounts or goods returned by the customer
- Cost of sales** - this includes the cost of making the products.
- Gross profit** = turnover - cost of sales
- Expenses** - These are the indirect costs incurred when running a business. Expenses are listed separately in the statement of comprehensive income.
- This is the total of the individual expenses.**
- Net profit** - Once sales, cost of sales and expenses are identified, the net profit or loss can be calculated: Net profit = Gross profit - Expenses



This term you will develop the relevant skills in market research and analyse and be able to interpret your findings to support your understanding of customers and competitors.

Keywords:

- **Customer expectations**- This can be met through three factors values, Enquiries and information
- **After sales service** After sales is what the enterprise offers are the customer has left with their purchase.
- **Primary research** This is research which is collected first hand from the customer by the enterprise.
- **Secondary research** Secondary research is research which has already been collected by someone else and you're using it to save you time and money
- **Features of competition** include Price of product/service, quality, USP (unique selling point) and availability

Why is it important to anticipate and identify customer needs?

Customers are vital if a business is going to be successful; therefore the entrepreneur must find out about customer wants and needs. This can be done via market research.

Anticipating customer needs is what is 'expected' of your customers. For example: When will customers come to the enterprise?; What will they want to buy?; What market are we going to operate in?; How many customers will we have?

Identifying customer needs can only be done once you know who your customers are. The enterprise has to think carefully about its customers, their needs and how they are likely to buy something.

If a 'need' is identified and met then it is very likely to lead to a sale. If you don't identify needs you'll be providing goods and services customers don't want.

Questions:

- Identify two way you can meet customer expectations
- How can products stand out from similar products?
- What might be the drawbacks of using primary or secondary research?

What are Primary and Secondary research?

How can primary research benefit an SME?

- They can gather information about existing customers to keep them loyal and how to encourage them to spend more
- They can tailor the wants and needs of the customer to make sure they leave satisfied
- The enterprise is in control of the research, what they research and how they research; the data collected is then owned by the SME.

How can secondary research benefit an SME?

- It is instantly available as it already exists;
- It is publically available and often free to use;
- If details of how it was collected are included it can help the secondary research understand the data better, including any challenges, making it more useful.
- The data is likely to have already been analysed (trends spotted etc.)

How do I spot competitors?:

Identifying competitors allows entrepreneurs to make careful decisions about their enterprise from marketing, pricing and after sales services they provide.

Researching competitors is important before you start up your enterprise. This can involve looking online if the enterprise has an online presence or visiting the enterprise/local area if possible to see what goods and services they offer; also how they offer them.

Factors you might want to consider about your competitors are: location, goods, quality, price, reputation, opening times, customer type and whether or not they operate online.

Products stand out from similar products through; features, functions, colours, flavours, scents, pricing, design, aesthetics, promotions, after sales service, incentives and quality

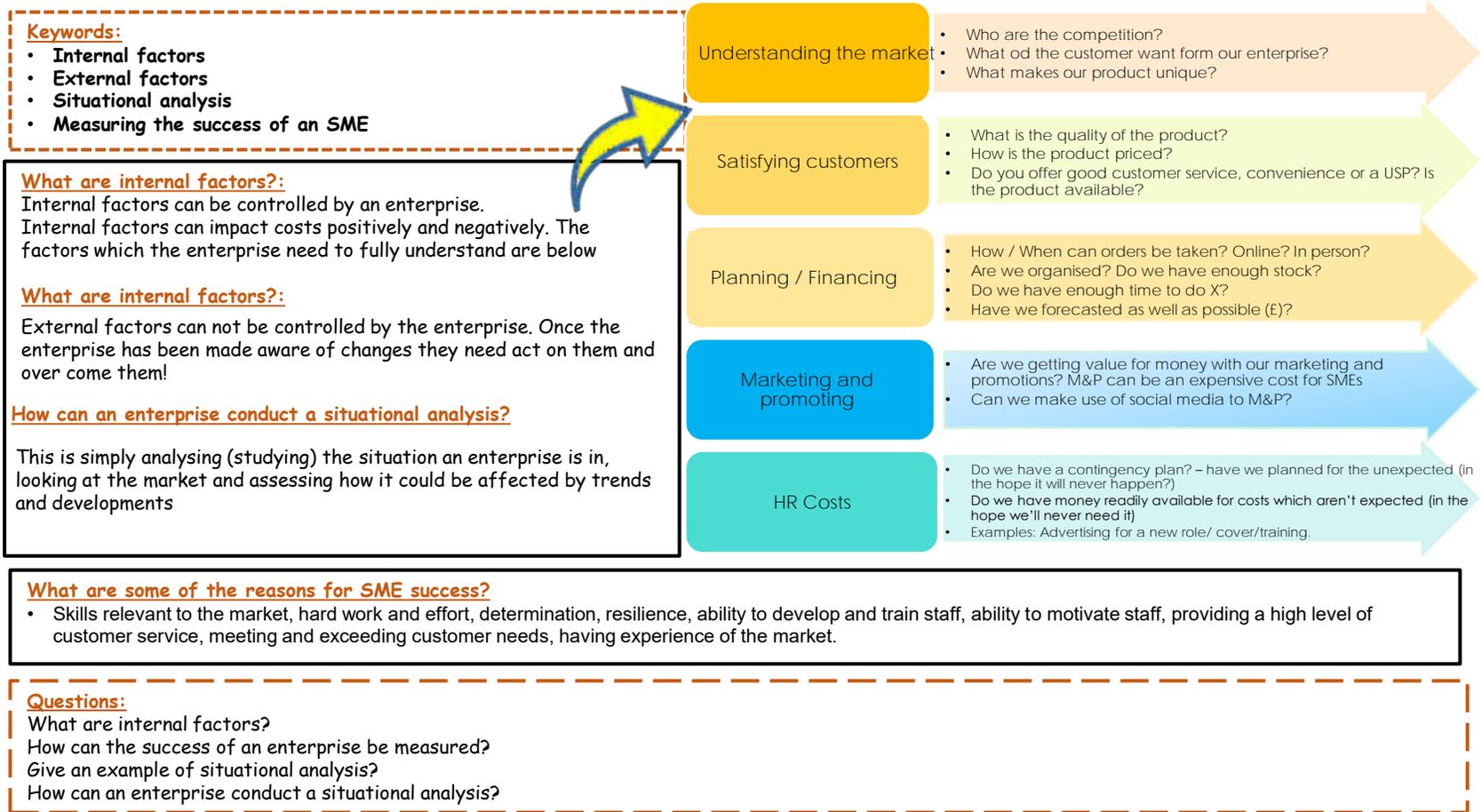


St Joseph's College Business Department

Summer term 2: Term 6: Learning aim B - success of an enterprise.



This term you will explore why enterprises are successful, looking at the factors inside and outside of the enterprise's control.





You will learn about manufacturing processes, systems used and their impact on the environment and our societies.

1.2 Production Systems

1.1 Technology in Manufacturing

System	A collection of parts that work together to do something. made up of Input, Process and Output
Smart Technology	Machines communicating to carry out tasks without human input. Eg. Stock level checks. Online orders
Automation	Machines doing tasks without much/any human input Adv. Speed, Cheap, Accurate. Disadv. Expensive. Jobs.
Communication Systems	Smart machines communicate with no human input. Humans communicate with phone, email, video call etc.

1.3 Product Sustainability

Sustainability	The impact of a process or product on the environment.
Sustainable	A process or material that can be used without causing permanent damage to the environment or using finite
Finite materials	Will run out and can not be replaced (eg. Metal/oil)
Non-finite materials	Will not run out, can be replaced (eg. Wood)
Carbon Footprint	Amount of greenhouse gas released into the atmosphere by making, using, and disposing of a product.
Global warming	Average earth temperature rising, causing damage to habitats leading to extinction.
Obsolete	No longer useful. Outdated.
Planned Obsolescence	When a product is designed to become outdated or useless quickly.

Continuous improvement	Manufacturers constantly improve products. Often done to sell more (eg. New iPhone models often).	
Life cycle assessment	Life cycle assessment	Look at each stage of the life of a product to work out its total environmental impact.
	Material choice	Is the material environmentally damaging? Use a lot of energy to extract? Finite? Or is it sustainable?
	Manufacture	Does manufacturing process use a lot of energy? Waste a lot of material? Product toxic gases?
	Using the product	Is the product efficient when being used? Does it use a lot of energy/fuel? Give off toxic fumes?
	Product disposal	Does the product end up in a landfill? Pollute the environment? Harm wildlife?
	Recycling	Materials can be used again to prevent new materials being extracted. Also reduces disposal waste.
The 6 Rs	Repair	Fix things instead of throwing them away
	Re-use	Pass on old products or re-purpose (eg old tire = swing)
	Recycle	Recycling uses less energy than obtaining new materials. Also prevents finite resources being used.
	Rethink	Think about making the design more efficient.
	Reduce	Reduce the number of products customers need to buy (eg. Rechargeable batteries)
	Refuse	Refuse to buy wasteful products.

CAD	Computer Aided Design. Eg. 2D design for graphics/ programming laser cutter. 3D modelling.
CAM	Computer Aided Manufacturing. Eg. Laser cutting, 3D printing.
CNC	Computer Numerically Controlled
Advantages of CAD/CAM	Quicker to produce many. Accurate. Shared easily. Save on shipping and labour costs.
Disadvantages of CAD/CAM	Expensive to set up and train staff.

Enterprise	Identifying new business opportunities and taking advantage of them
Crowdfunding	Large number of people (backers) invest money to fund an idea.
Virtual marketing	Promoting a product online through social media, email or pushing it to the top of search engine results
Co-operative	A business that is owned and run by its members
Fairtrade	Ensures that workers/farmers get paid a fair price
Market pull	When a product is made due to consumer demand
Technology push	Advances in technology drive the design of new products.
Culture	Way of life, traditions, beliefs, fashion.



Fossil Fuels	Natural resources that can not be replaced. (Coal, Oil, Gas)	
Types of renewable energy	Wind	Wind farms, energy from the wind.
	Solar	Solar panels. Energy from the sun.
	Tidal	Energy from the sea, tides.
	Hydro	Uses a dam, generators make energy as water passes through.
	Biomass	Burning waste wood or crop material.
For renewable energy	Reduces burning fossil fuels. Methods becoming more efficient. Pressure from people and other countries.	
Against renewable energy	Initial cost. Reliability. Effect on landscape.	



You will develop an understanding of materials properties and their various applications in industry.

2.1 Properties of Materials

Working Properties	Strength	Withstand forces without breaking
	Hardness	Withstand scratches, abrasion or denting
	Toughness	Resistance to breaking or snapping
	Elasticity	Stretch and return to original shape
	Malleability	How easy to bend or shape
	Ductility	How easy to be drawn out into a wire
Physical Properties	Electrical Conductivity	Electrical conductors let electricity pass through easily
	Thermal Conductivity	Thermal conductors let heat pass through them easily
	Fusibility	High fusibility means low melting point
	Density	Mass per unit of volume
	Absorbency	How good at soaking up moisture
	Ferrous metal	Contains iron
	Alloy	Mixture of 2 or more metals

2.2 Paper, Board and Timber

Paper	Cartridge	High quality, textured, for sketching/cards	
	Layout	Thin and translucent, for sketching	
	Tracing	Semi-transparent, for copying images	
	Grid	Has a square or isometric pattern.	
	Bleed proof	Ink wont bleed, design with marker pens	
	Solid white	Bleached surface for printing on. Packaging	
Board	Ink jet card	Ink doesn't bleed. Ink jet printing	
	Corrugated card	Cardboard - fluted inner core adding strength and rigidity. Packaging	
	Duplex	Different on each side. Food packaging	
	Foam core	Polystyrene foam between 2 card layers	
	Foil-lined	Board + aluminium lining. Food packaging	
Timber	Softwood	Pine	Light colour, quite strong, cheap. Construction
		Larch	Attractive, hard, tough, durable. Decking/fences
		Spruce	Red/brown, hard, not durable. Crates/structures
	Hardwood	Oak	Good finish. Tough, durable, strong. Furniture
		Mahogany	Durable, easy to work with, expensive. Furniture
		Beech	Pink/brown, hard, can be bent. Chairs and toys
		Balsa	Low density, light, soft, easy to cut. Modelling
		Ash	Tough, absorbs shock. Tool handles/bats



2.3 Metals, Alloys and Polymers

Metals	Ferrous	Cast iron	Strong, brittle, not malleable. Manhole covers.
		Steel	Iron mixed with carbon. Strong, cheap. Car bodies
	Non-ferrous	Aluminium	Light, corrosion resistant, malleable. Cans/planes
		Copper	Soft, malleable, ductile, conductive. Electric wires
		Tin	Soft, corrosion resistant, malleable. Tin cans, foil
		Zinc	Not strong. Corrosion resistant. Coating steel
Alloys	High speed steel	Keeps hardness when heated. Used in high speed cutting tools (drill bits etc.)	
	Brass	Hard, strong, malleable, ductile, good conductor	
	Stainless steel	Strong, tough, ductile, resists rust. Surgical equipment, sinks, cutlery	
Polymers (Plastics)	Thermoforming	Acrylic	Hard, stiff, shiny. Signs, baths, helmet visors
		HDPE	Strong, light. Washing up bowls, pipes, baskets.
	Thermosetting	PET	Light, strong, tough. Drinks bottles
		HIPS	Rigid, cheap. CD cases, smoke detector cases
		PVC	Brittle, cheap, durable. Window frame, packaging
		PP	Tough, flexible. Plastic chairs.
		Epoxy Resin	(ER) Rigid, durable, corrosion resistant, insulator
		Urea Formaldehyde	(UF) Hard, brittle, electrical insulator. Plug sockets, cupboard handles
		Melamine-Formaldehyde	(MF) Strong, scratch resistant. Plates and bowls, laminate chipboard
		Phenol-Formaldehyde	(PF) Hard, heat resistant, easily moulded. Bottle caps, snooker balls.
Polyester resin	(PR) Hard, stiff, cheap. Kayaks, garden furniture		



You will develop an understanding of materials properties and their various applications in industry coupled with the systems employ in motion

2.4 Textiles

	Natural fibres	From plants and animals
	Synthetic	Man-made, from coal/oil. Non-renewable
Natural	Cotton	Cotton plant. Strong, cheap. Shirts, jeans etc.
	Wool	Sheep. Warm, absorbent. Coats, carpets etc.
	Silk	Silk worms. Smooth, comfortable. Dresses etc.
Synthetic	Elastane	Soft, stretchy, strong. Lycra sportswear
	Polyester	Smooth, strong, cheap. Sportswear, sheets
	Polyamide	Strong, warm, cheap. Nylon socks, carpets
	Yarn	Fibres spun to make yarns.
	Fabric	Woven, knitted or felted sheets of textile material.



2.5 Textiles and Manufactured Boards

	Blended fabric	A yarn made of 2 or more different material.
	Mixed fabric	A fabric made of 2 or more different yarns
Manufactured wood boards	Manufactured Boards	Processed pieces of wood combined with glue into boards or sheets
	MDF	Made from tiny fibres of softwood glued together. Cheap, can be painted. Shelves, flat pack furniture
	Plywood	Several layers of wood glued together with grain at right angles each layer. Strong. Building/furniture
	Chipboard	Compressed wood chips glued together. Cheap, not strong, absorbs water. Cheap self assembly furniture



2.6 Electronic Systems

System	Collection of parts that work together
Electronic System	Components connected to form a circuit
Input	External signal, trigger. Switch, keyboard etc
Process	Process input to determine output. Microchips etc.
Output	What happens. LED light, buzzer, screen etc.
PCB	Printed circuit board, copper tracks instead of wires
Resistor	reduce current in a circuit, measured in ohms.
Thermistor	Resistance changes with temperature
LDR	Light dependent resistor



2.7 Mechanical Systems

Mechanisms	Mechanism	Transform input motion into output motion
	Linear	Moving one way in a straight line
	Reciprocating	Moving backwards and forwards in a straight line
	Oscillating	Moving backwards and forwards in an arc eg. Swing
	Rotary	Moving in a circle eg. Wheel
	Levers	Move/lift loads by pivoting around a point
	Linkages	Levers linked together, change force/direction.
	Gears	Toothed interlocking wheels
	Gear Train	Two or more gears linked together to change the force, speed or direction of motion
	Pulley	Cable pulled over a wheel. Makes lifting loads easier
	One pulley	Changes direction of force required to lift load
	2+ Pulleys	Reduce force needed to lift load
	Belt drives	Belt around 2 rotating wheels, similar to gears.
	Cam mechanism	Cam and follower. Cam rotates, follower rests on the cam
Cam	Rotating wheel. Circular/ snail/ pear/ four lobed	

2.8 Developments in New Materials

Modern materials	Graphene	Thin layer of graphite. Light, strong, conductor. Tennis racquet, aerospace
	Titanium	Strong, light, expensive. Bikes, ships, armour
	Coated metals	galvanised (coated) metal to improve properties eg. Steel galvanised with zinc to reduce corrosion
Smart Material	Nanomaterial	Materials made from tiny particles
	Smart material	Changes its properties in response to heat/light etc.
	Shape memory alloy	Return to original shape when heated
Composite	Photochromic	Changes colour (chromic) in response to light (photo)
	Thermochromic	Changes colour (chromic) in response to heat (thermo)
	GRP	Glass reinforced plastic. Glass fibres coated in plastic resin. Strong, heat resistant, can be moulded. Boats etc
Technical Textiles	Carbonfibre	Carbon fibres coated in plastic resin. Light, strong, expensive. Crash helmets, racing cars etc
		Enhanced fabrics made for function not looks. Eg. Kevlar for protective clothing due to strength



You will develop a further understanding of materials properties and their various applications in industry coupled with the scales within Production

Section 3 – More About Materials

3.1 Selecting Materials

Factors affecting material choice	Functionality	Must have the properties needed (strength etc)
	Availability	How easy it is to source (find) and buy
	Aesthetics	Needs to look right (colour, finish etc)
	Cost	Must be cheap enough to make a profit
	Environment	Environmental impact of the material
	(wood)	Renewable if replanted. Deforestation if not
	(metal)	Non-renewable, mining damages eco-systems
	(plastic)	Non-renewable (oil). Won't biodegrade
	Social factors	Impact on people/society. Fair trade, conditions
	Ethical factors	No animal products, good working conditions etc
Cultural	Views, religion, cultural differences	



3.2 Forces and Stresses

Force/Stress	Strong	Good at withstanding force without breaking
	Stress	Force per unit area (N/m ²)
	Tension	Stretching force. Trampoline springs etc
	Compression	Opposite on tension, squashing force. Chair legs
	Shear	Unaligned forces in opposite direction. Scissors
	Bending	Type of shear force, makes material bend.
	Torsion	Twisting force
	Reinforced	Made stronger
Enhancements	Stiffened	Made more rigid (deform less)
	Lamination	Layers added to form a 'composite'. E.g. Plywood
	Interfacings	Layers of fabric attached to the inside of products. E.g. Collars, cuffs, pockets
	Webbing	Fabric woven to give high tensile strength, tow ropes, seatbelts etc.
	Bending	Stiffens materials. E.g. corrugated cardboard

3.3 Scales of Production

One-off	Info	Highly skilled workers make the whole product. Takes a lot of time. Can be made to measure
	Used for	One-off, small scale. Wedding dresses, prototypes, some expensive furniture
Batch	Info	Specific quantity (batch) made in one go. Batch can be repeated. One process on whole 'batch', followed by another on the whole batch. Quicker than one off per product. Uses templates, jigs, moulds etc.
	Used for	Lots of one product (e.g. sofas, keyrings)
Mass	Info	Lots of stages (simple, repetitive tasks). Each worker does one small part repeatedly. Assembly line. Expensive specialised equipment, high set up cost. Mostly unskilled staff. Robots can be used
	Used for	Thousands of identical products. Newspapers, cars
Continuous	Info	Runs all of the time, 24hrs a day. Automated, not many workers. Machined make huge number of the same thing. Expensive set up, but then fast and cheap per product
	Used for	Vast quantity of same item. Aluminium foil, drinks

3.4 Quality Control

Quality Control	Checks to make sure product is made to a high standard. Checks are made at every stage of manufacture	
Tolerance	The margin of error. Must be within _mm +/- _mm	
QC test	Go/No Go	A jig to measure and check a size is within tolerance
	Registration marks	Usually a cross printed onto paper or board. Used to check printing plates are aligned correctly
	Check against original	Quicker than measuring to check each part
	Depth stops	Stops drilling at correct depth
Programming laser	Power setting, speed setting, thickness setting	

3.5 Production Aids

Production aid	Tools/techniques that speed up, simplify or control accuracy in manufacturing process
Reference Point	A point where measurements are made from
Scale	Bigger, smaller or same size with the same proportions
Template	Something to draw or cut around to produce a shape identical to it
Pattern	A template used to cut fabrics
Jig	A guide for tools to cut/drill or position correctly. Often used to cut several identical items quickly



You will develop a further understanding of the production of materials coupled with components used within manufacture

More About Materials & Components



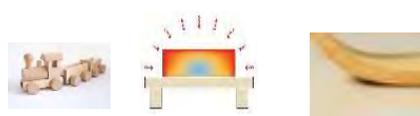
3.6 Production of Materials

Paper (from trees)	Cut down	Trees cut down, taken by lorry to paper mill
	Bark stripped	Bark stripped off, cut into small pieces using chipper
	Pulp	Small bits made into pulp (brown mush)
	Bleach	Pulp washed and bleached
Wood (from trees)	Press	Pressed flat between rollers, dried, cut to size
	Cut down	Trees from plantation/forest cut down (felled)
	Bark stripped	Bark stripped off, trunk sawn up
	Seasoned	Seasoned (dried) in air or in a kiln
Metal (from ore)	Cut into form	Cut into useful form (planed square edge/rough sawn)
	Finish	Applied to protect/improve look. Varnish, paint, oil etc
Plastic (from oil)	Mining	Metal mined from the ground as ore (rock with enough metal in it to be extracted)
	Extraction	Heat in furnace OR electrolysis (using electricity). Metal separates out and is 'tapped' off.
	Refined	Impurities removed, different process per metal type
	Cast	Molten metal cast (poured into mould then cooled)
Plastic (from oil)	Extraction	Crude oil extracted from ground (land or sea)
	Refinery	Oil heated in process called Fractional distillation . This separates it into different chemicals called fractions
	Polymerisation	Joining chemicals (monomers) together to make polymers (plastics)
	Cracking	Breaking down some chemicals (fractions) into monomers so that they can be polymerised
	Moulding	Poured into moulds of the shape needed



3.7 More on the Production of Materials

Fibres	Tiny 'hairs' that are spun into yarns, then woven or knitted made into fabrics	
Natural fibres	Come from natural sources (plants/animals). E.g. Wool (sheep), Cotton (seed pods of cotton plant), Silk (worm)	
Regenerated fibres	Made from natural materials (usually wood pulp). Mixed with chemicals to make fibres.	
Synthetic fibres	Man-made from polymers (plastics). E.g. polyester, lycra, nylon.	
Environmental damage types	Environmental damage types	Converting raw materials into useful forms damages the environment by causing POLLUTION, DESTRUCTION OF HABITATS and CLIMATE CHANGE.
	Trees > Wood	Deforestation (forests cut down and aren't replanted). Destroys habitats, animals can't live there
	Mining metal	Uses a lot of energy from fossil fuels. Causes air pollution (and global warming). Habitats destroyed to clear mining space. Chemicals pollute water
	Oil > Plastic	Oil drilling can release toxic chemicals into atmosphere. Waste material or oil can leak and pollute land or sea, harming wildlife and habitat
Farming fibres	Fertilizers and pesticides pollute rivers and harm wildlife. Can also cause deforestation to clear land	



5.3 More Standard Components

Rivet	Metal peg, head on one end. Joining pieces of metal
Hinge	Used for doors, cupboards, boxes etc.
Knock-down fitting	Temporary fittings, allow furniture to be taken apart and reassembled. They are fast but not as strong as glued joints.





You will develop an understanding of materials properties and their various applications in industry coupled with Printing Techniques and finishes.

Section 4 – Paper and Board

4.1 Properties of Paper and Board

    	Flexible	Easy to bend (e.g. card)
	Rigid	Resists bending (e.g. corrugated card)
	Strength	Withstands force without breaking. Stronger is often heavier and so costs more to transport
	Toxicity	Recycled paper/board often contain chemicals so can't be used in food packaging.
	Cost/quality	Luxury or long lasting products may be made from more expensive paper, feels high quality
	Solid white board	Modified board. Strong, thick, easy to print on. Only material for direct contact with food. Coated in wax or polyethylene for moisture resistance.
	Food packaging	Must be waterproof, airtight, printable. Can laminate board with aluminium foil or wax.
	Flyers/leaflets	Must be cheap, quality can usually be low. Biodegradable and unbleached would be good for the environment.
	Modified paper/board	Modified (changed) for a specific purpose using chemicals (additives). Can be for strength, brightness, water resistance. E.g. Greaseproof paper
	Stock form	Standard forms or sizes paper/board are sold in. E.g. Rolls, A0, A1, A2, A3, A4 etc.
	Ply	How many layers (ply = layer) the material is made of
	Differences in paper	Weights, thicknesses, colours



4.2 Standard Components

Standard components	Parts that come ready made for use. These are mass produced, so low cost. E.g. Screws, buttons
Advantages to manufacturer	Cheap per component, saves time during manufacture, less machinery needed as no need to make these parts (e.g. dowels/screws in flat pack furniture)
Advantages to product user	Standard components can be easily replaced.
Bindings	Hold pages together to make books/booklets. Types include 'comb', 'spiral', 'saddle stitching'
Seals	Use two strips of adhesive to seal together on contact (e.g. Envelope)
Tapes	Sticky tape, double sided tape etc



4.3 Working with Paper and Board

Scissors	Used to cut paper and thin card
Knives	Used to cut paper and card. Metal cased knives for tough materials. Scalpels (very sharp) for precision cutting.
Guillotines	For cutting large sheets
Laser cutting	Programmed with 2D CAD software. Very accurate and precise. Cuts paper and card.
Die cutting	Like a cookie cutter. Sharp blades (cutting) and round edge blades (scoring) are mounted on a plywood board and pressed down onto card. Good for batch/mass production.
Scoring	Small indent along a line to make card easier to bend.
Net	2D plan for making a 3D object (usually a box for packaging)



4.4 Printing Techniques

Lithography	Uses oil-based ink and water, relying on the fact that oil and water do not mix. Fast and high quality for printing a large number of items
How lithography works	UV light transfers image onto printing plate, this image gets coated with a chemical that attracts oil (ink) and repels water.
Flexography	Used for printing large quantity (wallpaper, packaging, carrier bags etc)
How flexography works	Uses a flexible rubber printing plate. The image sticks out from the plate and presses the print onto the item being printed. Can print on rough surfaces such as cardboard, plastic bottles etc. Very fast.
Screen printing	Ink is spread over a stencil. Ink goes through and prints on material below. Low cost, printing in small numbers without fine detail. Paper, card, fabric

4.5 Paper and Board Finishes

Finish	To improve the look of the printed product. Also helps protect it. Adds cost.
Laminating	Sandwiching a document between two layers of plastic e.g. menu to protect it from grease/damage
Embossing	Pushing a shaped die into the material to make it textured. Used to draw attention to product, gives it high quality finish
Varnishing	Gives a smooth, glossy or matt finish. Whole product (eg playing cards to protect them from damage) or just one side (e.g. postcard, as varnish can't be written on)
UV varnishing	Varnish cured under UV light for dry feel finish. Used to protect items such as magazine covers



You will develop an understanding of Shaping materials, Tools and processes used with them along with properties and their various finishes used in industry.

Section 5 – Woods, Metals and Polymers

5.1 Stock Forms and Standard Components

Timber (wood)	Stock form	Standard shape/size materials can be bought in
	Planed square edge	Rough surfaces shaved off to give smooth, sharp edges. Used for furniture etc.
	Rough sawn	Not smoothed. Cheaper. Construction (not seen)
	Mouldings	Strips with shaped cross section. Door frames etc.
Metal	Manufactured	MDF/Plywood etc. Come in set sheet sizes and thicknesses. Cheap furniture, construction (plywood)
	Sheet	Flat sheets, can be press moulded
	Rod	Circular section sticks
	Tube	Like a rod, but hollow
Plastic	I-shaped girder	Strong girders used in construction
	Sheet/tube/rod	Standard sizes and thicknesses
	Foam	Used for packaging and modelling
	Films	Good for vacuum forming. Windows in packaging
Material	Granules	Can be melted and used in casting and moulding
	Powders	Can be used in moulding, as coating or 3D printing
	Standard components	Ready made parts. Cheaper for the manufacturer
	Temporary fixings	Can be taken apart if needed. Screws (thread grips the material). Nuts and Bolts (bolt grips the nut)
Modification	Cooking utensils	Stainless steel. Resists rust, high melting point
	Hand tools	Tool steel. Hard, tough, strong. Won't break
	Polymer seating	Polypropylene (PP). Colours, easily moulded, tough, flexible, strong. Withstand weight/moisture
	Electrical fittings	Urea Formaldehyde. Hard, rigid, insulator. Safe
Modification	Seasoning (wood)	Drying it. Stronger, prevents rot and twisting
	Annealing (metal)	Heating and cooling. Softer, less brittle, malleable
	Stabilisers (plastic)	Chemical added to prevent UV damage

5.3 Shaping material; – Hand Tools;

Saws	Rip saw	Cutting wood
	Tenon saw	Straight cuts in small pieces of wood
	Hacksaw	For cutting metal and plastic
	Coping saw	Cutting curves in wood or plastic
	Wood chisel	Hit with a mallet to shape wood
	Cold chisel	Hit with hammer to shape metal
Drilling	Plane	Has an angled blade, shaves off thin layers of wood
	File	For shaping and smoothing metal
	Abrasive paper	Different types for smoothing wood/metal/plastic
	Bradawl	Press to make hole in wood/plastic to locate drill bit
	Centre punch	Hit with hammer to dent metal to locate drill bit
	Twist bit	Drill small holes in wood, metal, plastic
Machine tools	Flat bit	Large, flat bottomed holes wood or plastic
	5.4 Shaping Material; – Power and Machine Tools;	
	Safety	Visual check of tool, mask, extraction for dust, goggles, apron, clamp work, know how to stop machine
Power tools	Router	Spinning cutting tool for cutting slots in wood
	Planer	Removes shavings of wood
	Jigsaw	Straight or curved cuts in all materials
	Sander	To smooth wood
Machine tools	Sanding Disc	Spinning disc of abrasive paper
	Saw bench	Circular blade in a table. Straight cuts in wood
	Band saw	Long flexible loop blade, cuts wood straight or curves
	Pillar drill	Making holes in all materials

5.4 Shaping Material; – Power and Machine Tools;

Power tools	Router	Spinning cutting tool for cutting slots in wood
	Planer	Removes shavings of wood
	Jigsaw	Straight or curved cuts in all materials
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	Saw bench	Circular blade in a table. Straight cuts in wood
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	Pillar drill	Making holes in all materials

5.5 Shaping Techniques

Shaping	Milling	Remove material one layer at a time
	Lathes	Material held and rotated, shaped using tool/bit
Casting	3D printing	Additive CAM process, prints layers of molten plastic
	Metal pressing	Press metal sheet between two moulds. Car doors etc.
Bending	Casting	Molten material poured into a hollow mould
	Die casting	Metal or plastic melted and poured into mould
	Metal folder	Bending sheet metal. Aluminium, tin etc.
	Laminating	Thin wood strips glued and held in a curved jig
Bending	Line bending	Acrylic sheets. Heat, bend when soft, solidifies.

5.6 – Moulding and Joining

Vacuum forming	Polypropylene or HIPS heated until soft, then vacuumed (sucked) down to a mould	
Blow moulding	Tube of softened plastic inserted into a hollow mould. Air injected to inflate the plastic to the mould shape. Used for bottles/containers	
Injection moulding	Similar to casting, but molten material forced into closed mould under pressure	
Extrusion	Similar to injection moulding, material melted and forced through a die to make long, continuous strips the shape of exit hole. Rods, plastic covered wire etc.	
Glue types	PVA	Wood, paper, card
	Glue Gun	Wood and plastic. Good for modelling
	Solvent cement	Some plastics. Clamp together and apply glue
	Epoxy resin	Most materials, expensive, sets quickly
Metal	Melt 'solder' onto join, sticks pieces of metal together	
	Soldering	Higher temperature than soldering. Uses blowtorch

5.7 Treatments and Finishes

Wood (timber)	Painting timber	Sand down timber (wood) before applying paint
	Undercoat (paint)	First coat of paint, covers wood and allows top coat to stick
	Top coat (paint)	To colour wood and protect it from water/damage
	Varnish	Clear, allows wood grain to be seen. Protects wood from water. Gloss or matt finish
Metal	Tanalising	Treated with wood preservative
	Metal finishing	Smooth by filing and sanding. Metal is finished to prevent corrosion and improve appearance
	Dip coating	Metal heated then put into fine plastic powder, then back in the oven for plastic to fuse to metal. Soft, smooth finish for racks, tool handles etc.
	Powder coating	Plastic powder sprayed onto metal using an electrostatic gun then heated in an oven
Polymers (plastics)	Galvanising	Iron rusts when in contact with oxygen and water. Galvanising is coating in zinc (more reactive than iron) which prevents the iron from rusting
		Do not need finishing, already resistant to corrosion. To change appearance, vinyl decals can be applied, or can be printed of using offset lithography



You will develop an understanding of Textiles properties, Tools and processes used with them along with properties and their various finishes used in industry.



Section 6 – Textiles

6.1 Fabric and their Properties

Sportswear	Polyester	Resistant to abrasion (so good for being used a lot). Strong when wet, dries quickly.
	Elastane	Stretchy and flexible (good for exercising). Not absorbent, so usually combined with absorbent materials. Swimwear and cycling clothing.
	Polyamide	Insulator (warm) and easy to wash. Ski jacket, outdoor clothing.
Furnishings	Cotton	Resistant to abrasion. Cushions and curtains
	Acrylic	Soft, warm. Resistant to fading (so long lifespan). Used for sofas etc.
	Wool	Strong, warm. Rugs, blankets.
Treatments	Flame Retardant	Less likely to catch fire. Racing driver overalls, firefighters clothes, children's pyjamas.
	Stain Protection	Treated with silicone and fluorine, or Teflon. Stops grease and dirt. Non-stick pans etc.
	Rot Proofing	Waterproof treatment (e.g. PVC). Stops fungus growing in damp conditions
	Water-resistant	Chemicals added to stop water passing through. Coats, tents etc.
	Laminated fabrics	Two or more layers of fabrics (to improve the properties such as strength, waterproofing)

6.3 Joining and Shaping Fabric

Sewing Machine Parts	Spool Rod/ Pin/Cap	This is the rod at the top where the spool of thread goes. Its then held on by a cap
	Tension disc	Makes sure the thread tension is right. The two need to be balanced then you get an even stitch.
	Thread Guide	These are small metal or plastic clips that help you thread the machine correctly
	Balance Wheel	This turns while you sew. If you turn it by hand the needle slowly goes up and down.
	Stitch selector	Allows you to change the stitch e.g. straight or zig zag
	Stitch length control	This allows you to lengthen and shorten the length of each stitch
	Presser Foot	This looks like a pair of tiny skis, it clamps the fabric down while sewing (it's the one that makes a satisfying clunk noise)
	Needle	This is the sharp metal spike with a hole in one end and a shaft that fits into the machine at the other.
	Bobbin	The bobbin goes under the sewing plate and provides one of the threads needed for machine sewing
	Bobbin Case	This is the hole in which the bobbin is placed.
	Sewing Plate	The metal section just under the needle (sometimes has a small measuring guide on it)
	Take up level	This is the part of the sewing machine that pulls the stitches tight (metal hook inside)
	Foot pedal	This goes on the floor and allows you to make the machine go and stop
	Overlocker	Overlockers are used to encase the edge of the seam and cut the waste using a blade at the same time.
CAM Machines	CAM	Computer Aided Manufacture
	Embroidery	CAM embroidery machine use the data from a design done on a drawing package (CAD) to sew a design (Like you school top logo) They can change colour threads automatically.
	Knitting	Use CAD picture and data to sew large rolls of fabric (fast and accurate)
	Cutting	Machine automatically spreads fabric out on cutting table in layers. Machine uses CAD layout plans cut through many layers (large vertical knives or water jets)
Seams	Sewing	Industrial sewing machines are very strong. They can automatically carry out processes like button holes
	Seam Plain	Hold fabric together with stitches (at the side of garments)
	French	One joining line
	Flat Felled	Encloses the seam edge (Used on see through fabric)
	Piping	Has two lines of stitching. It encloses the edge and increases the strength (used on jeans)
	Quilting	Can be used at seams to add decoration or strength. Cord is trapped inside.
	Shaping	Wadding is trapped between two layer of fabric using stitched lines.
	Gathering	We use different techniques to shape fabric, Gathering and pleating use excess material to create shape and detail.(better fit)
	Pleats	Sew two lines of loose stitch and pull the tread while easing the fabric along. Used on cuffs or waistbands.
	Even folds	Even folds made in fabric to give shape or fullness to skirts.



You will develop an understanding of Textiles properties, Tools and processes used with them along with properties and their various finishes used in industry.

6.2 Standard Components and Tools

Standard Components		Ready made parts, cheaper for the manufacturer
Standard Component	Zips	Plastic or metal, can be big bulky small or concealed. Some zips have two sliders that can be opened from both ends like in a suitcase.
	Velcro	Velcro comes in two halves. A rough half attached to loops on the smooth side. Takes a bit of force to pull it open so you cant attach it to very delicate fabrics.
	Toggles/ buttons	These are sewn on and require a button hole or loop to fasten to. They can be made of metal, plastic, wood or even glass. + easy to colour match - Could be a chocking hazard.
	Press studs	Can be used on items that need to open and close quickly. E.g. baby grow. Come in different sizes, biggest ones are more secure and harder to open

6.2 Standard Components and Tools

Tools	Cutting	Paper Scissors	Used to cut out Patterns
		Fabric Shears	Also called Dressmaking Scissors, cut fabric, long sharp blade that cuts fabric neatly
		Embroidery Scissors	Used for delicate jobs e.g. snipping threads or clipping curves
		Pinking Shears	Cut fabric with a zig zag edge which helps prevent fraying
		Craft Knife	Used to cut stencils, allows neat inside corners.
		Seam Ripper	Quick unpick. To unpick seams
	Sewing	Pins	Used to hold fabric together before you tack it.
		Needles	Used for hand stitches, e.g. embroidery, attaching beads or tacking.
	Measuring	Measuring tape	Used to accurately follow curved surface
		Tailor's Chalk	Help draw out patterns,
	Pressing	Dry Irons	Heat and pressure to press creases out.
		Steam Irons	More effective -they use water and steam as well as heat and pressure.

6.3 Joining and Shaping Fabrics

Pinning	Pin the pins at right angle to the fabrics edge and remove as you tack or machine sew
Tacking	Hand sewing (about 1cm) usually after pinning Holds fabric together securely. You can sew over it.
Hand Sewing	Used for quick tasks that need precision such as embroidery or darning (fixing holes)
Sewing Machine	A machine used to permanently attach one fabric to another.



You will develop an understanding of Design Strategies, Tools and processes used with them along with Famous designers and their impact on Society.

Section 7 - Designing and Making

7 Research, Design and Manufacture		
Research	Market Research	Questionnaires, interviews or a focus group to find out the wants and needs of the client
	Product Analysis	Examining existing products to find out how they work, size, weight, ergonomics etc.
Design strategies	Design Specification	List of conditions the product needs to meet (Aesthetics, cost, customer, environment, safety, size, function, materials, ergonomics etc.)
	Manufacturing Specification	All the information needed to make the product (materials, sizes, assembly instructions, processes, quality control steps etc.)
	Quality control	Checks during manufacture to make sure that the product is accurate and high quality.
	Systems approach	Designing in stages (specification, design ideas, develop, final idea, manufacture)
	User-centred Design	Using the client opinion to develop each stage of the design
	Iterative Design	Constantly evaluating and improving each design and model
	Modelling	Making practice versions of the design from cheap materials that are easy to work with. These are evaluated (shape, size, ergonomics, function) to help develop the design further
Designs you need to know	CAD Modelling	Virtual modelling for the same reason as above, to help develop and improve the design further.
	Prototype	Like a model, but the scale and function should be accurate to allow testing of the functions
	Isometric Drawing	Shows the design from a 30 degree angle (3D).
	Orthographic Drawing	2D view of the product from the top, front and side view, with accurate measurements and scale.
	Scale drawing	Accurate relative dimensions (1:2 means half the size of real life. 1:4 means 1/4 the size of real life etc.)
	Material Waste	Wasted material in manufacturing. Avoid by 'nesting' (putting parts as close together as possible on material), accurate marking and cutting.
	Safety	PPE (Personal protective equipment - Goggles, apron etc.) Training for machinery.

7 Design for Clients		
	5th percentile	Bottom 5% (e.g. shortest 5% of people)
	95th Percentile	Top 5% (e.g. tallest 5% of people)
	Accessible	How the product is designed to be used by people with disabilities
	Client	The person or people who the product is designed for
Design for specific client	Blind	Can't see well: Braille, Bright colour, large buttons
	Deaf	Can't hear well: Light up alerts, text
	Children	Struggle with small parts, fiddly things: Simple controls and interface, large buttons Like bright colours and shapes: Bright primary colours, pictures instead of text
	Elderly	Struggle with fiddly things, grip, eyesight, hearing: Simple controls and interface, large buttons, large text, easy to grip handles, visual alerts, louder speakers and volume

7 Famous Designers		
Designers you need to know	Dyson	Founded by Sir James Dyson. First bagless vacuum cleaner (so don't need to replace bags, saving money and the environment). Uses cyclone technology in products for greater suction. Range of products now (fans, hair driers etc.) Iconic visual designs grey and small amount of colour.
	Alessi	Alberto Alessi - Employed designers and architects to create fun and creative designs. Mass produced products that were stylish and original, distinctive and usually colourful. One well known example is Philippe Starck's lemon squeezer.



Keyword Signage and sentence starters used in Technology.

Safety in workshop is very important. Signs will be placed around the workshop and on machines.



Do not use

Red signs tell you something you must not do



Emergency Stop

Green signs give you information.



DANGER 400 VOLTS

Yellow signs warn you of a potential hazard.



Eye protection must be worn

Blue signs tell you something you must do.

10 Health & Safety Rules in the workshop:

- Do not run at anytime
- Tie hair up and tuck loose items away
- 1 person using a machine at a time
- Stand behind the yellow line when somebody is on a machine
- Do not talk to somebody whilst they are on the machine
- Wear goggles when instructed
- Wear an apron (ensuring it is tied up)
- Stack chairs/stools up at the side
- Put bags/coats under the workbenches
- Ask if you do not know how to use a tool or machine.

Keywords	Definition
<ul style="list-style-type: none"> Annotate Inspiration Consumer Aesthetics Environment Sustainability Function Size 6Rs Sketch Evaluate Initial Designs Final Design Mood Board Existing Product Design Specification Design Brief Materials Primary Research Secondary Research CAD CAM 	<ul style="list-style-type: none"> To label, provide information on the design A source that provides ideas The person who buys or uses the product The appearance of the product The place we live, work, socialise in The ability to sustain natural resources without impacting future generations What a product does, the purpose Measured in mms or cms. Used to assess environmental impact A quick drawing to show Assessing whether an idea is successful First rough designs in response to the task Final drawing of the product being made Collection of images to gain inspiration Products that are already available A list of specific design requirements An introduction to the overall task The physical matter the product is made from Collecting new data first hand (Questionnaire) Collecting data that already exists (Websites) Computer Aided Design Computer Aided Manufacture

Useful Sentence Starters for D&T:

Analyse: to examine a task/product in detail (use who, what, where, when and why).

- This is an example of good design because _____.
- It is made from _____.
- The target user for the product is _____.
- It is made attractive by _____.

Develop: to improve or modify a design or product

- I have developed my ideas by _____.
- I have combined the best parts of made design ideas that _____.
- I have removed this part of the design/ changed the material because _____.
- To improve the design, I need to _____.
- I decided to _____ because _____.

Justify: To give reasons for your decisions

- I think that is a successful design because _____.
- _____ is a suitable material as it is _____.
- The product can be used for an alternative purpose as it _____, therefore _____.
- I believe the choice of material affects the type of consumer because _____.

Evaluation: to assess a product. Identify a products strengths and weaknesses and suggestion modification

- The strengths of the product are _____.
- The weaknesses of the product are _____.
- To improve my product/design, I would _____.
- To make my product more environmentally friendly I would _____.

Useful Connectives:

Therefore, however, on the other hand, in my opinion, but, finally, firstly, secondly, thirdly, as well as this, moreover, furthermore, similarly, in contrast to.



In GCSE Drama we interleave key knowledge throughout the school year.

Keywords- Physical skills

Freeze Frame: When an actor, or a group of actors, are moving and then freeze mid action. It should look as if someone has pressed pause during a film.

Still image: When an actor or a group of actors create a picture with their bodies.

Physical Demeanour : Your physical demeanour is your way of looking and behaving.



Gait: The way someone walks.

Gesture: a movement of part of the body, especially a hand or the head, to express an idea or meaning.

Mannerism: A habitual gesture or way of behaving. It is often something that the use is not doing intentionally.

Stance: The way someone holds themselves from the waist down.

Posture: The way someone holds themselves from the waist up.

Facial Expressions: A facial expression is when someone changes their face to communicate meaning or emotions. Sometimes people do these on purpose and sometimes they are subconscious.

Keywords- Vocal skills

Tone of voice: this suggests your mood and your intention towards the listener, eg happy or sad.

Pitch: How high or low a person speaks.

Pace: How quickly or slowly a person speaks.

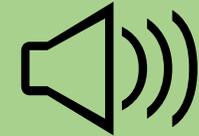
Pause: A stop, or gap, during a conversation.

Emphasis: the pressure on individual words that makes them stand out.

Projection: How far your voice reaches in a space.

Volume: How loud or quiet you are.

Dynamics: How much your voice varies in pitch, pace and volume.



SJC Performance Fundamentals

Speak
Clearly

Make sure the
audience can see
your face

Don't break
character

Questions:

- 1: Create a poster that would help you remember what the different physical skills are.
- 2: Create a poster that would help you remember what the different vocal skills are.
- 3: Write a letter to a year 6 student explaining why each performance fundamental is important.





St Joseph's College Drama Department

Term 1-3: Emotional realism



In GCSE Drama we interleave key knowledge throughout the school year.

Naturalism-

Naturalism is a movement in European drama and theatre that developed in the late 19th and early 20th centuries. It refers to theatre that attempts to create 'reality' on stage through a range of dramatic and theatrical strategies.

Super-objectives-

A super-objective, focuses on the entire play as a whole. A super-objective can direct and connect an actor's choice of objectives from scene to scene. The super-objective serves as the final goal that a character wishes to achieve within the script.



Tasks:

- 1: write one page of a "naturalistic" script,
- 2: Pick one character from that script and action their lines.
- 3: Break that characters lines into units.

Units and objectives-

The objective is a goal that a character wants to achieve. This is often worded in a question form as "What do I want?" An objective should be action-oriented, as opposed to an internal goal, in order to encourage character interaction onstage. The objective does not necessarily have to be achieved by the character and can be as simple as the script permits. For example, an objective for a particular character may simply be 'to pour a mug of tea.' For each scene, the actor must discover the character's objective. Every objective is different for each actor involved because they are based on the characters of the script.

You can break moments where your characters objective is different into units.

Actioning (using actions)-

Actions are referred to as how the character is going to say or do something. More specifically, it as an objective for each line. Actions are how a character is going to achieve their objective. For example, a line in the script may read, '(whilst on the phone) "Hello, Sally. It's Bill from next door. You wouldn't happen to have any spare tea bags, would you? I know how well-organized you are." The Action for this line may be 'to flatter' in order to achieve the Objective of collecting the tea bags. Actions will be different for every single actor based on their character choices.

Affective Memory-

Affective memory was an early element of Stanislavski's 'system' and a central part of method acting. Affective memory requires actors to call on the memory of details from a similar situation (or more recently a situation with similar emotions) and import those feelings to those of their characters. Stanislavski believed actors needed to take emotion and personality to the stage and call upon it when playing their character

Lilly Do you ever think about that?
Tanya Think about what? invade
Lilly Being a parent.
Tanya All the time. charm
Cissy She doesn't just mean about having Anderson's children. She means about actually properly being a parent.
Tanya Yeah. teach





In GCSE Drama we interleave key knowledge throughout the school year.

Breaking the 4th wall- Epic theatre (Brechtian theatre) breaks the **fourth wall**, the imaginary wall between the actors and audience which keeps them as observers. They are active members of the theatrical experience as they are kept thinking throughout, not switching off.

Coming out of role / third person narration- Commenting upon a character as an actor is a clear way of reminding the audience of theatricality. For example, midway through a heightened scene the action might break for the actor to comment upon their character in the third person, 'Darius felt his anger rise. He wasn't being listened to and wanted revenge', before returning to the scene.

Speaking the stage directions- This device was used by Brecht more frequently in rehearsal than performance. It helps distance the actor from the character they're playing. It also reminds the audience that they're watching a play and forces them to study the actions of a character in objective detail.

Direct address-Speaking directly to the audience breaks the fourth wall and destroys any illusion of reality.

Using placards- A **placard** is a sign or additional piece of written information presented onstage. Using placards might be as simple as holding up a card or banner. Multimedia or a PowerPoint slideshow can also be used for this effect.

Gestus- Gestus, another Brechtian technique, is a clear character gesture or movement used by the actor that captures a moment or attitude rather than delving into emotion. So every gesture was important. Brecht and his actors studied photographs of the plays in rehearsal to ensure each moment worked effectively. Could the audience tell by the actor's gestures alone what was happening in the scene? Brecht didn't want the actors to be the character onstage, only to show them as a type of person.

Gestus is also a gesture with a social comment. For example, a soldier saluting as he marches across a stage is a gesture. But if he was saluting as he marched over a stage strewn with dead bodies, it would be a social comment about the type of person he represents.

Tasks:

- 1: Try and write a one page script of a 'Brechtian' play.
- 2: Create a revision poster on Brechtian techniques
- 3: Create a poster for your Brechtian play

The alienation affect/The 'V' effect- Many people speak of alienating the audience (making them separate from the action) but *verfremdungseffekt* actually translates more closely to 'distancing.' However, it's still often called the **alienation** effect or is shortened to the 'V' effect and there are many ways of using it.

Brecht definitely wanted his audience to remain interested and engaged by the drama otherwise his message would be lost. It was **emotional investment** in the characters he aimed to avoid.

His approach to theatre suits work which has a political, social or moral message. Perhaps you want the audience to consider the meaning in a **parable** (a story with a wider moral message). You might want to explore a theme or issue and make your audience consider varying viewpoints or sides to an argument. If so you can learn a lot from the distancing devices used in Brechtian theatre.

Song, Dance and music- This is a good way to ensure that the audience pay attention but are reminded of the fact they are watching a play. Often in Brechtian theatre the style of the music and the lyrics jar, they don't seem to fit together in style. This distances the audience further.

Chorus- We studied chorus in year 7, Brecht used it too. A group of people doing the same thing at the same time is a great way to alienate the audience and make a message clear.



St Joseph's College Drama Department

Term 1-3: Artaudian Theatre



In GCSE Drama we interleave key knowledge throughout the school year.

The Theatre of Cruelty- a type of theatre advocated by Antonin Artaud in *Le Théâtre et son double* that seeks to communicate to its audience a sense of pain, suffering, and evil, using gesture, movement, sound, and symbolism rather than language.

Non-Narrative Theatre- Though perhaps not fully 'non-narrative' Artaudian theatre is at least abstract. This means that it does not focus on telling a story 'narrative' instead it is about an experience that, for Artaud, goes beyond a story and instead becomes a felt event.

Rituals- "Artaud believed in the function of theatre to unite his audience in the ritual of common affirmation. For shaping his ideas, he sought a new communion, a new sign- system and a new priesthood in the theatre. This communion element in Artaud's theatre was at the core of his belief". In short, Artaud was interested in things like ancient rituals because they are shared experiences that go beyond a story and create a different type of experience for participants.

Balinese Dancers-Balinese dance is an ancient dance tradition that is part of the religious and artistic expression among the Balinese people of Bali island, Indonesia. Balinese dance is dynamic, angular and intensely expressive. Balinese dancers express the stories of dance-drama through the bodily gestures including gestures of fingers, hands, head and eyes. Balinese dance heavily influence Artaud's work.



Tasks:

- 1: Create an Artaudian script.
- 2: Create a poster for your play.
- 3: Create a diary entry explaining one of your Artaudian rehearsals.



Use of voice and breath- Artaud liked performers to push their bodies to their limits. This helped overwhelm the audience and create an overwhelming experience for them



In GCSE Drama we interleave key knowledge throughout the school year.

End-on-End-on staging is very similar to proscenium arch, but without the arch frame around the stage space. Many black box studios are set up with end-on staging, meaning that the stage space is on one side of the room and the audience sit on the opposite side. As with proscenium arch staging, blocking is usually simple as the audience all face the same direction and sit in a fixed position.



Thrust staging-A thrust stage sticks out into the audience, who sit on three sides. Like proscenium arch and end-on staging, there is a back wall that can be used for hanging backdrops and large scenery. Blocking is easier than in the round and traverse staging, as there is a back wall, so performers don't have to worry about having their back to the audience.



Traverse- A traverse stage is long and narrow with the audience sitting on either side, like a catwalk. As with theatre in the round, the audience can see each other, which helps to remind them that they are at the theatre and immerse them in the action on stage. However, it also means that scenery must be low so that it doesn't cause obstruction, so backdrops cannot be used.



Tasks:

- 1: Write a 1 page promenade performance..
- 2: Create a poster for that performance
- 3: Make your own revision sheet on staging

Promenade- In a promenade performance, the audience move to follow the performers around the space. Performances are often site-specific in interesting and unusual locations, even outdoors, rather than in purpose-built theatre spaces.

As the audience shares the space with the performers, performances can be unpredictable and as such, blocking can be particularly challenging.



Theatre in the round-When using in the round staging, the audience sit around the stage on all sides, and the performers enter and exit through the audience on walkways. In the round staging can provide an intimate atmosphere and fully immerse the audience in the play.

When performing in the round, performers need to move and change their positions frequently so that all audience members remain engaged and don't look at a performer's back for too long.





St Joseph's College Drama Department

Term 1-3: Blood Brothers

In GCSE Drama we interleave key knowledge throughout the school year.



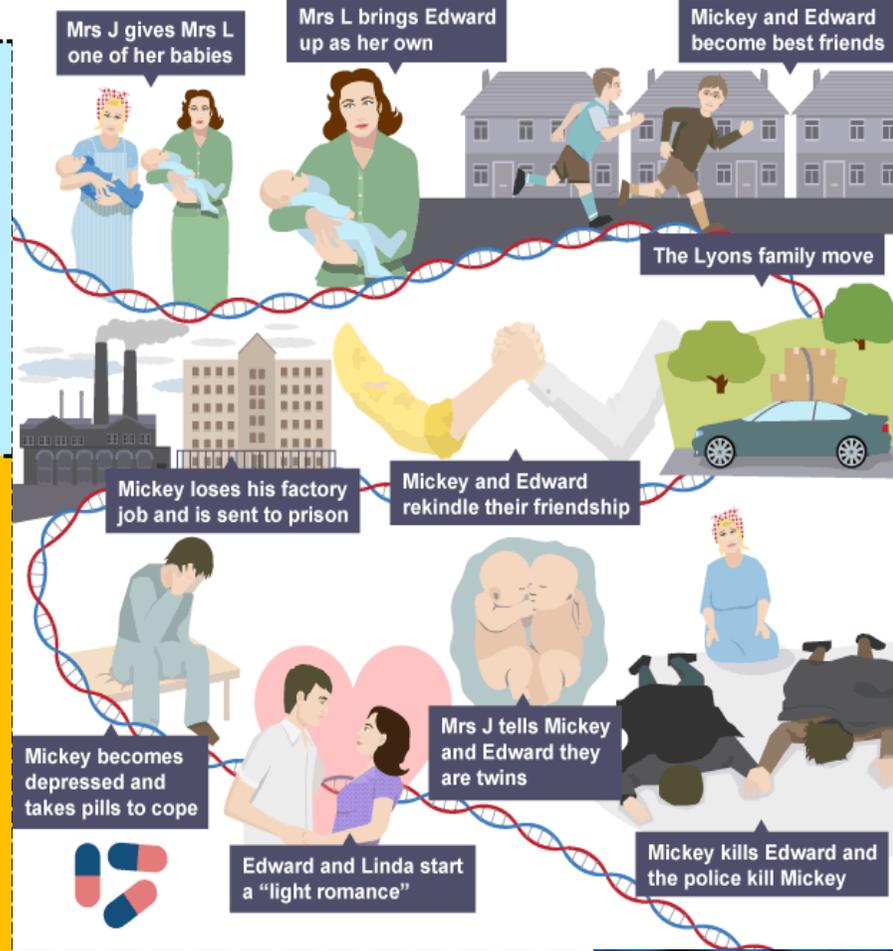
Key themes-Willy Russell asks several questions of the audience through the events of Blood Brothers, particularly about how equal our society is. Through presenting twins, who have the same DNA but are brought up in such different families, the playwright shows how much our life experiences affect the opportunities we have in life.

Russell also introduces the idea of superstition through the character of Mrs Johnstone. Should we accept that fate is in control of our lives or are other factors more important?

Another theme introduced in the play is violence. This is present in Mickey's life from when we meet him at the age of seven and gets worse and worse until his and Edward's deaths at the end of the play.

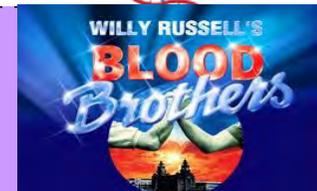
Blood Brothers Context-Russell wrote Blood Brothers in 1981, and it was first performed as a musical in 1983. This was during the period that Conservative Prime Minister Margaret Thatcher was in power. There was very high unemployment during this time, particularly in industrial working-class areas in northern England, such as Liverpool - where Russell is from and where the play is set. Mickey and his family represent the working classes, who were badly affected by the economic downturn, whereas Edward and the Lyons family embody the middle classes, who thrived in the 1980s.

The difference between the Johnstone and Lyons families draws attention to the impact that a person's social class can have on their opportunities in life. From the moment that Mrs Johnstone goes to work for Mrs Lyons at the beginning of the play, the audience's attention is drawn to how their lives are worlds apart. This contrast is emphasised throughout the play, through the characters of Mickey and Edward. Even at the age of seven, the twins' experiences of life are disparate. When they are young, their friendship overcomes their differences, but as they get older, the space between the brothers gets wider and harder for them to move past. Margaret Thatcher believed that anyone could be successful if they worked hard. Russell demonstrates that for Mickey this is not true. Without having the opportunities that Edward is given, Mickey's prospects are very limited, regardless of how hard he works and his desire to succeed.



Tasks:

- 1: Write a 1 page review of Blood Brothers
- 2: Design a costume for Mickey.
- 3: Design a costume for Edward





St Joseph's College Drama Department

Term 1-3: Roles in the theatre



In GCSE Drama we interleave key knowledge throughout the school year.

Director

A director is responsible for the overall creative vision of the show. They have to bring the different elements of the production together to produce a cohesive final production, having meetings with the design team at various stages during a production. They will also direct the performers and help them develop their characters in **rehearsals** ahead of the final performance.

Performers

A performer might be an actor, singer or dancer, whose job is to perform within a production. They will usually **audition** in front of the director and a casting director to get their part. They begin their work in the rehearsal room with the director, before performing on stage in front of an audience. They must ensure to maintain a high-quality performance each night, during the run of the show.

Designers

The design team are often brought together by the director of a production and will work closely together to help deliver the director's artistic vision. Some of their work may be done in advance of rehearsals, but they will often continue to work on a show until it opens.

Set designer

A set designer is responsible for designing the set, working closely with the director and the design team to create the world of the show. They may begin by providing the director with a concept, before moving on to the technical drawing stage. Once the design is complete, the set is constructed and completed by various departments that specialise in materials such as metal, wood and paint.

Costume designer

A costume designer is responsible for designing the costume, hair and make-up for a production, working closely with the design team to ensure that the costumes match the style of the show. They will often create designs ahead of the production being cast and can then make changes once they have met the performers. The costume designer works closely with the costume department, who are responsible for making the outfits and wigs.

Lighting designer

A lighting designer is responsible for designing the lighting within a production, working closely with the director and the design team to create lighting states for atmosphere and mood on stage. The lighting designer will often have an initial idea about how the lighting will look for a show and will then make adjustments during the rehearsal process. Once their design work is complete, technicians will rig and programme the lights.

Sound designer

A sound designer is responsible for designing the use of sound within a production, eg sound effects or music, working with the director to create and develop sound that enhances a production. They will also advise the director on whether the production requires microphones and other technical equipment.

Puppet designer

A puppet designer is specifically responsible for **designing puppets** within a production. They must ensure that puppets match the set and costume design and general **aesthetic** of the show. They must also ensure that the puppets work efficiently when operated.

Playwright

A playwright is responsible for writing a play. Some are commissioned by theatre companies or producers and others write plays and submit them speculatively. Usually they will have written the play well in advance of rehearsals, but small changes can be made as the show develops. Occasionally, playwrights are present during the entire rehearsal process and they watch the performers work with the director to develop ideas, making notes and writing the script organically.

Understudy

An understudy is a performer who learns the lines and blocking of a regular performer in a production, so that if the regular performer is ever unable to perform, eg due to illness or injury, the understudy can cover their part. Sometimes, they may take a smaller role within a production, while covering one of the lead roles. When an understudy goes on to perform a lead role, a performer called a swing will cover the understudy's part.

Stage manager

A stage manager is responsible for backstage during a production. They usually lead a stage management team of a deputy stage manager, assistant stage managers and a company stage manager, and they are involved from before the first rehearsal until after the show has finished. They organise the rehearsal schedule and sit in the rehearsal room making notes that need to be passed onto the design team. During the run of a show, they are responsible for organisational aspects, such as setting props and calling the show.

Technician

There are many different types of technicians involved in theatre. They may be involved in rigging the lighting, sound equipment and set. They may also operate technical equipment during a show, controlling lighting, sound or other aspects of the set, eg trucks.

Theatre manager

A theatre manager is responsible for the front of house team and is usually a permanent employee of a theatre building. They ensure the smooth running of a performance by looking after the audience.

Task: Create 'job adverts' for each of these positions, include relevant pictures.



This unit will explore the play 'An Inspector Calls' with a focus on context, language and the writer's techniques.

Keywords and Vocabulary:

Pompous	Parsimonious
Socialist	Dogmatic
Capitalist	Opulent
Influential	Naive
Disconcerting	Reticent
Provincial	Remorseful
Optimistic	Condescending
Systematic	Altruistic
Authoritative	Prejudiced
Proletariat	Boastful
Omniscient	Grandiose
Bourgeoisie	Exploitative
Generation	Unsympathetic
Isolationism	Orthodox
Obstinate	Arrogant
Egalitarian	Belittling
Materialistic	Patriarchal
Cowardly	Reckless

An Inspector Calls - Themes:

Responsibility - Who accepts what they have done? Who doesn't? What about social responsibility?

Older vs. younger generation - How do their opinions differ? How does the relationship between the two sides change throughout the play?

Wealth and influence - How do the Birlings/Gerald use their position to influence others? What impact does this have?

Public image vs. private lives - What image do the Birling family want to give of themselves? How far will they go to protect this?

Gender - How are the different genders presented in their play? Do they live up to the expectations placed upon them?

Class - How does the social position of the different characters influence the way they are treated and the way they treat others?

An Inspector Calls - Simple Plot:

Stage directions - Priestley gives a detailed account of how he wants the play to be set as well as how each of the characters are presented.

Act 1 The Birlings (and Gerald) are all gathered to celebrate the engagement of Sheila and Gerald. Mr Birling gives a speech about how the talk of war is 'fiddlesticks'. A police inspector (Goole) arrives and reveals that a girl (Eva Smith) has committed suicide. Each character in turn is found to have played a part in her death. Mr Birling fired Eva Smith after a dispute over pay at the factory. Sheila got Eva Smith fired after she thought Eva had laughed at her in a shop. Act 1 finishes with Gerald and Sheila discussing the affair that Gerald had with Eva Smith once she had changed her name to Daisy Renton.

Act 2 The affair between Gerald and Daisy Renton (Eva Smith) is revealed to the rest of the family. Gerald leaves. We then find out that Mrs Birling denied funding to Eva Smith when she arrived at the charitable organisation that Mrs Birling chairs. Mrs B. refused her money as she used the name of Birling which Mrs B. found impertinent. We find out that Eva was with child.

Act 3 Eric arrives and reveals that he was the father of the child. It is hinted that he raped her. The Inspector gives a speech which highlights that all of the family were in some way responsible for the girl's death. He leaves. Gerald returns. The Birlings figure out that the Inspector wasn't real. The older Birlings and Gerald start to celebrate at this news whereas the younger generation still feel responsible. The play ends with Mr Birling answering the phone to find out a girl has committed suicide and a police-man is coming to ask questions.

Context:

The play is set at a time when industry was undergoing significant expansion, which meant an increase in wealth for the owners of these factories like Mr Birling and Gerald Croft. At the same time as they were increasing their wealth, wages were not rising for the workers within these industries. This created significant tension and resulted in strike action in some industries. One of the most important things to remember about An Inspector Calls is that it was written in 1945, after WW1 and WW2, but set in 1912, prior to both of these events. Priestley did this because 1912 represented a time that was very different to post-war Britain and highlighted to the audience how much had already changed between then and now. In 1912, the barriers between class and gender were very rigid, with everyone sticking to their traditional roles and their being no room for social progression. By 1945 these barriers had begun to be broken down, and by highlighting these differences Priestley wanted to encourage people to build on this success towards a more socialist society where everyone looked after each other. We can see this progression more obviously through the gender roles presented by Mrs Birling and Sheila. Sheila is open to accepting responsibility and wants people to listen to her. Mrs Birling is happy to settle with the position she has and does not want this to change. We see this when they discuss what Sheila will have to get used to after her marriage. This change could link to the rise in popularity of the suffragette movement as well as the increase in women taking on work etc. during the wars.

Symbols to look out for: What is the significance of each of these symbols throughout the play?

The engagement ring Disinfectant The photograph Eva Smith

Topic Trivia Questions:

1. What does Arthur believe is the most important thing a businessman can protect?
2. The Inspector's political beliefs might be most nearly characterized as what?
3. When does the play take place?
4. What worries Arthur the most in Act Three?
5. Arthur receives a phone call from where, at the very end of the play?
6. The play was first performed in which country?
7. Arthur believes he is up for which distinction in what?
8. The Inspector hints at which future conflict?



This unit will explore the play 'An Inspector Calls' with a focus on context, language and the writer's techniques.

Form - The play fits into three possible forms.

Well-Made Play

- A popular type of drama from the 19th Century
- The events build to a climax
- Primarily concerned with events that happened before the play
- Plot is intricate and complex

Morality Play

- These were most popular during the 15th and 16th centuries
- They taught the audience lessons that focused on the seven deadly sins
- Characters who committed these sins were punished

Crime Thriller

- As the name suggests, this involves a gripping tale based around a crime
- The audience receives clues and must guess what has happened before the end
- All is revealed by the climax

Assessment Objectives:

AO1:

Read and understand the texts.
Respond to the texts personally - developing your opinion and thoughts.
Use evidence to support your points.

AO2:

Analyse the language the author has used - why has he done this?
Analyse how the author has created the novel and how it is put together (the structure of it) - why has he done this.
Analyse the form the author has used - why has he written the novel in this way?

AO3:

Understand the relationship between the novel and the context in which it was written - how has this affected the author's writing?

AO4:

Write accurately using correct spelling, punctuation and grammar.

Big Questions:

Why might Priestley have chosen to set his play in this time period?
Can you place the Birling family and Gerald in order from most to least responsible?

An Inspector Calls - Characters:

Arthur Birling - a wealthy businessman, slightly lower in social class than his wife.

Sybil Birling - Arthur Birling's wife. She is very concerned with social appearances and position.

Sheila Birling - their daughter. Sheila starts the play as quite an immature character however this changes throughout the play. She stands up to her parents towards the end.

Eric Birling - their son. Eric is the youngest in the play and lives a life of parties and socialising. He is described as 'half-shy, half-assertive.'

Gerald Croft - Sheila's fiancé and from a socially superior family. Seems to reside somewhere be-tween the older generation and the younger generation.

Eva Smith (Daisy Renton) - Supposedly commits suicide prior to the start of the play. The narrative centres around how each member of the family is responsible in some way for her death. We never meet or see her.

Edna - the maid of the Birlings.

Inspector Goole - The police inspector who turns up to question the Birlings and Gerald. Seems almost omniscient (all-knowing) and does not care for the social class of the Birlings. Could be described as Priestley's mouthpiece who supports his socialist VIEWS.

Priestley's Dramatic Devices

Dramatic Irony - Arthur Birling suggests that the *Titanic* is unsinkable, and yet the audience knows that it sank on its maiden voyage.

Cliffhangers - At the end of Act One, the Inspector appears and says 'Well?' to Gerald, leaving the audience to wonder how Gerald is implicated.

Stage Directions - The precise directions detailing Gerald 'gravely' stating his involvement with Daisy Renton adds more detail to aid the actor's delivery.

Dramatic Tension - The audience feels an increase in tension as they await information regarding how each character is implicated in Eva Smith's death.



Keywords and Vocabulary:

Pompous - affectedly grand, solemn, or self-important.

Socialist - the means of making, moving, and trading wealth should be owned or controlled by the workers

Capitalist - an economic system in which private individuals or businesses own capital goods

Influential - capacity to have an effect on the character, development, or behaviour of someone

Disconcerting - causing one to feel unsettled.

Provincial - concerning the regions outside the capital city of a country, especially when regarded as unsophisticated or narrow-minded.

Optimistic - hopeful and confident about the future.

Systematic - done or acting according to a fixed plan or system; methodical.

Authoritative - able to be trusted as being accurate or true; reliable.

Proletariat - working-class people regarded collectively (often used with reference to Marxism).

Omniscient - knowing everything.

Bourgeoisie - the middle class, typically with reference to its perceived materialistic values or conventional attitudes.

Generation - all of the people born and living at about the same time, regarded collectively.

Isolationism - a policy of remaining apart from the affairs or interests of other groups, especially the political affairs of other countries.

Obstinate - stubbornly refusing to change one's opinion or chosen course of action

Egalitarian - believing in or based on the principle that all people are equal and deserve equal rights and opportunities.

Materialistic - excessively concerned with material possessions; money-oriented.

Cowardly - lacking courage.

Parsimonious - very unwilling to spend money or use resources

Dogmatic - inclined to lay down principles as undeniably true.

Opulent - ostentatiously costly and luxurious.

Naïve - showing a lack of experience, wisdom, or judgement.

Reticent - not revealing one's thoughts or feelings readily.

Remorseful - filled with remorse; sorry.

Condescending - having or showing an attitude of patronising superiority.

Altruistic - showing a disinterested and selfless concern for the well-being of others; unselfish.

Prejudiced - having or showing a dislike or distrust that is derived from prejudice; bigoted.

Boastful - showing excessive pride and self-satisfaction in one's achievements, possessions, or abilities., bragging

Grandiose - impressive and imposing in appearance or style, especially pretentiously so.

Exploitative - making use of a situation or treating others unfairly in order to gain an advantage or benefit.

Unsympathetic - not feeling, showing, or expressing sympathy.

Orthodox - of the ordinary or usual type; normal.

Arrogant - having or revealing an exaggerated sense of one's own importance or abilities.

Belittling - dismiss (someone or something) as unimportant.

Patriarchal - relating to or denoting a system of society or government controlled by men.

Reckless - heedless of danger or the consequences of one's actions; rash or impetuous.



<p>60 mins (25% GCSE) - One literary fiction text. 4 questions.</p>	
<p>QUESTION ONE LIST 4 things in lines <input type="checkbox"/> 4 marks = 5 mins <input type="checkbox"/> Extract referred to but not re-printed <input type="checkbox"/> AO1 - Locate</p>	<p>To answer: <input type="checkbox"/> Read and highlight key words in the question <input type="checkbox"/> Don't quote <input type="checkbox"/> Don't use the word 'and' <input type="checkbox"/> Write four short points in spaces A-D for 4 marks Top tips: <i>This is not a trick question. It is easy. Be brief but accurate. Re-read the correct lines from the text.</i></p>
<p>QUESTION TWO How does the writer use LANGUAGE to....? <input type="checkbox"/> 8 marks = 15mins <input type="checkbox"/> Extract re-printed on your answer page. <input type="checkbox"/> Bullet points guide your answer <input type="checkbox"/> AO2 - Language</p>	<p>To answer: <input type="checkbox"/> Read and highlight key words in the question <input type="checkbox"/> Pick your quotes first then consider devices <input type="checkbox"/> Point (name writer)/Quote/Device/Effect <input type="checkbox"/> DON'T DISCUSS STRUCTURE <input type="checkbox"/> DO LOOK AT SENTENCE FORMS (simple/compound/complex) Top tips: <i>Pick out individual words afterwards and discuss their effect (not meaning). When you pick out a word/device you need to underline or re-quote it - so the examiners know you know which word is the 'verb' etc. Think of squeezing or wringing the last drop of meaning from a passage. Track through the extract from start to finish.</i></p>
<p>QUESTION THREE How has the writer STRUCTURED the text to...? <input type="checkbox"/> 8 marks = 15mins <input type="checkbox"/> You will need to consider the WHOLE text. <input type="checkbox"/> Bullet points guide your answer <input type="checkbox"/> AO2 - Structure</p>	<p>To answer: <input type="checkbox"/> Read and highlight key words in the question <input type="checkbox"/> Consider the sequence through a passage (introduction, development, summary and conclusion. Maybe also: contrast, flashback/forwards, repetitions, threads patterns or motifs). <input type="checkbox"/> Consider changes in ideas and perspectives (changing focus from wide to narrow, place to place, outside to inside (and vice versa)). <input type="checkbox"/> Consider coherence (connections and links across paragraphs, links within paragraphs, topic sentences.) Top Tips: <i>Comment in the writer's techniques like a film makers using phrases like: focusing, zooming, narrowing, widening, introducing, developing, changing focus, concluding, foreshadowing, contrasting. E.G. 'We start to see things through the father's eyes as if we are searching with him' or 'We go from a wide viewpoint to a close-up focus if we are getting inside the father's mind'</i></p>
<p>QUESTION FOUR Statement written. How far do you AGREE? <input type="checkbox"/> 20 marks = 25 mins <input type="checkbox"/> Bullet points guide your answer <input type="checkbox"/> AO4 - Evaluate</p>	<p>To answer: <input type="checkbox"/> Read and highlight key words in the question <input type="checkbox"/> Agree with the statement. The text IS well written. <input type="checkbox"/> Two stages: recognising how the writer tries to achieve effects and deciding how effectively this has been done. <input type="checkbox"/> Use phrases like: This makes the reader identify with the character because/ the impact of this description is.../ This works because we think/feel.../ This phrases indicates / The contrast used makes the reader.... Top Tips: <i>Leave enough time to cover the whole text. Consider HOW much you agree (a little or a lot). Look at specifics within the statement, not just the statement as a whole.) Could compare within a text.</i></p>

The Mark Scheme		Assessment Objectives (AOs)
Bands 1-4	4 - DETAILED, PERCEPTIVE 3 - CLEAR, RELEVANT 2 - SOME ATTEMPTS 1 - SIMPLE, LIMITED	AO1 • Identify and interpret explicit and implicit information and ideas. • Select and synthesise evidence from different texts.
Q1	• Reads with understanding • Identifies explicit information.	AO2 • Explain, comment on and analyse how writers use language and structure to achieve effects and influence readers • Use relevant subject terminology to support views.
Q2/3	• Analyses the effects of writer's choices • Well-judged quotations • Sophisticated subject terminology	AO4 • Evaluate texts critically and support this with appropriate textual references.
Q4	• Same as Q2/3 • Evaluates (judges the effectiveness of) the text in a detailed way	
Language	Structure	
Pronouns	Narrative perspective/voice	
Direct speech	Flashforward/backward	Discourse markers
Terms of address	Non sequiturs	Ellipsis
Noun phrase	Topic sentence	Foreshadowing
Subordinate/ main clause	Contrast/juxtaposition	Focus/Narrowing
Narrative voice	<h3>Basics & Stretch Yourself</h3>	
Simple/compound /complex sentences		
Accent /Dialect		
Utterances		
Ellipsis		
1 st /3 rd person	Know your basics	Noun/verb/adverb/adjective/ simile/metaphor/question/ alliteration/ onomatopoeia/5 senses/listing/personification/ repetition
Hyperbole	Reach for the stars	Give one sentence overview for each question, identifying patterns - use the word 'main' or 'key'/Embed quotations/ Look at the bigger picture - not just individual quotes/ Consider genre and form/narrative voice/be /use terms: implies/ illuminates/
Imperatives		
Exclamations		



Paper 1 Question 2 - Language Analysis

Within the extract, the writer makes use of a range of language techniques to ensure that they convey successfully a sense of...

The writer begins by using...
(Name a technique/word/phrase then use a quotation)

This suggests that...

In particular, the word '_____' specifically makes the reader feel that...

The writer (or use their name) describes _____.
(Name a technique/word/phrase then use a quotation)

This is significant because it encourages the reader to think/feel/see that...

Notably, the most important word here is '_____'. This creates the impression of...

The writer has also made use of ...
(Name a technique/word/phrase then use a quotation)

This powerfully emphasises/implies/connotes that...

The overall effect of the language used by the writer is that the audience is left with an overwhelming sense of/that..

Paper 1 Question 3 - Structure Analysis

This extract is a first/third person narrative, in which the writer wants the reader to think/feel/see that ...

The writer begins this extract with...
(include textual reference or quotation)

This makes the reader feel that...

This creates the sense/atmosphere that....

The focus of the extract changes to...
(include textual reference or quotation)

This is significant because it encourages the reader to think/feel/see that...

Notably, the most important thing about this shift is the way in which it...

The writer has also made use of the structural technique...
(include textual reference or quotation)

This powerfully emphasises/implies/connotes that...

Overall, as part of the beginning/ending/middle of the text, this extract is important in the way that it provides us with exposition/a climax/resolution and therefore...

Paper 1 Question 4 - Evaluation

One of the key ideas to support this interpretation of the text would be the fact that the writer ...

The writer effectively suggests that...

The use of the _____ implies that...

This helps the reader to powerfully/successfully/clearly/effectively see/think/feel/imagine that...

Another of the key techniques that the writer successfully uses is...

The effect of the _____ is that the reader is encouraged to think/see/feel/imagine that...

Some readers might disagree with this statement as the writer could be said to _____ which might not be as effective in encouraging the reader to believe that... as

In my opinion, the writer has been successful in _____

The most significant way in which they have done this is....

Therefore, in my own reading of this extract, I think/feel/see/imagine ...



You are going to enter a creative writing competition. Your entry will be judged by a panel of people of your own age. **Either:** Write a description suggested by this picture: **Or:** Write the opening part of a story about a place that is severely affected by the weather.

24 marks for content and organization
16 marks for technical accuracy (Total 40 marks = 25% of GCSE)

Content

- ❑ **Register** is convincing and compelling for audience
- ❑ Assuredly matched to **purpose**
- ❑ Extensive and ambitious **vocabulary** with sustained crafting of **linguistic devices**

Organization

- ❑ Varied and inventive use of **structural features**
- ❑ Writing is compelling, incorporating a range of convincing and **complex ideas**
- ❑ Fluently linked **paragraphs** with seamlessly integrated **discourse markers**

Technical accuracy

- ❑ Wide range of **punctuation** is used with a high level of accuracy
- ❑ Uses a full range of appropriate **sentence forms** for effect
- ❑ Uses **Standard English** consistently and appropriately with secure control of complex grammatical **structures**
- ❑ High level of accuracy in **spelling**, including ambitious vocabulary
- ❑ Extensive and ambitious use of **vocabulary**

Basic narrative structure	
Setting	Character
Problem	Climax
	Resolution

Language devices	
Simile	Metaphor
Personification	Onomatopoeia
Alliteration	Imagery
Symbolism	Oxymoron
Juxtaposition	Pathetic Fallacy

Narrative v descriptive	
A narrative should include a lot of description.	A description should not include any narration.

The narrative 'rules'	
The story takes place within one hour	Maximum 3 characters
Maximum 3 sentences of direct speech	Show not tell
Minimum 1 adjective per sentence	Minimum 5 senses
Maximum 1 exclamation mark	3 rd person
50 % description with zooms	Don't 'chat' to the reader
A 'small' story - make the ordinary extraordinary	

The descriptive 'rules'	
No names for people	At least 5 zoom-ins
No person described for more than a paragraph	Minimum 5 senses
1-3 sentences of direct speech	Maximum 1 exclamation mark
3 rd person	No thoughts
Present or past tense (not both)	Move the camera - like a film

The basics	
Capital letters	Full stops
Question marks	Commas
Apostrophes	Consistent tense
Paragraphs	Homophone spellings
Connectives	Semi-colons
Colons	Vary sentence starts/lengths
Vary paragraph lengths	Topic sentences

Stretch yourself	
For planning - mind map rather than spider diagram.	Learn some impressive vocab.
Break the rules!!!	Reveal slowly/quickly
Dialogue	Parenthesis
Ascending / descending tri-colon	Syndetic/asyndetic listing
Cohesion (topic sentence, pronouns, chains, prepositions, fronted adverbials)	Cyclical/non-linear structure
Sentence starts	
Verb - Running quickly, she (make sure you finish sentence)	Adverb - Darkly, the night sky...
Adjective - Red light filled the ...	Preposition - Down there, all...
Connective - However, his life...	



The Exam

45 minutes - 1 task - A choice of 2 tasks (1 descriptive or 1 narrative... but could be 2xnarrative or 2xdescriptve.)

Step one: read & highlight key words in question (including PAT/PAF/PAL)

Step two: Study the stimulus (picture) then choose one of the two questions

Step three: Plan 6 -8 things you can include, then put them in order (Steps 1 to 3 = 10 mins)

Step four: Write it' (Step 4 = 30 mins)

- should be lots of crossing out to show 'crafting'
- Should be 1 1/2 sides approx

Step five (MOST IMPORTANT): Lip check (Step 5 = 5 minutes)

Paper 1 Question 5 - Description / Narrative ADVICE

Engaging opening:

- Set the scene
- Weather?
- Withhold information - make the reader work for it

Begin a sentence with an adverb. Eg. *'Cautiously and noiselessly, Joe turned the key.'*

Begin a sentence with an -ing ended word. Eg. *'Running and out of breath, David held his side in a vain attempt to make the pain go away.'*

Choose your verbs carefully. Eg. *'He said'* or *'He bellowed/whispered/grinned/sneered'*

Don't just list things that happen. You need details. Say a lot about a little and zoom in on the tiny details.

Sensory description is great. You don't just see things, you hear, feel, taste and smell them too. *Don't begin every sentence 'I can hear...I can see...!'*

If you are going to use onomatopoeia, use it sparingly and be specific. *No 'Boom! There was an explosion'*. A better example would be to describe the *'skittering of dry leaves along the pavement'*.

No 'It was a dark and stormy night!' It might be, but show, don't tell!

Talk about the noise of the wind or rain, the cold, the darkness....

Direct speech and convincing dialogue are tricky to write - if in doubt, use it only once or twice. Unless you are super confident with writing it, it can really ruin the flow of a description. Be careful!

Sometimes less is more - you have 45 minutes, you cannot write a detailed narrative that spans days, weeks, months. So keep your descriptions or narratives to a really small time frame, maybe just five minutes of time is described. This will help you to focus on the really small details and stop you writing too much plot.



This unit will explore 'Love and Relationships Poetry' with a focus on comparing, language and the poet's techniques.

Key words:

Joyful	Longing
Anxiety	Memory
Apprehensive	Nature
Death	Optimistic
Desire	Playful
Distance	Proud
Ethereal	Sinister
Frustration	Nostalgic
Grief	Possessive
Intense	Rebellious
Intimate	

Linking sentences:

Adding connectives, to add to your initial ideas:

Moreover
 Furthermore
 In addition
 Additionally
 Similarly
 As well as this

Contrasting connectives, to show a different perspective or idea:

However
 On the other hand
 Alternatively
 Despite this
 In contrast
 Conversely
 In spite of this

Key steps:

Step 1: The Question

You'll get something like this: "In [Poem Title] how does the poet present the speaker's feelings about [Poem Topic]?" So the exam board actually tell you the theme of the poem they want you to focus on! Don't go off on a tangent writing any old random ideas, stay focused on that theme. Decide which second poem you are going to write about and compare with the poem given to you in the exam. Look at the THEME in the title and use the theme to help you choose.

Step 2: The Title

Another clue that the poet gives you this time is the actual title of the poem! Some poets like to be difficult and don't put a title (we all know someone who does that), but most see the title as really crucial to their work. After all, it is the first thing you see when you read a poem, it helps to sum up a poem's ideas or gives us clues about what the poem is about Look carefully at what the title of the poem is. How does it fit into the themes you've been asked to look at by the exam board?

Step 3: Meaning

You've studied the question, you've reflected on the title, we know the themes and clues given to us, so let's read the poem and make notes on what the poet is trying to say to us Think about:
 Who the speaker is (1st/2nd/3rd person). 1st = 'I', 2nd = 'You', 3rd = 'They/He/She/Names'. Is this poem happening to the speaker or are they talking to someone else? Who they are speaking to. Is the speaker talking directly to you as a reader? Is the speaker talking to someone else and you're overhearing their conversation? What they are speaking about. We know the general themes and clues about the poem, but now you need to think carefully about what the speaker is saying and talking about.

Step 4: Emotion, Mood and Tone

Every poem has a different mood and tone to it and every speaker presents different feelings in a poem. The unseen poems could have any mood or tone, so it's important to work out how the speaker or the characters in the poem feel. For some students it helps to think of tone as a 'sound'. How does the poem sound to you? Why?

Step 5: Language Techniques

You need to know your techniques, for example, similes, metaphors, onomatopoeia. However, it's no good simply finding them, you've got to explore how they affect the poem, how they get across meaning to the reader and how they emphasize or accentuate ideas.

Step 6: Structure and Form

Every poet thinks very, very carefully about the order of their ideas - how they start, finish and link ideas in a poem. You want to 'hook' a reader in to a poem and you want to hammer home your central ideas to the reader at the very end. Think about how many stanzas (verses) a poem has and why. Does each stanza address a different topic or perspective? Are some stanzas longer than others? Why might the writer want shorter or longer stanzas? Are some more descriptive than others? Do some sum up key ideas carefully and succinctly? A poem is never randomly put together, it is carefully organized for a particular effect. It's your job to *interpret* what you think those effects are and how the writer achieves them.



This unit will explore 'Love and Relationship Poetry' with a focus on comparing, language and the poet's techniques.

Features of poetry

Meter - The number of beats and bars in lines that helps to produce a rhythm in a poem, or the rhythmic measure of a line. How many syllables does each line have? Why? How does changing the meter affect the meaning of the poem or the way it is read? Common types of meter or elements of meter are iambic pentameter, dactyls, trochees, spondees and more. Do some research and find out what they all are and how they can change a poem!

Rhyme - Where words which sound similar to each other are used closely together to link ideas and sounds.

Caesura: a metrical pause or break in a verse where one phrase ends and another phrase begins.

Enjambment: the continuation of a sentence without a pause beyond the end of a line, couplet, or stanza.

End-stop: occurs when a line of poetry ends with a full stop or definite punctuation mark, such as a colon.

Assessment Objectives:

AO1

Write a response related to the key word in the question.
Use comparative language to explore both poems.
Use a range of evidence to support your response and to show the meaning of the poems.

AO2

Comment on the effect of the language in your evidence, including individual words.
Identify any use of poetic techniques and explain their effects.

AO3

What might the poet's intentions have been when they wrote the poem?
Comment on the historical context - when was the poem published and what impact might it have had then, and today?

Linguistic devices:

Alliteration: Repetition of the same sounds at the beginning of a sequence of words.

Figurative Language:

Metaphor - a comparison where something is said to be something else.
Personification - giving human qualities to something which is not human.

Onomatopoeia: A word whose sound suggests what the word is meant to depict./ the word imitates the natural sound.

Oxymoron Two contradictory words placed together for effect.

Rhetorical question: A question created to make a reader think about the topic in hand/ asked for effect or to influence the reader in some way.

Repetition: Using a word or phrase more than once in a passage/ sentence.

Emotive Language: Vocabulary which inspires emotion/ intense feeling of some kind in the reader.

Second person 'you' (direct address): Writing directly for/ to the reader and using the pronouns 'you'/'your' to indicate this.

Simile: A comparison using 'like' or 'as'.

Triples (rule of three): Collection of three related elements/ words/ phrases.

Imperative verbs (commands): Verbs which command/ instruct/ direct.

Use of colour/ senses: Colour and a focus on sound/ texture etc really enhances description and brings it to life for the reader.



This unit will explore 'Love and Relationships Poetry' with a focus on comparing, language and the poet's techniques.

Mother, Any Distance by Simon Armitage		Love's Philosophy by Percy Bysshe Shelley	
Themes: Bonds, Parental Love, Connections, Anxiety		Themes: Longing, Unrequited Love, Nature	
Tones: Apprehensive, Optimistic		Tones: Frustration, Playfulness	
Content, Meaning and Purpose -The speaker describes how his mother helps him to move into a house, using the event as a symbol for his burgeoning independence. -The tape measure they use is an extended metaphor for their bond (and might symbolise an umbilical cord). -His mother is his 'Anchor' but he gradually breaks away from her. He craves more freedom but is also anxious about exploring the world without the security of her support.	Context -The poem was published in 1993, when Armitage was 30 years old. -It was part of a collection called <i>Book of Matches</i> . The poems within this book were all short enough to be read within the time it takes a match to burn. This poem aims to convey a powerful parent-child relationship in a short space of time.	Content, Meaning and Purpose -This is a very persuasive poem, where the speaker tries to convince a love interest that she should be with him. -It starts by emphasising how all things in the world are mingled and mixed, and that nothing is single. -He then draws on religious imagery and the 'law divine' to warn her that their relationship is God's wish, and that she cannot possibly deny him.	Context -Shelley was a Romantic poet. Romanticism was huge movement in 18 th and 19 th century literature, whereby writers focused on the power of (and connections between) human emotion and the natural world. -The poem was first published in 1819. -Shelley's use of religion as a persuasive technique in the poem is ironic as he was an atheist (didn't believe in God), a highly controversial viewpoint in the 19 th Century.
Language -Language of exploration conveys adventure but also anxiety about finding his independence: "the acres of walls, the prairies on the floors", "I space-walk through the empty bedrooms, I climb the ladder to the loft", "I reach towards [...] an endless sky to fall or fly". -Tape measure is an extended metaphor of an umbilical cord (support and nourishment): "the line still feeding out, unreeling years between us". -She must now let him go: "breaking point, where something has to give", "your fingertips still pinch".	Form and Structure -Sonnet-like structure (but with an extra line symbolising him breaking away), emphasises love for his mother. Irregular rhyme scheme symbolises his desire for independence conflicted with his anxiety over loosening their bond. -First two stanzas open with direct address, "Mother", "You" creating a personal tone with her as the subject. Final stanza shifts to "I": he is now the focus. -Single-word sentences ("Anchor. Kite") and regular caesura slow pace and convey apprehension. -Ellipsis in final stanza conveys uncertainty and how he finally reaches out towards the "endless sky".	Language - 'Nothing in the world is single' : conveys how she cannot possibly be alone. - 'mountains kiss high heaven', 'mountains clasp one another' : personification of nature compares his love to the natural world and laws of the universe. - 'All things by a law divine' : religious connotations suggest that the relationship is pre-ordained and his love interest should not go against God's wishes. - 'No sister-flower would be forgiven/If it disdain'd its brother' : he suggests that God will not forgive her if she does not accept and return his love.	Form and Structure -The poem uses an ABABCD rhyme scheme, but with some half-rhymes in both stanzas (river, ever / heaven, forgiven) reflecting the discord of the situation. -The dash before the final line in each stanza (rhetorical questions to the girl) disrupts the poem's rhythm, reflecting how her rejection disrupts nature. -Repetition of words linked to physical desire: <i>kiss, clasp</i> . -The poem is short and concise, adding to its impact as a persuasive message.
Sonnet 29 – 'I think of thee!' by Elizabeth Barrett Browning		Before You Were Mine by Carol Anne Duffy	
Themes: Obsession, Passionate Love, Longing		Themes: Parental bonds, Admiration, Nostalgia, Guilt	
Tones: Intense, Intimate, Joyful		Tones: Personal, Possessive, Reflective	
Content, Meaning and Purpose -This sonnet is a declaration of passionate love by the narrator to her lover. -She tells how she obsessively thinks of him, so much that her thoughts have begun to obscure the reality of him. -She then reassures him that these thoughts cannot replace him, before urging him 'renew' his presence with her and remind her that he is 'dearer, better!'. -Browning conveys how longing for a lover can consume you, make you impatient and even distort reality.	Context -Browning wrote the poem in 1845-46 about her then lover, and future husband, Robert Browning. -Deeply personal, and was meant to be a private poem but he encouraged her to publish it, and so she did so within a collection called 'Sonnets from the Portuguese' – pretending that she had translated the poems from Portuguese. Nobody fell for the story. -There is a joyous religious undertone to the poem. She compares him to palm tree: in Christianity, the palm tree represents faith.	Content, Meaning and Purpose -The speaker describes the formative (young) years of her mother, before she gave birth to the speaker. -This ten-year period is described with the nostalgia of a vibrant youth. -The speaker has a deep admiration, with perhaps hints of jealousy, for her glamorous and fun-loving mother. -There are then hints of guilt as the speaker describes how her mother's life was never the same after she was born.	Context -Carol Anne Duffy was born in 1955 in Glasgow. The poem was published in 1993. I -It is an autobiographical poem and makes reference to the streets of Glasgow (George Square), conveying her nostalgia for her home city. -Duffy was made Poet Laureate in 2009.
Language -Extended metaphor of the lover as a strong tree, and the narrator's obsessive thoughts as vines that grow around him. Her 'wild vines' 'hides the wood'. -'I think of thee!': immediate direct address of her lover creates a personal and intimate tone. -'Renew they presence', 'Rustle thy boughs': imperatives reveal her longing and urgency. -Sibilant sounds (presence; as strong as a tree should..) create the rustling sound of her 'thoughts'. -'Drop down heavily' conveys the weight of her obsessive thoughts, and her desire to shed them.	Form and Structure -The traditional form of a sonnet is eight lines (octave) presenting a problem, followed by six lines (sestet) presenting a solution. This sonnet breaks with convention by presenting the solution, or volta (for him to 'instantly' return) in the middle of line 7: this urgency shows the narrator's impatience to be with him. -Repetition of 'thee' conveys her obsession with him.	Language - 'the fizzy, movie tomorrow the right walk home could bring' : 'fizzy' conveys the excitement of the mother's youth, and the prospect of a date at the movies if she bumped into the right person. - 'those high-heeled red shoes, relics' : imagery of shoes symbolise vibrancy of youth; they are now relics – a piece of history, perhaps with spiritual significance. -Possessive language: "mine"; "whose small bites on your neck, sweetheart" inverts the maternal relationship; "my loud possessive yell". Conveys how she owned, and perhaps hindered, her mother.	Form and Structure -The first three stanzas refer to the ten years prior to the speaker's birth. Each stanza opens with a reference to time. -Imagery of streets and pavements is repeated throughout the poem. This creates a personal and nostalgic effect, and conveys the mother as a streetwise and savvy young girl. -Enjambment, caesura and free verse create a conversational and anecdotal effect.



This unit will explore 'Love and Relationships Poetry' with a focus on comparing, language and the poet's techniques.

Porphyria's Lover by Robert Browning		Winter Swans by Owen Sheers	
Themes: Possession, Passivity, Insanity		Themes: Nature, Separation, Loss, Reconciliation	
Tones: Dark, Sinister, Sexual, Violent		Tones: Tense and Painful shifting to Hopeful.	
Content, Meaning and Purpose -Dramatic monologue recounting the stormy night when the speaker strangled his lover, Porphyria, to death. -At first, he seems to be angry with his lover, remaining silent and passive to her affection. -The speaker is clearly insane and believes that Porphyria wishes to be murdered in order to be with him forever.	Context -Porphyria is a disease that can result in insanity. Browning might be comparing being in love with insanity and a delusional view of reality. -Porphyria is portrayed as a sexual and seductive woman, which would have attracted criticism in Victorian times. This could, however, be the untrustworthy speaker's way of justifying the murder. -First published in 1836, and draws on Romantic era imagery of nature and strong emotion.	Content, Meaning and Purpose -The poem describes a troubled couple walking around a lake after two days of heavy arguments. -They are "silent and apart" until they are captivated by the sight of two swans on the lake. -The swans become a metaphor for companionship, commitment and longevity ("They mate for life"), and inspire reconciliation between the couple. -Inspired by nature, the couple's problems begin to heal by the end of the poem.	Context -Owen Sheers grew up in South Wales. -Winter Swans was part of his 2005 collection of poems entitled 'Skirrid Hill', a title which originates from the Welsh name 'Ysgirid Fawr': this roughly translates as 'shattered mountain'. -The collection deals with themes of separation, as exemplified by this raw poem about a man and a woman in the grip of relationship problems.
Language - 'let the damp hair fall' : conveys Porphyria's sexuality, which would have been viewed as sinful by Victorians. - 'Murmering how she loved me' : verb 'murmering' suggests he doesn't believe her, or feels manipulated. - 'That moment she was mine, mine' : he seizes and preserves this moment of control by killing her. Repetition of 'mine' is sinister. - 'Blushed bright beneath my burning kiss' : he is deluded, thinking that the redness in her strangled face is actually just blushing. Juxtaposition of 'burning kiss' conveys destructive passion.	Form and Structure -Asymmetrical rhyme scheme (ABABB) and enjambment create an effect of instability and unpredictability – just like the speaker himself. -Poem is in two parts that mirror each other: <i>First half:</i> Porphyria is dominant, speaker is passive <i>Volta (turning point) line 31: 'I looked up at her eyes'</i> <i>Second half:</i> Speaker is dominant, Porphyria is passive. This perhaps reflects the all-consuming power of love. -Contrasts of love and violence used throughout. -Repetition of 'yellow hair', first to convey her beauty, then used to murder her.	Language - "The clouds had given their all – two days of rain" : personification and pathetic fallacy symbolise two days of arguments and heartbreak between the couple. - "the waterlogged earth gulping for breath" : speaker feels like he is weighed down and drowning in their problems. It may be the last breath of their marriage. - "slow-stepping in the lake's shingle and sand" : they are dancing, although slowly. The sibilance creates a soft, calming sound, helping to heal their problems. - "like a pair of wings settling after flight." : they are reunited. Present participle "settling" conveys how they will need to continue to work on their problems.	Form and Structure -Organised in tercets (three-line stanzas) which have no rhythm nor rhyme: this reflects the turbulent nature of their relationship. -The first four stanzas portray their troubles; the final three stanzas convey the healing of their relationship. -The volta occurs in line 14 (" porcelain over the stilling water ") when the troubled waters of their relation ship suddenly become still, starting the reconciliation. -Final stanza is a couplet: the unbalanced tercets are now replaced by a balance and harmony. A couplet also traditionally represents a conclusion.
Walking Away by C. Day Lewis		Singh Song! by Daljit Nagra	
Themes: Parental love, Protectiveness, Loss		Themes: Passionate Love, Marriage, Parental relationships	
Tones: Cheerful, Proud, Rebellious		Tones: Cheerful, Proud, Rebellious	
Content, Meaning and Purpose -First person narrative where the poet reflects back on the anxiety of dropping his young son off for his first game of football at boarding school. -Eighteen years on, he is still affected by the image of his son nervously walking away. -The poem ends with the acceptance that this is a process that all parents must go through, and "love is proved in the letting go".	Context -Cecil Day Lewis was an Irish poet who lived between 1904 and 1972. This poem was published about 1962 and is about his first son, Sean. -He was the poet laureate for five years until his death. -Day Lewis had himself attended boarding school and so could appreciate the anxiety and pain from both sides of the relationship: this is apparent in the descriptions of his nervous son.	Content, Meaning and Purpose -The speaker is a young British Indian man who works in his parent's shop. He is smitten with his new bride, and begins to disregard his responsibilities in the shop in order to spend more time with her. -His wife's modern, British outlook creates a contrast with the traditional Indian values of his parents: she is changing his life, his outlook and his priorities. - Big message: love/romance beats money/business.	Context -Nagra is a British poet of Indian descent. He was born in Bradford in 1966. -Much of his poetry charts the experiences of first-generation Indian immigrants, and their families. -This poem creates a rich blend of cultural contrasts (Indian and Western) and generational differences (his parents' disciplined attitude to business versus his carefree, romantic outlook).
Language -Painful verbs convey the intensity of the experience: - "Wrenched", "scorching", "Gnaws" . -Images of nature convey how the father now realises that this is a natural process for parents: "A sunny day with the leaves just turning", "nature's give and take". "Into the wilderness" also conveys anxiety. - "The touch-lines new-ruled" : new boundaries were set for the father, symbolising the son's independence. - "Ordeals will fire one's irresolute clay" : irresolute means uncertain'. He now accepts that the experience will make his son more solid and strong, like fired clay.	Form and Structure -First-person narration conveys personal nature of the poem. -The use of enjambment and caesura create a conversational tone, further adding to the personal tone and authenticity of the poem. -Steady rhyme scheme of ABACA reflects the consistency of the father's love for his son. -First two stanzas describe the day (eighteen years ago) and the final two stanzas reflect on how the memory still pains him after so long.	Language - "made love like vee rowing through Putney" : humorous simile for sex conveys child-like excitement. - "high heel tap di ground" conveys blend of Indian and Western culture. Monosyllabic words create rhythm. -Images of rebellion: "vid my pinnie untied", "she effing at my mum", "making fun at my daddy". She is fun and influences him to be more rebellious. - "vee cum down whispering stairs" : their romance has a sense of a forbidden thrill. Personification of stairs adds yet another voice: everyone watches their love. - "Is priceless baby" : final line sums up message of poem – love means more than money or business.	Form and Structure -Multiple voices (speaker, shoppers, wife) create sense of a rich community, reflecting his emotions. -Loosely arranged in the form of a song, with a chorus (" Hey Sing, ver yoo bin? ") which creates a joyous tone. -No regular rhythm or rhyme scheme, reflecting his new carefree and light-hearted attitude to life. -Contrasts (upstairs vs shop; wife is both a "gun" and "teddy"; "effing" vs Punjabi) reflect the blend of cultures, and of his old and new life. -Repetition of "my bride" conveys his pride and excitement over his recent marriage.



This unit will explore 'Love and Relationships Poetry' with a focus on comparing, language and the poet's techniques.

Climbing My Grandfather by Andrew Waterhouse		When We Two Parted by Lord Byron	
Themes: Discovery, Family, Admiration		Themes: Loss, Heartbreak, Longing	
Tones: Firm, Loving, Nostalgic		Tones: Anger, Bitterness, Grief	
Content, Meaning and Purpose -The speaker used the extended metaphor of mountaineering to describe how he gets to know his grandfather: he is climbing up his body and trying to discover things about him (“ trying to get a grip ”). -Like climbing a mountain, the journey is tiring and requires persistence, but holds great rewards. -The message might be that we should work hard to invest in our relationships, and to create bonds.	Context -Andrew Waterhouse was a lecturer at an agricultural college. -This was taken from his first book of poetry, published in 2000. He died in 2001. -The poem seems to be autobiographical, with the poet reminiscing about his childhood – when perhaps everything seemed bigger, including his grandfather.	Content, Meaning and Purpose -Speaker is directly addressing a former lover who no longer shows any affection for him. -He is clearly still affected by the relationship and angry at her coldness towards him and her continued promiscuity. -The poem conveys how the pain of a broken love affair is similar to grief: there is imagery of death in the poem.	Context -The poem is thought to be an autobiographical account of one of Byron's many affairs. -He claimed to have written it in 1808 but did not publish it until 1816 in order to hide protect the identity of the married woman in the poem. -The account of the love affair may be somewhat one-sided, and potentially an unfair portrayal of the woman. This might reflect his bitterness and pain.
Language -“ I discover the glassy ridge of a scar ”: he is discovering previously unknown things about his grandfather; scar suggests a painful memory. -“ his thick hair (soft and white at this altitude) ”: hair is compared a snowy mountain top: a place of beauty. -“ I can only lie watching clouds and birds circle ”: symbolises the rewards of the relationship, once the mountain is climbed. Also links their bond to nature. -“ to drink among teeth. Refreshed ”: the relationship nourishes him and re-energises him. -“ knowing the slow pulse of his good heart ”: he has finally gained knowledge, and feels the steady and reliable love of his grandfather.	Form -The poem is formed of one solid block of text, representing the solid structure and impressiveness of both a mountain and of his grandfather. -Each line tracks the journey of the ascent, and charts the speaker's growing relationship with grandfather. -The free verse and enjambment create an adventurous pace: the speaker barely pauses for breath in his pursuit of closeness and knowledge. -Present tense adds to the sense of immediacy and adventure: the journey is unfolding before the reader's eyes.	Language -Recurring imagery of death (extended metaphor): ‘ Pale grew they cheek and cold ’, ‘ A knell to my ear ’, ‘ In silence I grieve. ’ -‘ Half-broken hearted ’: ‘half’ suggests they weren't fully in love, or that she didn't love him back. -‘ I hear they name spoken/And share in thy shame ’: she has a reputation for promiscuity, and he's ashamed to have known her. Sibilance of <i>sh</i> = secrecy. -‘ I rue thee, Too deeply to tell ’: he has deep regret for the affair and doesn't feel that the poem can fully convey the strength of his bitterness and anger.	Form and Structure -Shifting tense between past, present and future emphasises the speaker's persistent pain. -His rhetorical questions convey how he still requires closure on the relationship. -Consistent ABABCD rhyme scheme: highlights certain words (<i>tears, cold, kiss, broken, shame</i>) and creates the effect of fate and certainty – the relationship was always doomed. -Repetition of ‘ silence and tears ’ from first to last stanza: emphasises secrecy and pain.
Eden Rock by Charles Causley		Neutral Tones by Thomas Hardy	
Themes: Memories, Family/Parents, Bonds		Themes: Loss, Longing, Heartbreak	
Tones: Neutral, Pessimistic, Melancholic		Tones: Neutral, Pessimistic, Melancholic	
Content, Meaning and Purpose -The speaker is reminiscing about his parents as a young couple, as they picnic by a stream. It is written in the present tense to make the memory seem real. -They live a simple but happy life; conveying the importance of family and how wealth is not important. -They encourage him to cross the stream towards them, possibly symbolising his birth or his death as he joins them in the next life: “ Crossing is not as hard as you might think ”.	Context -Charles Causley was (like Laura Dooley) from Cornwall. He lived from 1917-2003. -Published in 1988, the poem is thought to be autobiographical: he is perhaps talking about his parents. -Causley said that he had made-up the location of Eden Rock. It is a dream-like place, and perhaps reflects an idyllic life rather than his actual life.	Content, Meaning and Purpose -The narrator recalls the day when he realised that a relationship had ended, and had to face the inevitable. -He and his lover were stood by a pond. He describes how her eyes and smile revealed her feelings: he believes that she had become bored and fallen out of love with him. -The final stanza is in the present, and conveys how he still thinks about that fateful day, and how he has lost faith in love.	Context -Thomas Hardy was a British poet known for his pessimistic and dreary poems. -Neutral tones, written in 1867, is no exception. -His pessimism may be linked to his unhappy first marriage, or perhaps his discontent with 19 th Century industrialisation and the loss of traditional country ways which he held so dear (he was from Dorset).
Language -Everyday nostalgia: the parents are presented as living a simple but happy life. “ She pours tea from a Thermos, the milk straight from an old H.P Sauce bottle ”, “ tin cups ”. -“ Eden Rock ”: Biblical reference to the Garden of Eden; he holds his parents and their idyllic life in very high regard. -Language of light, conveying images of hope and peace: “ Her hair [...] takes on the light ”, “ sky whitens as if lit by three suns ”.	Form -The first three stanzas present his parents, portraying their idyllic existence. Fourth and fifth stanzas include the speaker as they encourage him to cross. -The poem uses half-rhymes to create a gentle, flowing rhythm, adding to the laid back and ethereal tone. -Enjambment after “ Leisurely ” slows pace, adding to the feeling of relaxation. -Monosyllabic final line is separated and the tone shifts to mundane and disappointment. Perhaps his own life failed to reflect this imagined/remembered existence.	Language -“ We stood by a pond that winter day ”: standing still and the cold set the tone of their relationship. -“ tedious riddles ” “ played ” “ lost ”: imagery of love as a game – a game that he lost. -“ Like an ominous bird a-wing... ”: bird represents the relationship flying away; ellipsis conveys passage of time leading to the current day in fourth stanza. -“ love deceives, And wrings with wrong ”: he doesn't trust love as it has caused him so much 'wrong'. -“ God-curst sun ”: the plosive 't' sound creates a harsh and bitter tone.	Form and Structure -The first three stanzas recall the day by the pond, whilst the final stanza jumps forward in time to show that the memory is still foremost in his mind – and has tainted his view of love. -The final line of each stanza is indented. This creates a pause which slows the pace and reflects his sadness. -The poem ends with imagery of the pond and surrounding leaves (as seen in the first stanza). Circular structure confirms the lingering, and inescapable, pain.

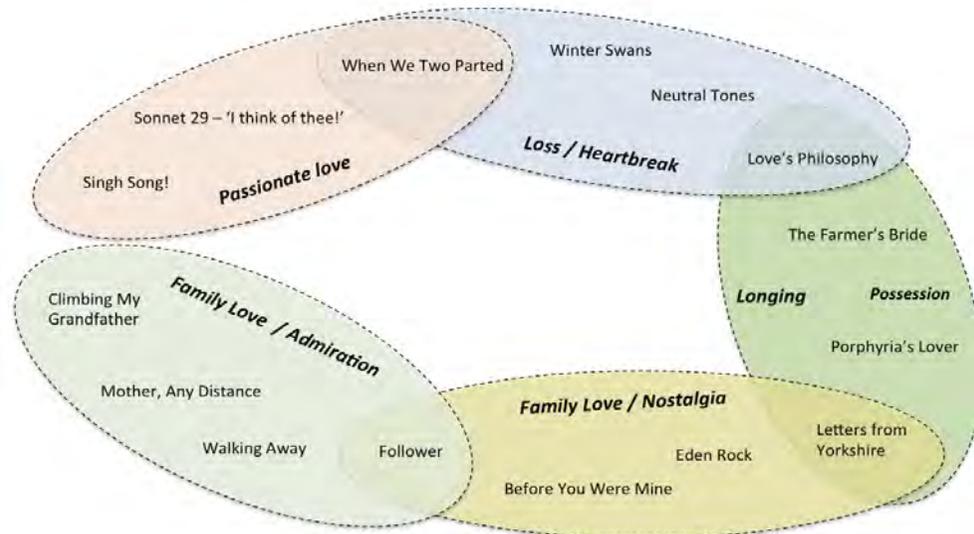


This unit will explore 'Love and Relationships Poetry' with a focus on comparing, language and the poet's techniques.

Letters from Yorkshire by Laura Dooley	
Themes: Longing, Reminiscing, Connections	Tones: Melancholic, Rustic, Nostalgic
Content, Meaning and Purpose -The narrator speaks about a friend living in the countryside who sends her letters about his rural life. -She is now a writer living in the city and reminisces about her former rural lifestyle. -She wonders whether he has a more fulfilling life: "Is your life more real because you dig and sow?" . -Finally, it shows how connections to places and people can be maintained with words.	Context -Maura Dooley was born in Cornwall in 1957. She spent three years of her life living in Yorkshire. She now lives in London. -The poem is autobiographical – it reflects her own life. -The relationship between the man and woman is unclear, and irrelevant: the important relationship here is between the narrator and the rural lifestyle.
Language - "digging his garden, planting his potatoes" : physical verbs (also "breaking" and "clearing") convey the man's active rural and outdoors lifestyle. - "It's not romance, simply how things are" : grounds the poem in mundane reality, and a melancholic tone. - "his knuckles singing" : conveys the energising effect that rural work has on his hands, later contrasted with the speaker's soulless "feeding words onto a blank screen" . - "pouring air and light into an envelope" : tone shifts to hopeful and magical tone, romanticising rural life.	Form and Structure -Free verse and use of 2 nd person narrative ("your" and "you") creates the effect of a conversation or letter, and a personal tone: the narrator is reaching out to the man in the poem. -First three stanzas emphasise the contrast between their lives. -Final two stanzas emphasise the connection between their "souls" . -Enjambment between "seasons" and "turning" reflects that passing of time and seasons; emphasises the seasons that she is missing by being in the city.

Follower by Seamus Heaney	
Themes: Memories, Family/Parents, Admiration	Tones: Rugged, Nostalgic
Content, Meaning and Purpose -The speaker recalls how he would watch his father expertly plough the fields on the farm where he grew up. -His father is an image of strength and reliability: the son was in admiration of him and wanted to grow up to be like him. -The poem ends with a role reversal: his elderly father is now reliant on him, and "will not go away" , ambiguous reference to their relationship.	Context -Seamus Heaney lived from 1939-2013. -He grew up on his father's farm in Northern Ireland and so the poem is thought to be autobiographical. -The poem was published in 1966, within a collection on themes of childhood, identity and rural life. -Many of his poems praised the concept of hard work and a rural lifestyle.
Language - "His shoulders globed like a full sail strung" : assonance of 'ou' and 'obed' emphasise the size of his father's shoulders; simile conveys how his father can harness great power like a sailing ship. - "An expert" : short sentence, caesura and sharp consonant sounds reflect father's precise and unquestionable skill. - "I stumbled in his hob-nailed wake" : son's clumsiness contrasts the father's expertise; the sailing metaphor is extended – the father is so powerful he leaves a 'wake' like a ship. He leaves a great impression on the boy.	Form and Structure -The six stanzas of four lines each are written in iambic pentameter. The steady rhythm reflects the steadiness and reliability of the father's ploughing. -The rhyme scheme of ABAB occasionally slips to half-rhymes, symbolising how the boy falls short of his father. -Structure mirrors movement of the horse: the enjambment of "a single pluck / Of Reins" reflects the turning around of the horse. -The volta (and role reversal) occurs in the final stanza when it is his father who is "stumbling / Behind me" .

The Farmer's Bride by Charlotte Mew	
Themes: Longing, Control, Fear, Possession	Tones: Frustrated, Dark, Predatory
Content, Meaning and Purpose -This dramatic monologue tells the story of a farmer's marriage to a 'too young' bride. Since their marriage she has always been scared of him (and of all men). -The poem conveys his frustrations and his attempts to understand why she rejects him, both emotionally and physically. -His frustration builds towards the end of the poem, when he appears to lose control, suggesting that he may force himself upon her.	Context -Published in 1912. -Charlotte Mew was thought to be homosexual and lived through a time when homosexuality was not accepted by society. -This might explain some of the poem's themes. The poem deals with an unconventional relationship – and frustrated desire for a woman.
Language -Theme of patriarchy (male control): "I chose a maid" and hunting conveys his perceived weakness of women "We chased her, flying like a hair" . -Use of strong dialect ("she runned away" "Out 'mong the sheep") gives a realistic voice to the farmer, giving the poem a personal edge. -Language about nature ("harvest time" "birds and rabbits") reflects the farmer's identity, and how he believes that their relationship goes against nature. - "One leaf in the still air falls slowly down" : conveys the farmer's oneliness and frustration.	Form and Structure -Strong rhyme scheme drives poem on. Mainly in iambic tetrameter, but rhyme scheme varies to build pace: reflecting the building frustrations of the farmer. -The farmer narrates throughout; his wife has no voice, reflecting the patriarchal theme of the poem. -Frantic repetition and ending on an exclamation mark in final stanza conveys the climax of his frustration: "the brown, The brown of her – her eyes, her hair, her hair!"





Key words and Vocabulary:

Anxiety - a feeling of worry, nervousness, or unease about something

Apprehensive - anxious or fearful that something bad will happen

Death - the action or fact of dying or being killed; the end of a life

Desire - a strong feeling of wanting to have something or wishing for something

Distance - make (someone or something) far off or remote in position or nature

Ethereal - extremely light and delicate in a way that seems not to be of this world

Frustration - the feeling of being upset/annoyed as a result of being able to change

Grief - intense sorrow, especially being caused by someone's death

Intense - of extreme force, degree, or strength

Intimate - closely acquainted; private and personal

Joyful - feeling, expressing, or causing great pleasure and happiness

Longing - a yearning desire

Memory - the faculty by which the mind stores and remembers information

Nature - the phenomena of the physical world, including plants, animals and landscape

Optimistic - hopeful and confident about the future

Playful - fond of games and amusement; light-hearted

Proud - feeling deep pleasure or satisfaction as a result of one's achievements

Sinister - giving the impression that something harmful or evil will happen

Nostalgic - feeling, evoking, or characterised by nostalgia

Possessive - demanding someone's total attention and love

Rebellious - showing a desire to resist authority, control, or convention



This unit will explore 'Unseen Poetry' with a focus on comparing, language and the poet's techniques.

Key words:

Alliteration	Triples
Metaphor	Imperative verbs
Personification	Use of colour/senses
Onomatopoeia	
Oxymoron	
Rhetorical question	
Repetition	
Emotive language	
Second person	
Simile	

Linking sentences:

Adding connectives, to add to your initial ideas:

Moreover
 Furthermore
 In addition
 Additionally
 Similarly
 As well as this

Contrasting connectives, to show a different perspective or idea:

However
 On the other hand
 Alternatively
 Despite this
 In contrast
 Conversely
 In spite of this

Key steps:

Step 1: The Question

You'll get something like this: "In [Poem Title] how does the poet present the speaker's feelings about [Poem Topic]?" So the exam board actually tell you the theme of the poem they want you to focus on! Don't go off on a tangent writing any old random ideas, stay focused on that theme.

Step 2: The Title

Another clue that the poet gives you this time is the actual title of the poem! Some poets like to be difficult and don't put a title (we all know someone who does that), but most see the title as really crucial to their work. After all, it is the first thing you see when you read a poem, it helps to sum up a poem's ideas or gives us clues about what the poem is about Look carefully at what the title of the poem is. How does it fit into the themes you've been asked to look at by the exam board?

Step 3: Meaning

You've studied the question, you've reflected on the title, we know the themes and clues given to us, so let's read the poem and make notes on what the poet is trying to say to us Think about:
 Who the speaker is (1st/2nd/3rd person). 1st = 'I', 2nd = 'You', 3rd = 'They/He/She/Names'. Is this poem happening to the speaker or are they talking to someone else?
 Who they are speaking to. Is the speaker talking directly to you as a reader? Is the speaker talking to someone else and you're overhearing their conversation?
 What they are speaking about. We know the general themes and clues about the poem, but now you need to think carefully about what the speaker is saying and talking about.

Step 4: Emotion, Mood and Tone

Every poem has a different mood and tone to it and every speaker presents different feelings in a poem. The unseen poems could have any mood or tone, so it's important to work out how the speaker or the characters in the poem feel. For some students it helps to think of tone as a 'sound'. How does the poem sound to you? Why?

Step 5: Language Techniques

You need to know your techniques, for example, similes, metaphors, onomatopoeia. However, it's no good simply finding them, you've got to explore how they affect the poem, how they get across meaning to the reader and how they emphasize or accentuate ideas.

Step 6: Structure and Form

Every poet thinks very, very carefully about the order of their ideas - how they start, finish and link ideas in a poem. You want to 'hook' a reader in to a poem and you want to hammer home your central ideas to the reader at the very end. Think about how many stanzas (verses) a poem has and why. Does each stanza address a different topic or perspective? Are some stanzas longer than others? Why might the writer want shorter or longer stanzas? Are some more descriptive than others? Do some sum up key ideas carefully and succinctly? A poem is never randomly put together, it is carefully organized for a particular effect. It's your job to *interpret* what you think those effects are and how the writer achieves them.



This unit will explore 'Unseen Poetry' with a focus on comparing, language and the poet's techniques.

Features of poetry

Meter - The number of beats and bars in lines that helps to produce a rhythm in a poem, or the rhythmic measure of a line. How many syllables does each line have? Why? How does changing the meter affect the meaning of the poem or the way it is read? Common types of meter or elements of meter are iambic pentameter, dactyls, trochees, spondees and more. Do some research and find out what they all are and how they can change a poem!

Rhyme - Where words which sound similar to each other are used closely together to link ideas and sounds.

Caesura: a metrical pause or break in a verse where one phrase ends and another phrase begins.

Enjambment: the continuation of a sentence without a pause beyond the end of a line, couplet, or stanza.

End-stop: occurs when a line of **poetry** ends with a full stop or definite punctuation mark, such as a colon.

Assessment Objectives:

Question 27.1

AO1:

- Critically explore and respond to task and text
- Judicious use of precise references to support interpretation(s)

AO2:

- Analysis of writer's methods with subject terminology used judiciously
- Exploration of effects of writer's methods on reader

Question 27.2

AO2:

- Analysis of writer's methods with subject terminology used judiciously
- Exploration of effects of writer's methods on reader

Key words and vocabulary:

Alliteration: Repetition of the same sounds at the beginning of a sequence of words.

Figurative Language:

Metaphor - a comparison where something is said to be something else.

Personification - giving human qualities to something which is not human.

Onomatopoeia: A word whose sound suggests what the word is meant to depict./ the word imitates the natural sound.

Oxymoron: Two contradictory words placed together for effect.

Rhetorical question: A question created to make a reader think about the topic in hand/ asked for effect or to influence the reader in some way.

Repetition: Using a word or phrase more than once in a passage/ sentence.

Emotive Language: Vocabulary which inspires emotion/ intense feeling of some kind in the reader.

Second person 'you' (direct address): Writing directly for/ to the reader and using the pronouns 'you'/'your' to indicate this.

Simile: A comparison using 'like' or 'as'.

Triples (rule of three): Collection of three related elements/ words/ phrases.

Imperative verbs (commands): Verbs which command/ instruct/ direct.

Use of colour/ senses: Colour and a focus on sound/ texture etc really enhances description and brings it to life for the reader.



Reading Non Fiction: 60 mins (25% GCSE) - Two non-fiction texts - one from 19th Century & one from 20th/21st

QUESTION ONE		Mark Scheme		Stretch yourself
CHOOSE four true or false statements from a list of 8. <input type="checkbox"/> 4 marks = 5 mins (4 boxes shaded) <input type="checkbox"/> Named lines <input type="checkbox"/> AO1 - find & inference	Only look at lines named in question to in order to find answers. <input type="checkbox"/> Only shade 4 boxes (1 box = 1 mark) - this is not a trick question - it is easy. <input type="checkbox"/> Follow the instruction on the paper if you shade the wrong box.	Band s1-4	4 - DETAILED, PERCEPTIVE 3 - CLEAR, RELEVANT 2 - SOME, ATTEMPTS 1 - SIMPLE, LIMITED	Paradox/oxymoron
QUESTION TWO Write a SUMMARY of the DIFFERENCES between Source A and B <input type="checkbox"/> 8 marks = 10mins <input type="checkbox"/> Two texts <input type="checkbox"/> AO1 - summarise differences	<input type="checkbox"/> Read and highlight key words in the question <input type="checkbox"/> Start with an overview sentence stating main difference then your summary of differences using short quotes and stating specific effects . <input type="checkbox"/> Track through each text; space your quotes out throughout the whole text.	Q2	<ul style="list-style-type: none"> Perceptive inference and differences from both texts Well-judged quotations 	Irony
QUESTION THREE How does the writer use LANGUAGE to..." in one source only <input type="checkbox"/> 12 marks = 20 mins <input type="checkbox"/> One text <input type="checkbox"/> AO2 - Language (not structure)	<input type="checkbox"/> Read and highlight key words in the question <input type="checkbox"/> Read and highlight text <input type="checkbox"/> Analyse as many quotes as you can, analysing a technique used by the writer and discussing the multiple effects for the audience. <input type="checkbox"/> Track through each text, space your quotes out throughout the whole text.	Q3	<ul style="list-style-type: none"> Analyses the effects of writer's choices Well-judged quotations Sophisticated subject terminology 	Onomatopoeia
QUESTION FOUR Compare DIFFERENCES in LANGUAGE in how the two writers present/convey/convince/persuade... in Source A and B <input type="checkbox"/> 16marks = 25mins <input type="checkbox"/> Two texts <input type="checkbox"/> AO3 - compare language (not structure)	<input type="checkbox"/> Read and highlight key words in the question <input type="checkbox"/> Start with an overview sentence stating the main difference in the language. <input type="checkbox"/> Then compare the differences in the writers' viewpoints using short quotes and stating specific effects . <input type="checkbox"/> REFER TO BOTH WRITERS THROUGHOUT. <input type="checkbox"/> YOU CAN REPEAT QUOTES & EFFECTS FROM EARLIER QUESTIONS. <input type="checkbox"/> Go back and forth between the texts. Use comparison words or phrases = Likewise, Similarly, In the same way, Different to..., UnlikeB, In contrast....., However, etc.	Q4	<ul style="list-style-type: none"> Same as Q2/3 AND... Detailed understanding of different perspectives & ideas 	Euphemism
		I AM A FORESTER (Q3+4)		Pun
		Imperatives		Fronted adverbials or conjunctions
		Adjective/Adverb		Simple/compound/complex sentences
		Modal Verbs		Relative or conditional clauses
		Alliteration		Noun/verb phrases
		Figurative language		Writing for purpose/audience/type of text
		Opinions		Anaphora/epistrophe
		Repetition		Tone/Register
		Exaggeration/ Expert opinion		Narrative perspective
		Statistics		AOs
		Triplets		AO1
		Emotive Language		<ul style="list-style-type: none"> Identify and interpret explicit and implicit information and ideas. Select and synthesise evidence from different texts.
		Rhetorical Question		AO2
				<ul style="list-style-type: none"> Explain, comment on and analyse how writers use language and structure to achieve effects and influence readers Use relevant subject terminology to support views.
				AO3
				<ul style="list-style-type: none"> Compare writers' ideas across two or more texts.



Reading Non Fiction: 60 mins (25% GCSE) - Two non-fiction texts - one from 19th Century & one from 20th/21st

Paper 2 Question 2 - Summary

Source A by _____ focuses on _____ offers us a negative/positive neutral/strong viewpoint.

The writer says that...
(Make Point. Use quotation)

This suggests that...

Similarly/In contrast to this, Source B by _____ (also) offers us a negative/positive neutral/strong viewpoint.

The writer (or use their name) tells us that...
(Make Point. Use quotation)

From this we can infer that...

In addition, Source A also makes the point that...
(Make Point. Use quotation)

The implies that...

At the same time, Source B points out that...
(Make Point. Use quotation)

This indicates that...

Paper 2 Question 3 - Language Analysis

Within the extract, the writer makes use of a range of language techniques to ensure that they convey successfully a sense of...

The writer begins by using...
(Name a technique/word/phrase then use a quotation)

This suggests that...

In particular, the word '_____' specifically makes the reader feel that...

The writer (or use their name) describes _____.
(Name a technique/word/phrase then use a quotation)

This is significant because it encourages the reader to think/feel/see that...

Notably, the most important word here is '_____' . This creates the impression of...

The writer has also made use of ...
(Name a technique/word/phrase then use a quotation)

This powerfully emphasises/implies/connotes that...

The overall effect of the language used by the writer is that the reader is left with an overwhelming sense of/that..

Paper 2 Question 4 -Comparison

Within the two sources, both writers try to describe/explain the experience of...

In source A, the writer describes that...
(Make your point then use a quotation)

This highlights that...

In particular, the word '_____' specifically makes the reader feel that...

The writer of source B (or use their name) however/similarly describes that..._____.
(Make a point then use a quotation)

This is significant because it encourages the reader to think/feel/see that...

Notably, the most important word here is '_____' . This creates the impression of...

The writer of Source A has the viewpoint that...
(Make a point then use a quotation)

This is powerfully emphasised/implicit/connoted when they say that...

The viewpoint of Source B is the same/different and this is made clear when the writer describes/explains that...
(Make a point then use a quotation)

The effect here is the reader is encouraged to think/feel/imagine... and that overall we can see the contrast/similarity between the writers' viewpoints.



Writing non-fiction: using a form and audience to present your point of view,

'Homework has no value. Some students get it done for them; some don't do it at all. Students should be relaxing in their free time.' Write an article for a broadsheet newspaper in which you explain your point of view on this statement. (24 marks for content and organisation 16 marks for accuracy) THIS UNIT AMOUNTS TO 25% OF GCSE RESULT

Content	<ul style="list-style-type: none"> Register is convincing and compelling for audience Assuredly matched to purpose Extensive and ambitious vocabulary with sustained crafting of linguistic devices
Organisation	<ul style="list-style-type: none"> Varied and inventive use of structural features Writing is compelling, incorporating a range of convincing and complex ideas Fluently linked paragraphs with seamlessly integrated discourse markers
Technical accuracy	<ul style="list-style-type: none"> Wide range of punctuation is used with a high level of accuracy Uses a full range of appropriate sentence forms for effect Uses Standard English consistently and appropriately with secure control of complex grammatical structures High level of accuracy in spelling, including ambitious vocabulary Extensive and ambitious use of vocabulary

Possible layouts/types of text/formats		The Basics	I AM A FORESTER	
Letter	<ul style="list-style-type: none"> the use of addresses & date a formal mode of address e.g. Dear Sir/Madam or a named recipient effectively/fluently sequenced paragraphs an appropriate mode of signing off: Yours sincerely/faithfully. 	Capital letters	Imperative verbs	Repetition
Article	<ul style="list-style-type: none"> Broadsheet = formal/Local or tabloid = informal a clear/apt/original title a strapline & subheadings an introductory (overview) paragraph effectively/fluently sequenced paragraphs. 	Full stops	Alliteration	Emotive lang./ expert opinion
		Commas		
		Apostrophes	Modal verbs	Statistics
		Tense	Appeal	Triplets
Leaflet (text only)	<ul style="list-style-type: none"> a clear/apt/original title organisational devices such as inventive subheadings or boxes bullet points effectively/fluently sequenced paragraphs. 	Question marks	Figurative lang.	Exaggeration
Speech (text only)	<ul style="list-style-type: none"> a clear address to an audience effective/fluently linked sections to indicate sequence rhetorical indicators that an audience is being addressed a clear sign off e.g. 'Thank you for listening'. 	Ellipsis ...		
		Homophone spellings		
		Connectives	Audience	
Essay	<ul style="list-style-type: none"> an effective introduction and convincing conclusion effectively/fluently linked paragraphs to sequence a range of ideas. 	Semi-colons	<p>An audience your age:</p> <ul style="list-style-type: none"> Colloquial expressions and sayings and references to modern culture. Frequent use of direct address. Use of humour and sarcasm. Affronted conjunctions (So...) <p>An older audience:</p> <ul style="list-style-type: none"> Keep it formal. BUT remember they're not the Queen! (One is outraged my good sir) Avoid references to modern culture, humour and sarcasm. Avoid using contractions (do not instead of don't) 	
		Colons		
		Vary sentence starts/lengths		
		Vary paragraph lengths		
Stretch yourself		Topic sentences		
Take a bold standpoint: hook/tone/style. Also consider cohesive devices: adverbials/pronouns/reference chains/ synonyms/rhetorical questions/discourse markers.				



Writing non-fiction: using a form and audience to present your point of view,

The Exam	Paper 2 Question 5 - Impact Writing
45 minutes - 1 task - no choice	
Step one: read & highlight key words in question	I think that... <i>Spell out your point of view clearly. Use imperative verbs and hyperbole to create a sense of urgency.</i>
Step two: Identify the PAT/PAF/PAL	
Step three: Plan 6 -8 things you can include, then put them in order (Steps 1 to 3 = 10 mins)	I feel like this because... <i>Recount an anecdote that shows why you feel this way.</i>
Step four: Write it (Step 4 = 30 mins)	There are other good reasons for my point of view... <i>Give at least three different ideas to support your point.</i>
Step five (MOST IMPORTANT): Lip check (Step 5 = 5 minutes)	It's not just me that feels like this... <i>Quote an expert.</i>
Sentence starts	It's the truth. <i>Give a range of facts and statistics to support your point of view.</i>
Verb - Running quickly, she	
Adverb - Darkly, the night sky...	It could affect you too. <i>Relate the issue to the reader to show how it could impact on them. Include a rhetorical question.</i>
Adjective - Red light filled the ...	
Preposition - Down there, all...	So, we need to... <i>Describe what you think needs to happen in the future.</i>
Connective - However, his life...	I think that... <i>End with a one-sentence paragraph to powerful repeat your viewpoint.</i>



This unit will explore the play 'Macbeth' with a focus on context, language and the writer's techniques.

Keywords and Vocabulary:

Accurse	Feverous
Alarum	Gentlewoman
Apparition	Hautboy
Assailable	Hell-kite
Avouch	Knell
Aweary	Lechery
Beldam	Overbold
Benison	Sirrah
Blaspheme	Slaughterous
Brinded	Slumbery
Cauldron	Thane
Coign	Treasonous
Crack of doom	Unsanctified
Drowse	Weird sister
Equivoicate	Withal

Macbeth - Simple Plot:

Macbeth has remained one of William Shakespeare's most intense and often performed plays. The play follows the progress of the title character as he becomes increasingly powerful, using any means to get what he wants - even murder! He is encouraged by the ruthless and bloodthirsty ambition of his wife, Lady Macbeth. However, power comes at a price and by the end of the play, Macbeth's world falls apart around him, he is defeated and a new king, Malcolm, is declared.

Macbeth - Key characters:

Macbeth - Macbeth is the lead protagonist of the play. He is introduced as a Scottish general who is thought to be a brave and strong soldier. However, he is easily persuaded to commit the murder of a king that he loves. He becomes a tyrannical and destructive king, who responds to all threats (including his own insecurities) through violence and murder.

Lady Macbeth - Macbeth's wife, an extremely ambitious woman who lusts for power. At the beginning of the play, she seems stronger than Macbeth, urging and aiding him to kill Duncan. Later in the play, however, she becomes racked with guilt and madness, proving unable to come to terms with what they have done. Her conscience affects her to such a degree that she eventually commits suicide.

Duncan - Duncan is the kind and loved King of Scotland who Macbeth murders in order to fulfil his ambition and the witches prophecy. Duncan is a virtuous King, who is both compassionate and rational - he forms a stark contrast with Macbeth as king. When Duncan dies, order in Scotland is shattered. It is only restored when his son, Malcolm eventually takes the throne.

Macduff - A Scottish nobleman who is dubious and hostile towards Macbeth's reign from the beginning. His wife and young son are murdered by Macbeth. Macduff leads the battle against Macbeth's tyrannical reign, eventually becoming the man who kills Macbeth (in line with the witch's prophecy as he was not of 'woman born.') In doing so, he helps Malcolm to the throne

The Three Witches - The witches represent trickery, manipulation and the supernatural. They use charms, spells and prophecies to prompt Macbeth into murdering Duncan. There is some ambivalence over how much of their power comes from supernatural abilities, as opposed to knowing the weaknesses of their victim. In any case, they take pleasure in toying with human lives and emotions.

Banquo - Banquo is a brave and noble gentleman who is a friend and fellow soldier to Macbeth. Banquo is also given prophecies by the witches, but unlike Macbeth, he chooses not to act on them. After being murdered, Banquo's ghost returns to haunt Macbeth, causing him a great deal of fright, and reminding him of the path he chose not to take. In accordance with the witches' prophecies, Banquo's descendants later take their place on the throne.

Context:

Shakespeare's Time - Shakespeare wrote at the time of two monarchs: Queen Elizabeth I and James I. The plays that he wrote during the period of Queen Elizabeth are generally happy and joyful, reflecting the mood at the time. However, darker plays such as Macbeth were written in the era of James I, which was far more unstable.

The Divine Right of Kings - Divine Right asserts that monarchs were appointed from God above, and that any attempt to question them was to question God himself. This was a widely-held view at the time. King James I often quoted divine right to cement his place on the throne.

Witches and the Supernatural - At the time of Shakespeare, the belief in witches and the supernatural was extremely strong, and many so-called 'witches' were burnt at the stake.

James I - 1606 was early in the reign of James I, who was an admirer of Shakespeare's plays, and a patron of his acting company. It is doubtless, therefore, that Shakespeare had the king in mind when writing a play about Macbeth, a figure from Scottish ancestry.

The Role of Women - Despite the strength of Elizabeth I's reign, society at the time was patriarchal - women were considered inferior to men. Women belonged to their fathers (or brothers if their fathers had died) and then their husbands. They were not permitted to own land or enter most professions. They were instead expected to bear children, and be gentle and womanly.

Symbols to look out for: What is the significance of each of these symbols throughout the play?

Visions and Hallucinations

Blood

Sleep

Topic Trivia Questions:

1. How many men reign as king of Scotland throughout the play?
2. What is Macbeth's original title in the play?
3. Who discovers Duncan's body?
4. Which characters says: "There's daggers in men's smiles"?



This unit will explore the play 'Macbeth' with a focus on context, language and the writer's techniques.

Features of a tragedy

1. **Tragic Hero** - A main character cursed by fate and possessed of a tragic flaw (Macbeth).
2. **Hamartia** - The fatal character flaw of the tragic hero (ambition).
3. **Catharsis** - The release of the audience's emotions through empathy with the characters.
4. **Internal Conflict** - The struggle the hero engages in with his/her fatal flaw.

Assessment Objectives:

AO1:

Read and understand the texts.
Respond to the texts personally - developing your opinion and thoughts.
Use evidence to support your points.

AO2:

Analyse the language the author has used - why has he done this?
Analyse how the author has created the novel and how it is put together (the structure of it) - why has he done this.
Analyse the form the author has used - why has he written the novel in this way?

AO3:

Understand the relationship between the novel and the context in which it was written - how has this affected the author's writing?

Big Questions:

- Did Macbeth always want to be King?
- Are the witches in Macbeth real?
- Does Lady Macbeth commit suicide?

Themes:

Unchecked Ambition - The tale of Macbeth ruthlessly exposes the dangers of ambition when it is not held by moral constraints. Ambition turns Macbeth from a brave and loyal Scottish general into a murderous tyrant. Lady Macbeth is another example of this theme, as she is unable to deal with the acts that she and Macbeth have committed to fuel their ambition, and so commits suicide.

Fate vs Free Will - Throughout the play, the audience is frequently forced to question the notion of fate vs free will - does the story pan out the way that it does because it was pre-ordained, or because of the actions that Macbeth chose to take? Macbeth fervently attempts to fight the negative aspects of his fate, and yet it is these very actions (his free will) that cause the predetermined downfall (fate).

Gender, Masculinity and Femininity - Lady Macbeth manipulates her husband by questioning his masculinity, as he originally declines to murder King Duncan for the throne. She states that she wishes she could be 'unsexed' so as to give her bravery to commit the deed. Masculinity is frequently associated with raw aggression, and femininity with weakness and kindness.

Inversion of the Natural Order - Wherever the natural order is disturbed in Macbeth (the three supernatural witches, the murder of a king) disorder and chaos soon follow. There is only peace when the natural order is restored (Malcolm is seated on the throne). In line with the beliefs of King James, through *Macbeth* Shakespeare expresses that the inversion of the natural order is dangerous and destructive.

Dramatic Devices:

Dramatic Irony - Duncan trusts Macbeth. The audience know that Macbeth is plotting Duncan's murder.

Soliloquy - Macbeth's soliloquy reveals his inner torment.

Aside - Macbeth reveals his ambition through an aside.

Rhyming Couplets - *Away and mock the time, with fairest show/ False face must hide what the heart doth know*



Keywords and vocabulary:

Accurse - put a curse on

Alarum - alarm

Apparition - a ghost or ghostlike image of a person

Assailable - not defended or being capable of being defended

Avouch - affirm or assert

Aweary - literary form of weary

Beldam - an old maid or a malicious/loathsome old woman

Benison - a blessing

Blaspheme - speak irreverently about God or sacred things

Brinded - having a grey or brown streak or a pattern of patchy colouring

Cauldron - a large metal pot with a lid and handle; used for cooking over an open fire

Coign - a projecting corner or an angle of a wall

Crack of doom - a peal of thunder announcing the Day of Judgement

Drowse - be half asleep; doze intermittently

Equivocate - use ambiguous language so as to conceal the truth or avoid committing oneself

Feverous - tending to cause fever

Gentlewoman - a woman of noble birth or good social standing

Hautboy - an old form of the instrument 'oboe'

Hell-kite - a fiendish, cruel, pitiless person

Knell - the sound of a bell, especially when rung solemnly for a death or funeral

Lechery - excessive or offensive sexual desire; lustfulness

Overbold - excessively bold

Sirrah - used as a term of address for a boy or a man; especially one younger or of a lower status than the speaker

Slaughterous - murderous; destructive

Slumbery - sleepy; heavy with drowsiness; causing or inducing sleep

Thane - a man who held land granted by the king or by a military nobleman

Treasonous - involving or guilty of the crime of betraying one's country

Unsanctified - not declared as holy; not free of sin

Weird sister - witches, especially those in Shakespeare's Macbeth

Withal - in addition; as a further factor of consideration



Revision- command words

Analyse and evaluate

- **Consider:** think about in order to understand or decide. E.g. consider which meal is most suitable for someone with coronary heart disease.
- **Justify:** prove something to be right by giving good reasons. E.g. justify why you have chosen this meal for young children.
- **Compare:** point out the differences and similarities. E.g. compare wholemeal and white flour.
- **Contrast:** point out the differences. E.g. contrast the nutritional content of the two fizzy drinks.
- **Discuss:** write from more than one viewpoint. E.g. discuss how leftover food may be reused to reduce food waste.
- **Assess:** give your judgement of something. E.g. assess the factors that may lead to food poisoning.
- **Evaluate:** sum up the good and bad parts. E.g. evaluate the use or free range produce.
- **Draw conclusions from:** explain what you learnt. E.g. draw conclusions from the results of this yeast fermentation experiment.

Demonstrate knowledge and understanding

- **State:** give the facts, expressed clearly and fully. E.g. *state three different religions that may affect food choice.*
- **Select:** carefully choose the best or most suitable. E.g. *select a suitable dish for a vegan diet.*
- **Identify:** establish or indicate what something is. E.g. *identify which drink contains the most sugar.*

Apply knowledge and understanding

- **Suggest:** make a recommendation or suggestion. E.g. *suggest ways to reduce the fat content of your diet.*
- **Describe:** write out the main features. E.g. *describe a packed lunch that would be suitable for someone with coeliac disease.*
- **Outline:** write out the main points or a general plan. E.g. *outline the process of bread making.*
- **Explain:** set out in facts in detail and give reasons. E.g. *explain why this recipe is not suitable for someone with lactose intolerance.*

Topics:

1. Food, Nutrition and Health
2. Food Science
3. Food Safety
4. Food Choice
5. Food Provenance



Micronutrients

Micronutrients are needed in the body in tiny amounts. They do not provide energy, but are required for a number of important processes in the body.

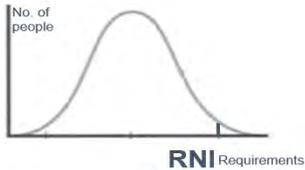
There are two main groups of micronutrients:

- vitamins;
- minerals and trace elements.

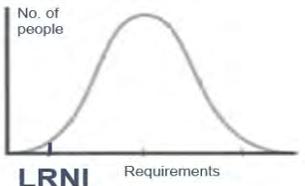
Micronutrients are measured in milligrams (mg) and micrograms (µg) with 1mg = 0.001g and 1µg = 0.001mg.

Micronutrient recommendations

The recommendations for vitamins and minerals are based on the **Reference Nutrient Intake (RNI)**.



When looking at low intakes of micronutrients, the Lower Reference Nutrient Intake (LRNI) is used.



For more information, go to: <https://bit.ly/36KUjnj>

Micronutrient recommendations
People have different requirements for each micronutrient, according to their:

- age;
- gender;
- physiological state (e.g. pregnancy).



Vitamins

Vitamins are nutrients required by the body in small amounts, for a variety of essential processes.

Most vitamins cannot be made by the body, so need to be provided in the diet.

Vitamins are grouped into:

- fat-soluble vitamins (vitamins A, D, E and K);
- water-soluble vitamins (B vitamins and vitamin C).

Minerals

Minerals are inorganic substances required by the body in small amounts for a variety of different functions.

The body requires different amounts for each mineral.

Some minerals are required in larger amounts, while others are needed in very small amounts and are called 'trace elements'.

Vitamins

Nutrient	Function	Sources
Vitamin A	Helps the immune system to work as it should and with vision.	Liver, cheese, eggs, dark green leafy vegetables and orange-coloured fruits and vegetables.
B vitamins	Thiamin, riboflavin, niacin, folate, and vitamin B12 have a range of functions within the body.	Different for each B Vitamin.
Vitamin C	Helps to protect cells from damage and with the formation of collagen.	Fruit (especially citrus fruits), green vegetables, peppers and tomatoes.
Vitamin D	Helps the body to absorb calcium & helps to keep bones strong.	Oily fish, eggs, fortified breakfast cereals and fat spreads.
Vitamin E	Helps to protect the cells in our bodies against damage.	Vegetable and seed oils, nuts and seeds, avocados and olives.
Vitamin K	Needed for the normal clotting of blood and is required for normal bone structure.	Green vegetables and some oils (rapeseed, olive and soya oil).

Minerals

Nutrient	Function	Sources
Calcium	Helps to build and maintain strong bones and teeth.	Dairy, calcium-fortified dairy-alternatives, canned fish (where soft bones are eaten) and bread.
Iron	Helps to make red blood cells, which carry oxygen around the body.	Offal, red meat, beans, pulses, nuts and seeds, fish, quinoa, wholemeal bread and dried fruit.
Phosphorus	Helps to build strong bones and teeth and helps to release energy from food.	Red meat, poultry, fish, milk, cheese, yogurt, eggs, bread and wholegrains.
Sodium	Helps regulate the water content in the body.	Very small amounts found in foods. Often added as salt.
Fluoride	Helps with the formation of strong teeth and reduce the risk of tooth decay.	Tap water, tea (and toothpaste).
Potassium	Helps regulate the water content in the body and maintain a normal blood pressure.	Some fruit and vegetables, dried fruit, poultry, red meat, fish, milk and wholegrain breakfast cereals.
Iodine	Helps to make thyroid hormones. It also helps the brain to function normally.	Milk, yogurt, cheese, fish, shellfish and eggs.

Key terms

Micronutrients: Nutrients needed in the diet in very small amounts.

Lower Reference Nutrient Intake (LRNI): is the amount of a nutrient that is enough for only the small number of people who have low requirements (2.5%). The majority of people need more.

Reference Nutrient Intake (RNI): the amount of a nutrient that is enough to ensure that the needs of nearly all the group (97.5%) are being met. The RNI is used for recommendations on protein, vitamins and minerals.

Vitamin D

Vitamin D is a pro-hormone in the body. It can be obtained in two forms:

- ergocalciferol (vitamin D₂);
- cholecalciferol (vitamin D₃).

Vitamin D₃ is also formed by the action of sunlight. Different to most vitamins, the main source of vitamin D is synthesis in the skin following exposure to sunlight. The wavelength of UVB during the winter months in the UK does not support vitamin D synthesis.



Tasks:

- Create an infographic on micronutrients. Focus on the definition of each micronutrient, daily recommendations and source.
- Keep a food diary for four days and calculate the micronutrients provided per day. <http://explorefood.foodfactoflife.org.uk>



To understand what the Eatwell guide means to us and how we can make better food choices

The Eatwell Guide

- When choosing food and drinks, current healthy eating guidelines should be followed.



Fruit and vegetables

- This group should make up just over a third of the food eaten each day.
- Aim to eat at least five portions of a variety each day.
- Choose from fresh, frozen, canned, dried or juiced.
- A portion is around 80g (3 heaped tbs).
- 30g of dried fruit or 150ml glass of fruit juice or smoothie count as a max of 1 portion each day.

Potatoes, bread, rice, pasta or other starchy carbohydrates

- Base meals around starchy carbohydrate food.
- This group should make up just over a third of the diet.
- Choose higher-fibre, wholegrain varieties.

Dairy and alternatives

- Good sources of protein and vitamins.
- An important source of calcium, which helps to keep bones strong.
- Should go for lower fat and lower sugar products where possible.

To find out more, go to: <https://bit.ly/2QzUMfe>

The Eatwell Guide

- Comprises 5 main food groups.
- Is suitable for most people over 2 years of age.
- Shows the proportions in which different groups of foods are needed in order to have a well-balanced and healthy diet.
- Shows proportions representative of food eaten over a day or more.

Beans, pulses, fish, eggs, meat and other protein

- Sources of protein, vitamins and minerals.
- Recommendations include to aim for at least two portions of fish a week, one oily, and;
- People who eat more than 90g/day of red or processed meat, should cut down to no more than 70g/day.

Oil and spreads

- Unsaturated fats are healthier fats that are usually from plant sources and in liquid form as oil, e.g. olive oil.
- Generally, people are eating too much saturated fat and need to reduce consumption.

Foods high fat, salt and sugar

- Includes products such as chocolate, cakes, biscuits, full-sugar soft drinks, butter and ice cream.
- Are high in fat, sugar and energy and are not needed in the diet.
- If included, should be had infrequently and in small amounts.

8 tips for healthier eating

These eight practical tips cover the basics of healthy eating, and can help you make healthier choices.

- Base your meals on starchy carbohydrates.
- Eat lots of fruit and veg.
- Eat more fish – including a portion of oily fish.
- Cut down on saturated fat and sugar.
- Eat less salt (max. 6g a day for adults).
- Get active and be a healthy weight.
- Don't get thirsty.
- Don't skip breakfast.

Hydration

- Aim to drink 6-8 glasses of fluid every day.
- Water, lower fat milk and sugar-free drinks including tea and coffee all count.
- Fruit juice and smoothies also count but should be limited to no more than a combined total of 150ml per day.

Fibre

- Dietary fibre is a type of carbohydrate found in plant foods.
- Food examples include wholegrain cereals and cereal products; oats; beans; lentils; fruit; vegetables; nuts; and, seeds.
- Dietary fibre helps to: reduce the risk of heart disease, diabetes and some cancers; help weight control; bulk up stools; prevent constipation; improve gut health.
- The recommended average intake for dietary fibre is 30g per day for adults.

Composite/combination food

Much of the food people eat is in the form of dishes or meals with more than one kind of food component in them. For example, pizzas, casseroles, spaghetti bolognese and sandwiches are all made with ingredients from more than one food group. These are often called 'combination' or 'composite' foods.



Key terms

The Eatwell Guide: A healthy eating model showing the types and proportions of foods needed in the diet.

Hydration: The process of replacing water in the body.

Dietary fibre: A type of carbohydrate found in plant foods.

Composite/combination food: Food made with ingredients from more than one food group.

Meals and snacks can be sorted into The Eatwell Guide food groups.

Composite/combination food - Lasagne



Pasta (lasagne sheets): **Potatoes, bread, rice, pasta or other starchy carbohydrates**

Onions, garlic and chopped tomatoes: **Fruit and vegetables**

Lean minced meat (or meat substitute): **Beans, pulses, fish, eggs, meat and other protein**

Cheese sauce made with milk and cheese: **Dairy and alternatives**

Olive/vegetable oil used to cook onions and mince: **Oil and spreads**

Task

Plan a menu for a day that applies the principles of The Eatwell Guide and the 8 tips for healthier eating. Make one of the dishes, complete a sensory evaluation and calculate the energy and nutrients provided using nutritional analysis.





Suggested revision tasks

- Identify and highlight which of these command words have caught you out previously (by looking at old mock papers and end of topic tests).
- Write your own exam questions for each of these command words.
- Try to answer these questions in as much detail as you can. You could use black pen for the knowledge you already had and green pen for the answers that you had to look up.
- Predict how many marks these questions may be worth.
- Write mark schemes for these questions.
- Pair up with another member of the class and mark each other's answers.
- Redraft (improve) and remark your answers in different coloured pen.



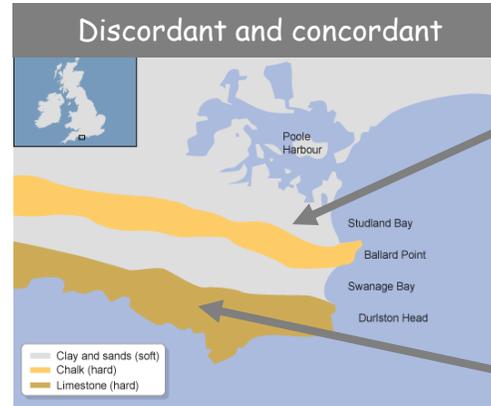
St Joseph's College Geography Department

Autumn Term: The UK's evolving physical landscape



This topic is a detailed study of **coasts**; the variety of coastal landscapes, processes as well as challenges and conflicts over management.

Abrasion	Arch	Attrition	Backwash
Bar	Beach profile	Berm	Cave
Concordant coasts	Constructive waves	Constructive waves	Cove
Destructive waves	Discordant coasts	Dissipate	Estuary
Faults	Fetch	Gradient	Groynes
Hard engineering	Hydraulic action	Igneous Rock	ICZM
Lagoon	Longshore drift	Mass movement	Metamorphic
Prevailing wind	Recurved end	Sedimentary rock	Soft engineering

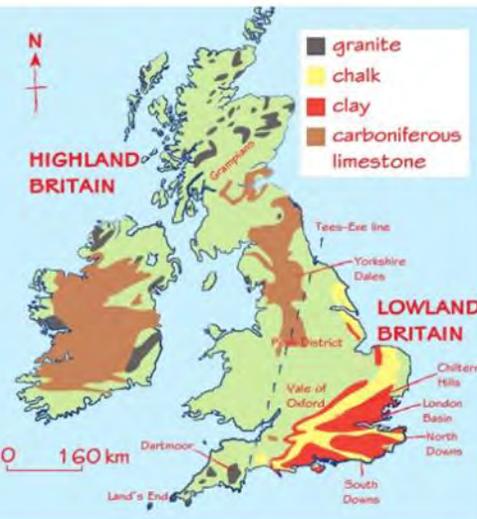


Discordant Coastline: Bands of differing rock strengths (resistant chalk/limestone and less resistant clay/sand) run perpendicular (90°) to the coastline. This forms erosional landforms like **headlands** (resistant) and **bays** (less resistant).

Concordant Coastline: Bands of rock run parallel to the coastline. Along this coastline, limestone (resistant rock) runs along the entire length of the coast, forming erosional landforms like **coves**.

Waves Caused by friction when wind blows across the surface of the sea

Water running up the beach is called **swash** (45°). As the wave loses energy, the water begins to run back down the beach to the sea, and is called the **backwash** (90°).



Uplands and lowlands

Geology and past processes (glaciation and past tectonic activity) have influenced the physical landscape of the UK.

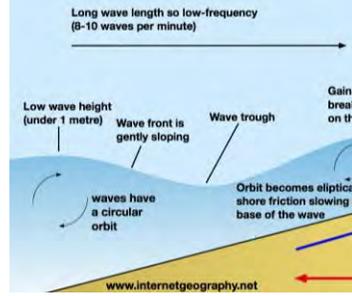
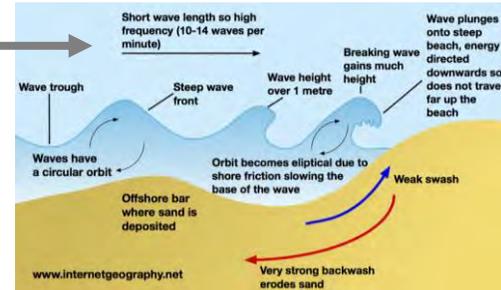
There are 3 groups of rock type:

- Igneous** - made from magma (granite)
- Sedimentary** - compressed sediment (clay, chalk, limestone)
- Metamorphic** - igneous or sedimentary rock changed by heat and pressure

The UK is split into halves geologically:

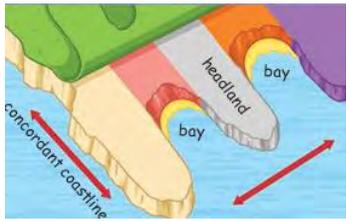
- The north is mainly igneous and metamorphic rocks forming **uplands** of resistant mountains
- The south is mainly sedimentary rocks forming **lowlands** of floodplains

Destructive Waves: Strong winds, powerful waves and cause coastal erosion. They are tall and steep. The **backwash** is stronger than the swash, so material is carried out to sea.



Constructive Waves: Light winds, not powerful and cause deposition, rather than erosion. Stronger **swash**, so material is carried up the beach and deposited.

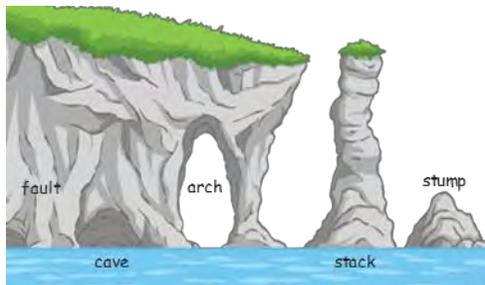
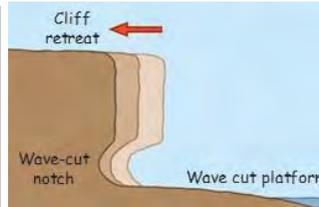
Erosional landforms



Headlands and bays - when a coastline is made up of different types of rock, they are called **discordant** coastlines. The rocks will erode at different speeds. The less resistant rock is eroded faster, forming a **bay**. The more resistant rock is eroded slowly, forming **headlands** at either side of the bay.

Cliffs and wave-cut platforms

Waves, by way of **hydraulic action** and **abrasion**, cause the erosion at the foot of cliffs, creating a **wave-cut notch**. The rocks above will eventually collapse and the cliff will retreat, leaving a wave-cut platform, at the base, in front of the cliff.



Faults in headlands can develop into:
Caves - hydraulic action and abrasion enlarge cracks in headlands
Arches - caves continue to erode until they break through the headland
Stacks - erosion will continue to weaken the rock supporting the arch until it collapses
Stumps - continuing erosion will lead to the collapse of the stack

Coastal management:

Planners find sustainable ways of managing the coastline, using an **Integrated Coastal Zone Management (ICZM)**. This involves **Shoreline Management Plans (SMPs)**, which recommend one of the following:

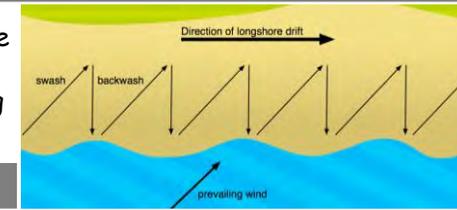
1. No intervention
2. Hold the line
3. Managed realignment
4. Advance the line

Hard and soft engineering - advantages and disadvantages

Sea Wall (hard)	Protects base of cliff and deflects energy	Expensive £2000p/m, unattractive restricts access.	Beach Replenishment (soft)	Natural, attracts tourists, cheap £500 p/m ² .	Sand easily eroded, needs constant replenishment
Groynes (hard)	Prevents longshore drift, traps sand and builds beach	Expensive £2000p/m, causes terminal groyne syndrome.	Slope Stabilisation (soft)	Prevents mass movement, planting veg, cheap £50 p/m ²	Doesn't protect base of the cliff.

Longshore drift

Waves approach the beach at the angle of the **prevailing wind**. Material is moved up the beach (**swash**), returning perpendicular (**backwash**) to the sea.



Depositional landforms



Beaches are formed when eroded material is transported by **longshore drift** and **deposited** by **constructive waves**. Sand beaches are found in bays and have gentle profiles. Pebble beaches are formed where cliffs are eroded by destructive waves and have a steep gradient.



A **bar** is a ridge of sediment that extends across a bay. Behind the bar, fresh or slightly salty water becomes contained to form a lagoon.



A **spit** is a narrow ridge of sand that stretches out from the coastline. It forms due to **longshore drift**. Sediment moves along the coastline and is then **deposited**. This builds up until the spit extends out further. **Salt marshes** begin to form behind the spit. A spit may begin to **curve** due to wind and waves.

How do humans affect the coastline?

Four impacts of human activity affect the already crowded coastline:

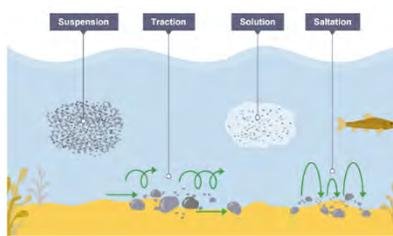
- **Development** - Housing (popular for retirement), business (cheaper property and rental prices compared to the city)
- **Agriculture** - Farms encroach on wildlife habitats at the coast to maximise profits and rising sea levels lead to flooding
- **Industry** - Esso Refinery (Southampton) docks 2000 ships a year
- **Coastal management** - Hard engineering, often built to allow for all these, cause problems like terminal groyne syndrome



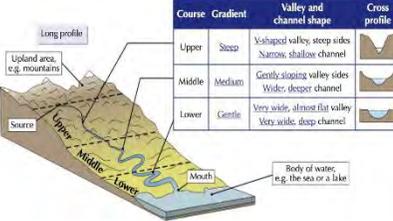
This topic is a detailed study of **rivers**; the variety of river landscapes, processes as well as challenges and conflicts over management.

Abrasion	Alluvium	Antecedent	Attrition
Bankful Discharge	Channel	Cost-benefit Analysis	Cross Profile
Cross section	Delta	Dip Slope	Dredging
Dry Valley	Erosion	Escarpment	Estuary
Evaporation	Eyot	Fault Scarp	Flood Plain
Friction	Glaciated	Gorge	Gradient
Groundwater Flow	Hard Engineering	Helicoidal Flow	Holistic
Hydraulic Action	Hydrograph	Infiltration	Interception Zone
Interlocking Spurs	Levees	Load	Long Profile
Mass Movement	Middle Course	Misfit River	Ox-bow Lake
Permeable	Plunge Pool	Point Bar	River Cliff
Saltation	Scarp & Vale	Scree	Soft Engineering
Thalweg	Traction	Tributary	Velocity

Transportation



Processes of **erosion** in a river are the same as at the coast! The can change the shape of the landscape:



Lateral erosion
This **widens** the river valley (and channel) during the formation of **meanders** (see page 84). It's dominant in the **middle** and **lower** courses.

Vertical erosion
This **deepens** the river valley (and channel), making it **V-shaped**. It's dominant in the **upper** course of the river. High turbulence causes the **rough, angular** particles to be scraped along the river bed, causing intense **downwards** erosion.

Traction - large, heavy pebbles are rolled along the river bed. This is most common near the source of a river, as here the **load** is larger.
Saltation - pebbles are bounced along the river bed, most commonly near the **source**.
Suspension - lighter sediment is suspended (carried) within the water, most commonly near the **mouth** of the river.
Solution - the transport of dissolved chemicals. This varies along the river depending on the presence of soluble rocks.

Interlocking Spurs

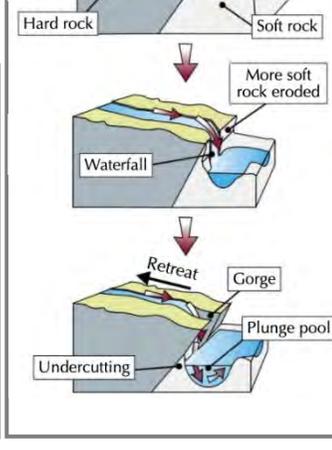
Rivers aren't strong enough to erode laterally in the **upper course**, so they wind around high hillsides, creating **interlocking spurs**

Waterfalls

Waterfalls form when a river flows over an area of hard rock, and then soft rock.

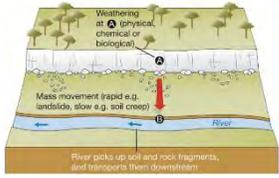
Weathering

Weathering breaks down rocks on the valley sides. **Freeze-thaw weathering** is a type of **physical weathering**. It occurs when rocks are **porous** or **permeable**. **Biological weathering** occurs when plant roots weaken the structure of the rock until it breaks away



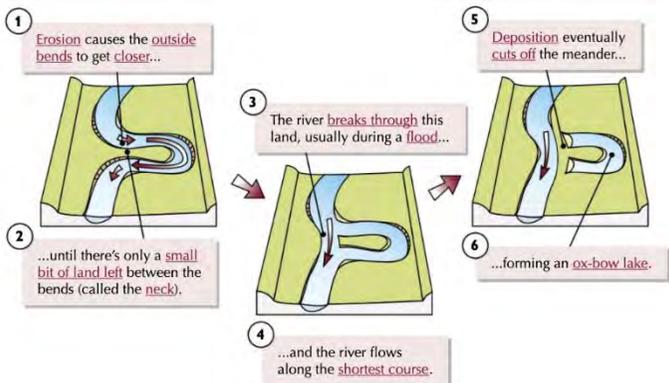
Deposition

Deposition happens when the river loses energy, it drops any of the material it has been carrying.



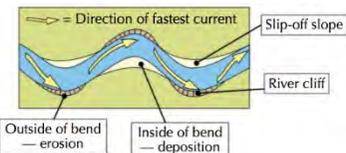
Once the rock is weathered, the fragments move downslope towards the stream - this is **mass movement** and can be **rapid** (landslides) or **slow** (soil creep)

Meanders and Oxbow Lakes



Oxbow lakes happen after continual erosion and deposition narrows the neck of the meander, and often during a flood the river will cut through.

Meanders form in a river's **middle course**. The flow of the current is fastest on the outside of the bend, causing erosion, and creating **river cliffs**, whereas it is slowest on the inside of the bend causing deposition, and forming **slip-off slopes**

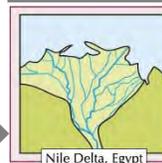


Deltas

Deltas are formed of **deposited sediment**. Rivers are forced to slow down when they meet the sea, causing them to **deposit the suspended load**, which builds up over time.

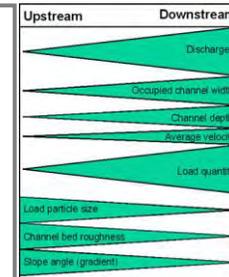
Estuaries

An **estuary** is where the river meets the sea. The river here is tidal; when the sea retreats the volume of the water reduces

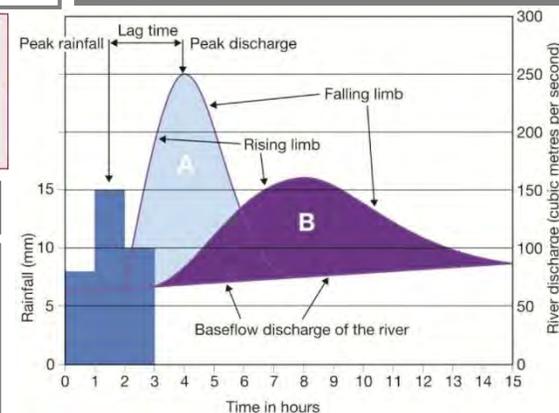


The Bradshaw Model

The **Bradshaw Model** summarises the changes to river characteristics from source to mouth down the **long profile**.



Storm Hydrographs



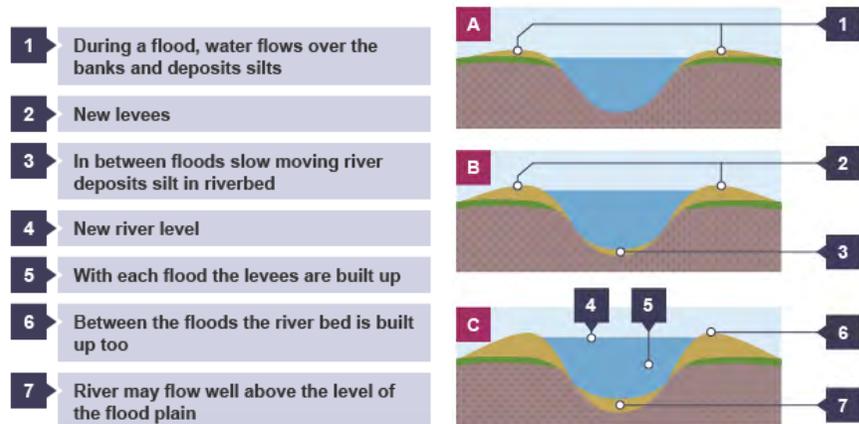
A **storm hydrograph** is a graph that shows how a river changes as a result of rainfall. **A** = a river with a quick, 'flashy' response
B = a river with a slow response

Flood Management

Hard engineering involves building artificial structures. They tend to be more expensive.
Soft engineering does not involve building artificial structures but takes a more sustainable and natural approach to managing the potential for river flooding. Each approach has its advantages and disadvantages.

Flood Plains and Levees

A **flood plain** is the wide valley floor on either side of a river which occasionally gets flooded. It is a very fertile area due to the rich **alluvium** deposited by floodwaters. **Levees** are natural **embankments** that are formed via **deposition** of suspended sediment.



A **tidal estuary** is submerged by the sea twice a day, so **salt marshes** form where plants have to be able to stand both salt and fresh water. These are valuable for wildlife; migrating birds etc.

Causes of Flooding

- **Prolonged rainfall** - if it rains for a long time, the land around a river can become **saturated** leading to **surface run-off**. If the rainfall is heavy, there is less chance of **infiltration**. The faster the water reaches the river, the more likely it will flood.
- **Relief** - a steep valley is more likely to flood because the rainfall will run off into the river more quickly.
- **Geology** - **permeable rocks** allow water to pass through pores and cracks, whereas **impermeable rocks** do not.
- **Vegetation** - trees and plants absorb water, this is known as **interception**. **Deforestation** will increase flood risk.
- **Urbanisation** - when an area surrounding a river is built on, there is an increase in the amount of tarmac and concrete, which are impermeable surfaces. Drains and sewers take water directly to the river which increases flood risk.

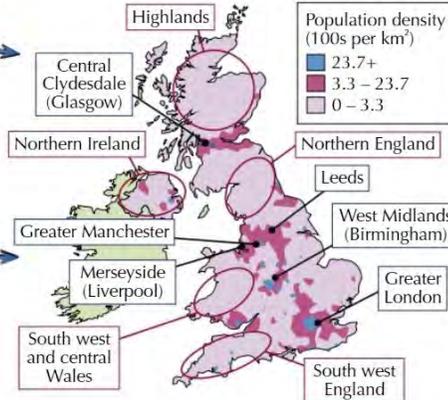


This topic is about how the UK's human landscape - its places and people - has evolved as well as a case study of London.

Population density is highest in urban cores

The population distribution in the UK is very uneven.

- Population density is highest in cities, e.g. London, Glasgow, Birmingham.
- It's also high in areas around major cities, or where major cities have developed into conurbations — towns that have merged to form continuous urban areas, e.g. Merseyside includes Liverpool, Knowsley and St Helens.
- Upland areas such as northern Scotland and central Wales are mostly rural. Rural areas are sparsely populated.
- Other rural areas include the south west and north of England and Northern Ireland.



Population density is a measure of the number of people per unit area, e.g. 300 people per km².

UK & EU Government Policies aim to reduce differences in wealth

There are lots of strategies to reduce the differences in wealth between thriving urban cores (see previous page) and rural areas with high levels of poverty. These happen at a range of scales and may involve county councils, the national government and the European Union (EU).

Creating Enterprise Zones

- The UK government has created 55 Enterprise Zones across England, Scotland and Wales.
- These offer companies a range of benefits for locating in enterprise zones, including: reduced taxes, simpler planning rules, and improved infrastructure (e.g. superfast broadband).
- These measures can be used to encourage companies to locate in areas of high unemployment, bringing jobs and income which could help poorer rural areas to develop.
- For example, the new Dorset Green Enterprise Zone already has two high tech engineering companies and hopes to attract 55 more businesses, creating 2000 new jobs in the region.

Transport Infrastructure

- The UK government plans to link London, Birmingham, Leeds and Manchester with a new high speed rail line, HS2. This will increase capacity and allow faster journeys into major cities — promoting industry and jobs in poorer rural areas in the north of England.
- On a local scale, Lancashire county council has built a new road to link the port of Heysham in Lancashire to the M6. This will encourage businesses to invest by reducing travel times and easing congestion, creating more job opportunities for people in the surrounding rural areas.

Regional Development

- The EU has used the European Regional Development Fund (ERDF) to promote growth in poorer rural areas by investing in small high-tech businesses, providing training to improve local people's skills and funding infrastructure, e.g. high speed broadband to attract businesses. For example, the EU funded superfast broadband in Cornwall. This attracts digital businesses, such as Gravitas, and links regeneration projects and new research and development centres in the region. This is creating skilled jobs in the area, attracting young graduates and boosting the local economy.
- The Common Agricultural Policy (CAP) is an EU initiative to make sure EU farmers can earn a living from farming. It includes training for farmers and assistance for young farmers starting up as well as subsidies for rural diversification projects (see p. 111).
- In 2016 the UK voted to leave the EU, which means future regional development plans are uncertain.

Urban cores have more economic activity

Urban Cores

- Urban core areas have a higher concentration of economic activity — 60% of jobs in cities are found there.
- The main employment opportunities are in the tertiary sector (e.g. retail and finance) and in manufacturing (e.g. electronics and food and drink).
- Lots of people live in cities because there are more jobs available there, which are often better paid.

Rural Areas

- Rural areas usually have fewer job opportunities.
- There is more primary industry — e.g. farming, forestry, fishing and quarrying.
- Some areas also have a seasonal tourism industry, e.g. cafés and hotels in the Lake District National Park in northern England.
- Some rural settlements that are near urban areas have become commuter settlements — people live there and travel into urban areas for work.

See page 49 for more on the types of economic sector.

Some rural areas of the UK have high levels of poverty

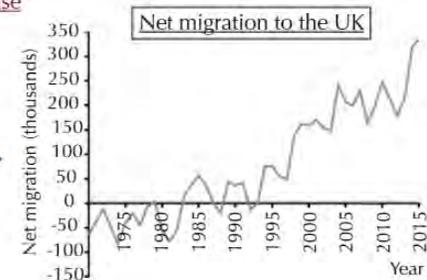
Some rural areas of the UK are struggling to grow economically. These include:

- Isolated rural areas on the periphery (edge) of the UK (e.g. north Wales, north west Scotland), which are relatively inaccessible. There are few employment opportunities because they are difficult to farm and have few natural resources. Young people have to leave to find jobs elsewhere — depopulation leads to loss of services (e.g. shops, doctors' surgeries) because they can no longer be supported.
- Rural areas around the former industrial areas, e.g. north east England and parts of the Midlands, where the loss of manufacturing industry has caused high unemployment and new jobs haven't been created.

Accessible	Affordable housing	Ageing population	Brownfield sites
Business parks	Connectivity	Conurbations	Core regions
Counter-urbanisation	Culture	Decentralisation	De-industrialisation
Depopulation	Deprivation	Diversification	E-commerce
Electrification	Enterprise zones	Environmental quality	Ethnicity
EU grants	Flexible working	Footloose	Foreign direct investment
Free trade	Gentrification	Globalisation	Green belt
Immigration	Index of multiple deprivation	Infrastructure	Knowledge economy
Migration	Multicultural	Multiplier effect	Net immigration
New economy	Northern powerhouse	Old economy	Out-migration
Population density	Primary sector	Privatisation	Quality of life
Quaternary sector	Radial network	Rebranding	Recycling
Regeneration	Regional development grants	Retail park	Re-urbanisation
Rural periphery	Rural-urban fringe	Secondary sector	Studentification
Suburbanisation	Sustainable	Tertiary sector	Trans-national corporation
	Tourism	World city	

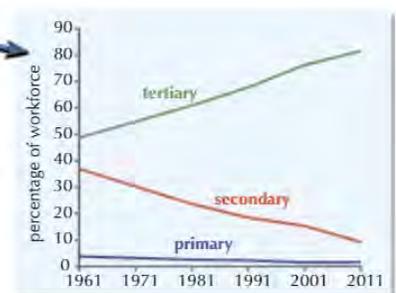
Some rural areas of the UK have high levels of poverty

- 1) Roughly **half** the UK's population **growth** is driven by **natural increase** (more births than deaths), and about half by **migration**.
- 2) Between 1970 and 1982 more people **left the UK** than moved **to** the UK. There has been a constant flow of **British** people leaving the UK since 1970 — mostly to Australia, the USA, France and Spain.
- 3) Overall, since 1983 more people have **moved to** the UK than have **left** and **net migration** has generally been **increasing** — net migration has more than **doubled** in the last **10 years**.
- 4) National and international migration affect the **distribution** and **age structure** of the population:



Primary and secondary industries have declined

- 1) Since 1960 jobs in **primary** industries have **decreased**. Farming has become more **mechanised** so fewer people are needed. The **mining** industry also declined due to **competition** from abroad and **cheaper alternative fuels**.
- 2) Jobs in **secondary** industries have also **decreased** — people employed in **manufacturing** fell from **36%** of the workforce in 1961 to just **9%** in 2011. This was partly a result of **global shift** (see p.50).
- 3) Employment in the **service** sector (e.g. retail, banking, healthcare and education) has **increased**. **Retail** is the UK's **largest** sector employing **2.9 million people** — people have more **disposable** income to spend. **Finance** is also an important part of the **economy** — the **City of London** is home to many **global financial institutions**.
- 4) **Quaternary** industries, e.g. **IT** and **research and development (R&D)** are **increasing**, making use of the UK's skilled university graduates. In 2013, nearly **£30 billion** was spent on **R&D** in the UK.



The UK economy is increasingly affected by TNCs

- On the plus side...**
- 1) **Jobs** are **created**, e.g. the US firm Grand Heritage Hotel Group is investing in a new resort in Derbyshire creating **1000 jobs**.
 - 2) **Large scale projects** can be built that the UK government **can't afford** to pay for, e.g. **£15 billion** has been invested in **UK infrastructure**, such as offshore wind turbines, sub-sea power cables etc.
 - 3) TNCs often lead the way in developing **new products, technology** and **business practices** which can be used by other firms to **increase productivity**.

- But there are also downsides...**
- 1) It can lead to **over-reliance** on TNCs — if there's a problem elsewhere in the world, the **UK's economy** is **affected**, e.g. the world **economic recession** led to **redundancies** at the Nissan factory in Sunderland in 2009.
 - 2) There are **big effects** if TNCs choose to **relocate** or **change suppliers**, e.g. many UK farmers are dependent on just **one** or **two** large TNCs who **buy** their **produce**.
 - 3) Local businesses **struggle to compete** against TNCs, e.g. in some towns the **arrival** of the coffee chain **Starbucks** has forced **independent** coffee shops to **close down**.



How and why have drainage basin and channel characteristics influenced flood risk for people and property along Ashbrook Stream, a tributary of the River Severn?

Stage 1 - Ask questions:

Location - Carding Mill Valley (CMV)

Suitability - CMV is a stereotypical upper course of a river, easy to access via coach, National trust keeps well maintained paths to make multiple sections of the river easily accessible by foot

Risk assessment



Falling into the water
Despite only being quite shallow there is still a risk of drowning if students fell in the river.



Students were to wear appropriate footwear to avoid the original fall, and to enter at safe points. Working groups meant if anyone fell help could be called for.

Uneven paths
Due to the walking required to access the river being on some uneven paths there is the potential for falling and twisting ankles etc.



The national trust maintain pathways well and when walking students had appropriate footwear on. Students walked in large groups to ensure people were on hand to assist through more uneven sections.

Weather
Wet weather is dangerous due to slippery pathways etc. Hot weather also poses the risk of dehydration.



Students advised to bring plenty of water and sun cream if the weather forecast is hot. If the weather forecast is wet, students are advised to bring appropriate clothing and footwear.

Primary data collection method 2: Sediment shape & size



Sampling method: Stratified (Left, centre, right of the channel)

Sample size: 3 pieces of sediment at each of the 4 sites.

Description: Sediment collected off the river bed was measured along the A axis (length), B axis (width) and C axis (height) as well as being categorised along the Power's index of roundness (Very angular to very rounded).

Strengths
Multiple samples collected and able to be placed on a scale.

Weaknesses
Samples collected may have been anomalies for the river and selecting category is subjective.

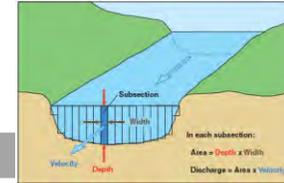
Stage 2 - Collect data:

Primary and secondary

Sampling strategies - random, stratified and systematic

Quantitative and qualitative

Primary data collection method 1: River Discharge



Sampling method: Stream order

Sample size: 4 sites across 2 stream orders

Description:

- 1) River channel width - tape measure, across the surface, touching both banks.
- 2) River channel depth - ruler to the river bed turned so that it was narrow facing up and down the river.
- 3) Wetted perimeter - chain across the bottom of the river channel puller out then measured against a tape measure.
- 4) Velocity - 10 steps ("meters") apart, dog biscuit dropped, time taken to float measured on phones, this is done three times before the mean average is calculated.

Strengths

- 1)Tape measure meant it was accurate.
- 2)Ruler means it was clear.
- 3)Chain stayed on the bottom and would mold round uneven surfaces
- 4)Dog biscuits biodegradable and time kept using stopwatch on phone.

Weaknesses

- 1) Human error - may not touch the bank due to an overhang.
- 2) Ruler may be placed on a rock giving false height
- 3)Chain may not be placed straight across the river channel
- 4)Dog biscuits may get stuck behind an object and they're different sizes/shapes.

Primary data collection method 3: photographs



Sampling method: Random/opportunistic

Sample size: Numerous but mainly the 4 sites.

Description: Photographs taken of the sites and along the river channel. These are then annotated and described looking at valley gradient, shape etc.

Strengths

Easy to take on mobile phones
Accurate representation of the river unlike field sketches
Requires a limited skill set.
Able to visually describe the slope angle/ valley gradient.

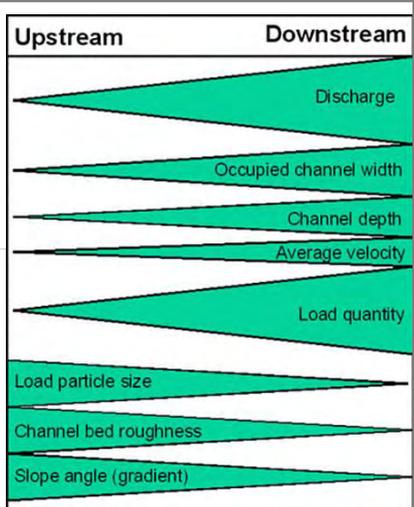
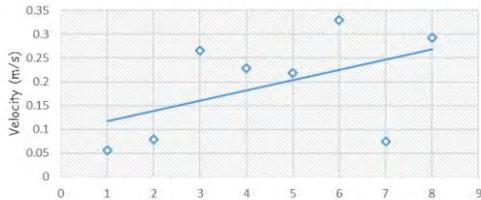
Weaknesses

Pictures could be blurry
Pictures are only a snapshot of a specific section of the landscape meaning important aspects may be missed.
When analysing, it requires a skill to pick out features that people may miss and could be subjective.
You cannot accurately measure the slope angle

Stage 3 - Process and present data:

To investigate the characteristics of Ashbrook Stream, in CMV, and find out how it relates to the Bradshaw Model. This would mean that in a downstream direction properties such as channel width, velocity and discharge would increase; whereas, sediment size would decrease.

A Scatter Graph to show River Velocity at Carding Mill Valley



Stage 4 - Analyse and explain data:

You need to describe and explain what your data shows.

Results and analysis

1. River discharge	Statistical analysis using Spearman's rank gave a result of 0.88. This means that there is a positive correlation/ relationship between the distance from the source of the river and the discharge seen. The scatter graphs also supported this and shows that from source 4 to source 1 the discharge increased in line with Bradshaw model.
2. Sediment size and shape	Sediment size became smaller and more rounded the further down the river you got. There were some anomalies to this but the general trend matched the Bradshaw model.
3. Photographs	Photographs showed that the closer you were to the source of the river, near source 4, the valley sides were steeper and V shaped. Towards the lower sites (1& 2) the valley sides had become wider meaning that they showed that the Bradshaw model could be applied along Ashbrook Stream positively.

$$r_s = 1 - \frac{6 \sum d^2}{n(n^2 - 1)}$$

Accurate

Accurate results are as near as possible to the true answer — they have few errors.

Reliable

Reliable means that data can be reproduced.

Valid

Valid means that the data answers the original question and is reliable.

Data presentation technique: Scatter graph river velocity at CMV

Strengths	Easy to compare to sets of data, relatively low skillset required to create, shows relationship between data and anomalies easily.
Weaknesses	Limited set of data means data can be skewed by outliers, can not show relationship of more than two data sets.
Alternative presentation techniques	Geographical information systems (GIS - mapping on computers) could have been used to show how the data changed down the river on top of satellite images and with elevation being visible. This would show the data geospatially.

Stage 5 - Draw conclusions:



Ashbrook Stream does fit the Bradshaw model with all river characteristics analysed fitting the model outlined. River discharge increased in downstream direction whilst sediment was small and rounder, despite some anomalies. The photographs also supported the theory with the gradient seemingly becoming more gentle the further down the course of the river you went.

Stage 6 - Evaluate the process- accuracy and reliability of results

Data set	Positives - 4 evenly distributed sites with data for all aspects collecting meaning we could analyse trends across them. Negatives - Conducted on one day when the weather may skew the data compared to other days. Improvements - Multiple days plus extra sites to ensure accuracy
River discharge results	Positives - Same criteria used at all sights to measure, tapes and chains provided accuracy. Negatives - dog biscuits of different sizes/shapes and 10 steps not accurate distances. Improvements - extra long tape measure used to measure distance that the biscuit had to float and biscuits of the same size/shape to promote uniform nature of results.
Photographs	Positives - easy to collect and many can be taken. Negatives - hard to measure slope and angle which is subjective and unscientific. Improvements - Use ranging poles and clinometers to measure angle at a set distance.



St Joseph's College History Department

Autumn Term 1 Y10 KS4: Crime and Punishment Medieval Period 1000-1500



A thematic study looking at how people what crimes people committed, how they were punished and how they were policed in the Middle Ages

Keywords:

Benefit of Clergy: The right of churchmen to be put on trial in special church courts, which gave lighter sentences.

Forest Law: A law introduced by William I, which protected the royal forest and forbade others to use the land for hunting or chopping down trees.

Hue and Cry: A loud cry to alert people to a crime and call on them to search for or follow the criminal.

Murdrum Fine: A fine introduced by William I to protect Norman lives. If a Norman was killed and the killer was not caught, the people of the local area had to pay a fine.

Sanctuary: A place of safety offered by the Church to criminals or those accused or at risk. People could claim sanctuary, which meant they could not be removed from the church.

Tithing: A group of men from the same community who policed each other's behaviour.

Key knowledge:

In this module, you will learn about crime and punishment in the medieval era. Specific attention will be paid to the following:

- Crimes against the person, property and authority, including poaching as an example of 'social' crime.
- Changing definitions of crime as a result of the Norman Conquest, including William I's Forest Laws.
- The role of the authorities and local communities in law enforcement in Anglo-Saxon, Norman and later medieval England, including tithings, the hue and cry, and the parish constable.
- The emphasis on deterrence and retribution, the use of fines, corporal and capital punishment. The use and end of the Saxon Wergild.
- **CASE STUDY:** The influence of the Church on crime and punishment in the early thirteenth century: the significance of Sanctuary and Benefit of Clergy; the use of trial by ordeal and reasons for its ending.

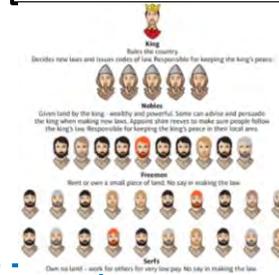
The Normans, led by William the Conqueror, took over England after winning the Battle of Hastings in 1066.

They introduced new laws, such as Forest Law which made it illegal to hunt (poach) in areas that were now described as 'Royal Forest'. These areas covered a large part of England and the new law was incredibly unpopular as it limited peasants to fishing, hunting and gathering wood from common land. Anyone found guilty of poaching could be punished extremely harshly, such as having their eyes gouged out.

The Murdrum Fine was introduced, which placed heavy penalties on a community if a Norman was murdered there or by one of the inhabitants.

Key Individuals:

- William duke of Normandy
- Thomas Becket
- Henry II
- Edward I
- Richard 1



I can explain :

The nature and changing definitions of criminal activity in the medieval period;

The ways in which the law was enforced and crimes punished between 1000-1500, and how this changed over time; and

The significance of the role of the Church in law enforcement

The nature of society

The majority of people were peasants who lived in small rural communities. This influenced both the nature of crime and how it was dealt with.

The monarchy

The institution of the monarchy grew in strength during this period and the king sought to increase his control over law and order.

The Church

The Church was a very powerful and influential institution. As such, they influenced the system of justice to a great extent.



By 1300, the influence of kings on the system of law and order increased. For example, the king's officials played an important role. These new officials were the parish constable, the sheriff and the coroner.

The hue and cry would be directed by the parish constable, a role created by Edward I in 1285. This was a man in the parish (a local area centred around a church) who volunteered to do the job and who had the confidence of his neighbours. The role was unpaid but carried respect. Another responsibility of the parish constable was to report all unnatural deaths to the coroner, which was a requirement after 1190. If a person had been murdered, the coroner had to inform another official, the sheriff, of the county.

Key dates:

- 1066
- 1215
- 1170
- 1361
- 1194



Different types of crime

Crimes against the person: These included assault and murder.

Crimes against authority
The most serious crime against authority was treason.

Crimes against property
These included burglary and arson

The sheriff would take over the responsibility for catching a criminal who had committed a serious crime if they had not been found by the hue and cry. The sheriff would organise a posse of men who would be summoned from the local area to find the criminal. If caught, the murderer would be held in prison before being brought by his tithing to be put on trial.

For the most serious crimes, these trials would take place in front of royal judges, appointed by the king and sitting in the royal court. There would be scribes in these courts whose job it was to write down the proceedings. There would also be a jury whose job it was to reach a verdict of innocence or guilt. They would be from the local area and would listen to evidence from any eyewitnesses and people who could give information about the character of the accused.



The Tithing

This was a group of men over the age of twelve. They each took responsibility for the actions of the other members. If one of them broke the law, the other group members would have to make him come to court or pay a fine.

Both the hue and cry and the tithing show how law enforcement was conducted in the local community, in an age long before a proper police force existed.

Illustration of villagers chasing a thief after the hue and cry has been raised.



Trial by Ordeal was abolished by the Pope in 1215. The end of this system led to greater use of judges and juries, as other and more reliable ways to establish guilt or innocence were needed. This was the beginning of the legal system we would recognize today, with courts listening to evidence and reaching a verdict.

The Hue and Cry

A victim of or a witness to a crime would raise the **hue and cry** by shouting. Everyone in the village was expected to help and join the search to catch the criminal. If a person did not join, the whole village would be liable for a fine.



Kinds of punishments

The Wergild

This was compensation paid to the victims of crime or to their families. The laws of the king set the levels of payment to be made. You would have to pay 300 shillings for killing a nobleman and 100 for killing a freeman. You paid less for the death of a Welshman than you did an Englishman. Physical injury was also settled through the wergild. The loss of an eye cost 50 shillings, while a broken arm cost 6.



Medieval capital punishment: criminals shown being hanged for their crimes.

Corporal punishment

Many punishments involved some kind of physical injury, ranging from time spent in the stocks or pillory, to beatings and mutilation.

Capital punishment

Persistent offenders or those found guilty of very serious crimes would be sentenced to death.

Juries were made up of men from the local area who knew both the victim and the accused.

The accused would swear an oath, known as **compurgation**, to say they were innocent. Over time, it became common for the accused to bring 11 people with him who would also swear the oath and vouch for the accused's innocence. It is thought that this is where the modern system of 12 people sitting on a jury comes from.

The verdict was, therefore, very dependent on people's knowledge of and opinions towards the victim and the accused. Witnesses to the crime might also be allowed to give evidence.

The purposes of punishments in medieval times

Deterrence
Punishments were intended to **deter** (put off) others from committing crime.

Retribution
Punishments were designed to allow the victim or members of a community to get **revenge** on the guilty person.

Compensation
Punishments such as wergild allowed the victims of a crime to be **compensated**.

Kinds of crime in Medieval England

Arson

This was a serious crime as most buildings were made of wood and thatch.

Poaching

Punishment included castration, eye gouging and attacked by dogs.

Petty theft

The most common form of crime. Punished through public humiliation or mutilation.

Treason

Disloyalty to the crown resulted in being hung, drawn and quartered.

Attacking Royal Officials

As seen in the Peasants' Revolt in 1381, leaders were executed.

Murder

Men were executed, while women were strangled then burned.

Protest

Usually directed at the king's officials, the punishment was death.

Stealing Crops

Growing food was a big task, so stealing someone's crops was punishable with mutilation or having a hand cut off.

Rebellion

The poorest affected by taxation or injustice rebelled. It was difficult to punish and leaders were usually executed.



St Joseph's College History Department

Autumn Term 2 Y10 KS4: Crime and Punishment Early Modern period 1500-1750

A thematic study looking at how people what crimes people committed, how they were punished and how they were policed in the Early Modern period



Keywords:

The Bloody Code

Term referring to the large number of crimes that could be punished by death.

Nobility and gentry

Wealthy landowners who were the main political force in the land by 1700.

Heresy

Going against the established state religion.

Transportation

A new punishment in early modern England which involved sending criminals to work in newly established English colonies, such as North America.

Treason

The crime of betraying one's country or going against the crown.

Vagabondage

Being in the state of a vagabond; a homeless and unemployed person travelling from town to town looking for work

Key knowledge:

Early Modern England was a time of great change. Religious upheaval led to a decline in the power of the Church and also to new beliefs about crimes linked to magic and superstition. As the monarchy became more powerful, new crimes against it were defined, and the system of justice was centralised.

Religious Change: Henry VIII created the Church of England and broke with the Pope in Rome. During the rest of the sixteenth century, England switched from Protestant to Catholic and back again. Authority was challenged and the superstitious beliefs of the Catholics were criticised, especially by Puritans.

Political Change: Royal authority was high during the reigns of Henry VIII and Elizabeth I but between 1642 and 1649, parliamentary forces defeated the army of King Charles I who was then executed and the monarchy was abolished. This created a feeling of instability and insecurity.

1500-1700 also saw major changes in society and the way people lived. The population increased, leading to competition for work and resources. As towns grew, local communities began to break down. A rich, politically powerful landowning class emerged towards the end of the 17th century, with their own views about crime and punishment.

Social Change: There was a steady increase in the population. For some people this made it harder to find work. Many people remained very poor and so were affected by bad harvests, which caused a rise in food prices. There was also a decline in trade during this period, which caused unemployment.

Landowners were becoming richer and more influential during this period. They wanted to defend their rights, power and property and felt threatened by the poor who they wanted to keep in their place.

Key Individuals:

Henry VIII
Edward VI
Mary I
Elizabeth I
James I
Mathew Hopkins

Key dates:

1710
1542
1605
1608
1642-49

The Early Modern period saw a good deal of change in crime and punishment but many old customs, habits and practices remained.

Continuity

- The Hue and Cry continued, particularly in rural areas.
- The Royal Courts were still very important, and royal judges would travel around the country to pass verdict on the most serious crimes. These courts were known as the **assizes**.
- The Parish Constable still had a major role in law and order in the local community.

Change

- Benefit of the Clergy was abolished and so churchmen were now put on trial in the secular courts.
- Justices of the Peace became very important and powerful. These were local landowners who, amongst other responsibilities, presided over trials in manor courts, meeting other JoPs four times a year in Quarter Sessions.

Watchmen

Aiming to prevent people freely wandering about the town at night, curfews had long been established in the major towns of England to give people a sense of security and safety during the hours of darkness. By the Early Modern period, towns had grown significantly in both size and number. Therefore, the number of town watchmen, a role which first appeared in the 13th century, increased.



The religious changes brought about by the Reformation had led to practices and ideas that had previously been acceptable becoming viewed with suspicion. This led to an increase in accusations of witchcraft.

By the 1640s, the English Civil War had begun. In the upheaval of this time, the system of law and order began to fall apart. Assize judges were unable to visit other parts of the country and so people in local areas began to take the law into their own hands.

A man called Matthew Hopkins took advantage of this situation. In East Anglia, he began to accuse women of witchcraft and gather evidence against them. The women would be imprisoned and physically and psychologically tortured until they confessed. Hopkins would look for the 'Devil's Mark' (birthmarks or moles) on their bodies and would accuse them of having familiars (animals such as cats or dogs that were thought to be the devil's servants).

I can understand:

Continuity and change in the nature of crimes, including heresy and treason.

New definitions of crime in the sixteenth century: vagabondage and witchcraft.

The role of the authorities and local communities in law enforcement, including town watchmen.

The continued use of corporal and capital punishment; the introduction of transportation and the start of the Bloody Code.

CASE STUDY: The Gunpowder Plotters, 1605: their crimes and punishment.

Matthew Hopkins and the witch-hunts of 1645-47 - the reasons for their intensity; the punishment of those convicted.



Corporal punishment continued to play a major role in justice in Early Modern England. Those found guilty of a crime, sometimes quite a minor one, could be whipped, branded or mutilated. Capital punishment was also frequently used in an attempt to deter others from committing crimes and for retribution against a criminal. Heresy, treason, and murder were all punishable by death. Repeat offenders of more minor crimes could also be executed.

When James I became king in 1603, many Catholics in England were hopeful that they would be allowed to worship more freely. However, many of James' advisors were anti-Catholic and this led to anti-Catholic laws being passed. Some Catholics resisted this change.

A group of Catholics, led by Robert Catesby, plotted to kill James at the opening of Parliament by blowing the building up. The attempt was due to take place on 5 November 1605. They planned to install his daughter on the throne, with Catholics advising her.

The plotters rented a cellar underneath the Houses of Parliament. They installed barrels of gunpowder in the cellar. The job of lighting the fuse was given to one of the plotters, Guy Fawkes.



The cellar beneath Parliament as it was in 1605

The plan was discovered when a letter was sent to a Catholic member of Parliament, Lord Monteagle. Troops raided the cellar and arrested Fawkes.



Guy Fawkes shown being interrogated by James I and his advisors

Fawkes was tortured and confessed to the crime, giving the authorities details of the plot and the other people involved. Several of the others, including Catesby, were killed in a gun battle. The rest were put on trial.

The surviving plotters were found guilty of treason and sentenced to death. The punishment for treason was to be hung, drawn, and quartered. This was a gruesome punishment, reflects how seriously 'crimes against authority' were taken.



Heresy and treason

As people began to question the Catholic Church in the late Middle Ages, the crime of **heresy** (going against the teachings of the official church) emerged. Following the English Reformation in the 16th century, the official religion was very closely connected to the power of the monarch and so heresy was taken extremely seriously. Heretics could be punished in a variety of ways. During the reign of the Catholic Queen Mary I (1553-58), Protestant heretics were burnt at the stake.

The increasing power of the monarch in the early modern period also meant that people were more likely to be accused of **treason** (disloyalty to the crown). The Treason Act of 1351 had set out a range of offences that could be classed as treason; these were extended during the 16th century. The penalty for treason was to be hanged, drawn and quartered.

In the sixteenth century, an increasing number of people lost their jobs and became homeless. To try and find work or some other kind of income, many of these people moved around the country. They became known as vagabonds.

Idleness was seen as a crime or a sin and so the vagabonds, or vagrants, were very unpopular and viewed with dismay and suspicion by many. Laws were passed to try and deter vagabonds.

1530: The Vagabonds Act decreed that strong vagabonds should be whipped and returned to the place of their birth. Repeat offenders could be mutilated or even executed.

1572: This act also said that if a vagabond was caught, they could be whipped and have a hole burnt through their ear. As with the previous acts, people who continued to offend faced the death penalty.



A 1536 woodcut showing a vagabond being whipped through the streets.

1547: A further Vagabonds Act declared that people caught begging, or those who refused to work, could be forced to become a slave. They could be branded and chained. If a slave ran away three times they could be sentenced to death.

1583: This law allowed people who were found to be committing acts of vagrancy or vagabondage to be forcibly sent overseas (transportation) as part of early attempts to establish a colony in North America.

James's predecessors had passed laws against witchcraft. The first of these was passed by Henry VIII in 1542. Henry's establishment of the Church of England meant a move away from Catholic beliefs. Magic and superstition were thought to be part of the Catholic faith and so began to be looked upon with more suspicion than they previously had been. This meant that people, particularly women, who were seen as 'wise women' who concocted medicines and herbal remedies, might well find themselves accused of witchcraft.

In 1603, James VI of Scotland became King of England. He had a deep interest in the occult and, before his arrival in England, had written a book called *Demonology*. This book dealt with the topic of witchcraft and is one factor in the increasing amount of witchcraft accusations and trials in the 17th century.





Crimes

Smuggling was a big problem in coastal areas in the 18th century. Items such as tea, rum and tobacco were illegally imported into the country. The smugglers found it easy to sell these because they didn't have to pay import taxes and so could sell them at a lower price to their customers. Smuggling was taken very seriously by the government because it meant that they missed out on valuable income from taxation. It was estimated that there were 20,000 active smugglers by the middle of the 18th century. The smugglers often formed themselves into large gangs, such as the Hawkhurst Gang. The lack of customs officers to patrol the coastal regions meant that it was very hard to prevent smuggling.

Poaching also became a problem for the authorities at this time. Poaching had been a fact of life in England for centuries, despite harsh laws against it. In the 18th century, however, the nature of poaching changed as large gangs began to illegally take animals from estates. This led to violence from both the poachers and the gamekeepers whose job it was to protect the land. Poaching could result in a death sentence.

Horses became cheaper to buy, meaning that robbers could use them to get close to stagecoaches and then escape quickly.

For much of the 18th century, there were many lonely and quiet areas outside of towns with rough roads where coaches had to slow down.

The increase in highway robbery

Pistols became more readily available, allowing highwaymen access to weaponry they could use in their attacks on coaches.

There was no police force and local constables would not follow criminals across county boundaries.

Many highwaymen were unemployed former soldiers who had returned to England after fighting in foreign wars and were looking for a way to make money.

Policing



The work of the Bow Street Runners made it clear that there was a need for the government to take a more active role in law enforcement. In 1829, the Metropolitan Police Force was set up. This was Britain's first official police force and was established to police London.

In 1835, a new law allowed all local areas to set up their own police forces.

In 1842, a detective branch of the Metropolitan Police Force was set up.

By 1856, it was compulsory for all parts of the country to have a police force.

In 1878, the Detective Branch of the Met became known as the Criminal Intelligence Division (CID).

By the nineteenth century, attacks by highwaymen were becoming much more infrequent.

The number of banks increased and more people deposited cash, gold and jewellery in banks rather than carrying it around with them.

The roads became much busier as surfaces improved. Open land began to be built upon as London and other towns increased in size, and more and more fields were enclosed making it harder to freely ride across the countryside.



Justices of the Peace stopped giving licences to taverns where highwaymen were known to be customers. This made it more difficult for the robbers to sell stolen goods.

Mounted patrols were set up around London and high rewards were offered to encourage informers to give information on highwaymen.

Highway robbery began during the chaotic years of the Civil War during the 17th century. It increased in the 18th and 19th centuries as road travel became more common. Highwaymen would target travellers in wooded and dark areas, particularly near London. They would be armed, probably with a pistol, and they would hold up stagecoaches, which carried rich people and their possessions. Until the roads became safer, travellers lived in fear of highwaymen targeting them on the lonely, quiet tracks on which coaches travelled. Highwaymen would demand money with catch-phrases such as 'Stand and deliver!' and 'Your money or your life!'

Changing ideas in crime: As Britain industrialised and became a more scientific and technological nation, ideas and beliefs about issues such as witchcraft and heresy changed, while new concerns also emerged, leading to new crimes emerging.

Crimes which had their basis in religious differences and ideas based on superstition declined as religious tensions declined and scientific knowledge improved.

- The last execution for heresy took place in 1612.
- The laws against witchcraft were repealed in 1736.

Rapid industrialisation in Britain between 1700 and 1900 led to changes in working patterns, and fears that machinery would take away people's jobs increased. Working-class people also began to think about their common interests. These developments led workers into conflict with their employers, leading to new crimes being defined.



To examine why policing white chapel was so difficult



<p>The Beat</p> <p>The route taken by a police officer patrolling the local area.</p>	<p>Doss House</p> <p>A place where rooms or beds could be rented for a low amount.</p>	<p>Forensics</p> <p>Scientific techniques and tests used in crime investigation.</p>
<p>Rookeries</p> <p>Streets of slum housing in areas such as Whitechapel.</p>	<p>Whitechapel Vigilance Committee</p> <p>An organisation set up by members of the public in Whitechapel to try and catch Jack the Ripper.</p>	<p>Workhouse</p> <p>A government-run institution where the poor were given food and a roof over their head in return for working.</p>

The difficulties of policing Whitechapel

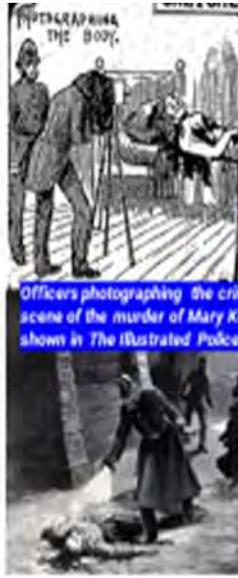
- Socialist and anarchist beliefs often led to strikes and protests which could result in violence and riots.
- Many people in Whitechapel, including immigrants and gang members, viewed the police with suspicion.
- Racial tension was a feature of Whitechapel and could result in crimes being committed.
- Whitechapel had a maze of narrow streets, which made it easy for criminals to escape.
- Living in desperate poverty, many people turned to alcohol. This made them either more likely to commit crime or become a victim of crime.
- Due to high levels of poverty in Whitechapel, many women turned to prostitution to earn some money to pay for their lodging. Other women might have become prostitutes due to alcoholism. Women were more vulnerable because of prostitution and sexual crimes associated with prostitution.

Jack the Ripper is the name given to a serial killer who struck at least five times in Whitechapel in 1888. All of his victims were women who were brutally murdered and four of whom were horrifically mutilated. It is possible that there were more victims of this killer; it is generally accepted that five women were undoubtedly killed by the same person and they are known as the 'canonical five'. The five 'canonical' victims of Jack the Ripper are:

- Mary Ann Nichols - killed 31 August
- Annie Chapman - killed 8 September
- Elizabeth Stride - killed 30 September
- Catherine Eddowes - killed 30 September
- Mary Kelly - killed 9 November



From 1881 onwards, the Met used the Police Code, which gave constables instructions on what they should do if they discovered a crime scene while walking their 'beat'. The key points were to keep the area clear of spectators so that evidence did not get disturbed. The inspectors' role on arrival was to make a careful note of the scene. If there was no obvious suspect, investigative policing then began.





A thematic study looking at the change and continuity in crime and punishment in the 20th century

Key knowledge:

The twentieth century has been a period of rapid change in Britain and the rest of the world. One of the changes has been the emergence of new crimes, which are related to wider changes in society, politics and technology. These include:

Crimes against the person - new crimes include hate crimes.

Crimes against property - new crimes include fraud and car theft.

Crimes against authority - acts of terrorism (can also be viewed as crimes against the person).

In the 18th century, smuggling was of legal items and was done to avoid having to pay import taxes on those items.

This continued to a certain extent in the 20th century, with legal items such as cigarettes illegally smuggled into the country to avoid duty payments.

There are also differences in smuggling between the two eras. In the twentieth century, illegal drugs have been smuggled in huge amounts. The way these items are smuggled in is also different to how goods were smuggled in the past. Today, smuggling of items such as drugs tends to happen with air travel.

Another area of smuggling in the 20th century is people smuggling or human trafficking. People are often smuggled into Britain via motor vehicles or on boats.

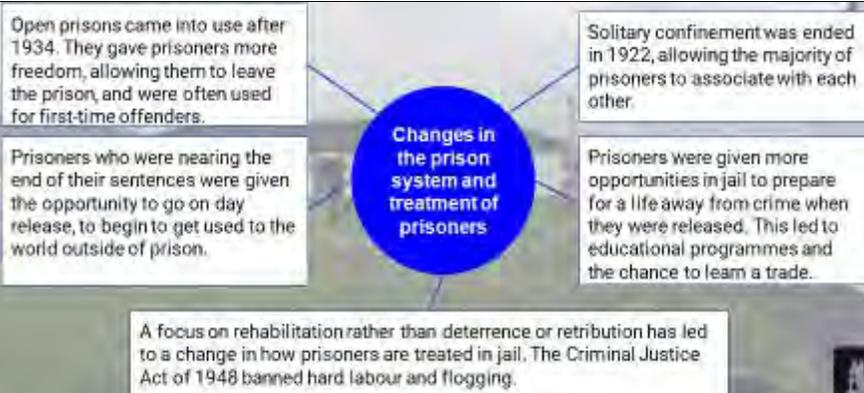
I can examine:

Continuity and change in the composition, recruitment and training of the armed forces.

Changing weaponry and its impact on warfare.

The impact of war on civilians.

CASE STUDY: The Western Front during the First World War and the Battle of the Somme, 1916: the nature of trench warfare and war of attrition; reasons for the outcome of the Somme; role of General Haig. The Iraq War 2003: reasons for its outcome; use of high-tech weaponry and surveillance techniques.



Arguments in favour of capital punishment

It served as a powerful deterrent to possible criminals and serious crime, including murder, which some feared would increase if the death penalty was abolished.

Imprisoning a person for life was a huge financial burden on the state.

It was possible that someone found guilty of murder would be released and would go on to kill again. Executing murderers would, therefore, protect society.

Taking an innocent life was such a terrible act that only executing the guilty person was a fair punishment, allowing the life of the victim to be avenged and bringing closure to the victim's loved ones.

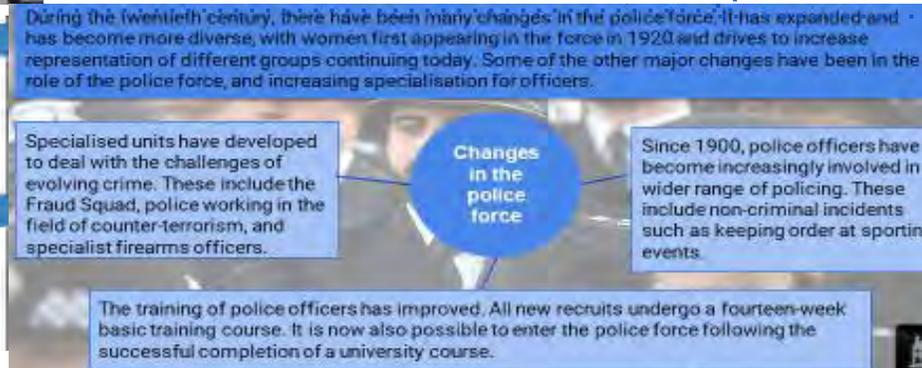
Arguments against capital punishment

Innocent people might be found guilty of murder and there would be no future opportunity to make amends for these mistakes if the person was executed.

There had been no increase in the murder rate in countries that had already abolished the death penalty.

There was no proof that the death penalty deterred people from committing murder. The death penalty went against the idea of the sanctity of all human life and meant there was no chance of rehabilitation for the criminal.

Borstals A prison for young offenders.	Conscientious Objectors People who are morally opposed to war or fighting in a war.	Hate Crime A crime that is motivated by prejudice on the basis of race, religion or sexuality, for example.
Neighbourhood Watch A scheme which encourages ordinary people to be on the lookout for crime and to report anything	Terrorism The use of violent means, usually involving attacks on civilians, to generate terror and achieve political or ideological aims.	Tribunals A court which heard testimony from conscientious objectors in the First and Second World Wars.





St Joseph's College History Department

Summer Term 5 Y10 KS4: Challenges to Elizabeth's Throne

The problems Elizabeth the first faced when she came to the throne.



Keywords:

Nobility: Belonging to the aristocracy – the highest class in Elizabethan society.

Divine right: Belief that the monarch's right to rule came from God.

Crown (with a capital C): Refers to the monarch and their government

Legitimacy: Being born whilst the reigning King and Queen were married.

Succession: The issue of who was going to succeed the throne after the existing monarch died.

Reformation: Movement across Europe that challenged the teachings of the Catholic Church.

Recusant: Catholics who were unwilling to attend church services laid down by the Elizabethan religious settlement.

Clergy: Religious leaders such as bishops and priests

Papacy: The system of Church government ruled by the pope.

Heretics: People who deny the teachings of the established religion.

Martyr: Someone who is killed for his or her beliefs, especially religious beliefs.

Excommunicated: A severe punishment, imposed by the pope expelling people from the Catholic Church.

Conspiracy: A secret plan with the aim of doing something against the law.

Papal Bull: A written order issued by the Pope.

Legitimacy, gender and marriage

Many doubted Elizabeth's legitimacy as her father, Henry VIII had divorced his first wife to marry Elizabeth's mother, Anne Boleyn.

The majority of people thought that women were **not capable** of ruling and should be under the **authority of a man**. Elizabeth had no intention of marrying.

Elizabeth was well educated, understood the dangerous world of politics, and made great speeches. People **often feared her** and her indecisiveness frustrated her **Privy Council**



Society and Government

-**90% of England's population** lived and worked in the countryside and your place in the **social hierarchy** was based on how much **land you owned**.

-Government consisted of **court, Privy Council, parliament, Lords Lieutenant and Justices of the Peace**.

-Monarchs rule was based on **divine right so Elizabeth** made all important decisions such as declaring war, making laws and granting titles.

-Raising **extraordinary taxation** could only be done with parliament's agreement.

Religious divisions

-Religious conflict spread through Europe as **Protestants and Catholics** wanted to establish their religion.

-**The Reformation 1517** onwards challenged the teaching of the Catholic Church across Europe.

-The English reformation **1532 when Henry VIII** created the Church of England -Elizabeth I was a Protestant but many of her subjects and most of the clergy were Catholic. Changing the religion of a country required an **Act of Parliament**. Catholic bishops in the House of Lords may try to prevent this.

-**Geographical divisions** - London and the south- east of England mainly supported **Protestantism and the north- west supported Catholicism**.

Challenges at home and abroad

Elizabeth's government was **£300,000 in debt** when she took the throne due to **expensive wars** fought before she was queen.

France was wealthier, had a larger population and an alliance with Scotland.

Elizabeth wanted to regain control of **Calais** as the port had provided a **military base** in France and was an important trading post.

Concerns over the possibility that Catholic France and Spain would unite against England and its Protestant queen.



Mary Queen of Scots

Mary's arrival in England

forced Elizabeth to consider her options.

A court heard the case against Mary for the murder of her husband, **Darnley**, between October 1568 and January 1569. Letters brought apparently proved her guilt but no verdict was met.

Mary stayed in England in captivity.

In 1569 a plot was hatched that would see Mary marry the Duke of Norfolk. The plan was unveiled to Elizabeth which confirmed how dangerous Mary was and led even in captivity.

The Religious settlement 1559

Act of Supremacy made Elizabeth the supreme governor of the Church of England and an Ecclesiastical High Commission was established to maintain discipline.

Act of Uniformity established the appearance and services of churches as well as a Book of Common Prayer which was deliberately unclear so Protestants and Catholics could interpret it differently.

Royal Injunctions issued by Sir William Cecil to the clergy included instructions on how to worship God and the structure of services.

8,000 priests took the oath under the Act of Supremacy showing it was a success but only 1 bishop.

The majority of ordinary people accepted it but some places, like Lancashire, were slow to change.

Nature and extent of Catholic challenge

Catholics ran a **Counter-Reformation** campaign against Protestantism and in 1566 the Pope stated that Catholics should not attend Church of England services. **Elizabeth** chose to **ignore** these small acts of disobedience.

1/3rd of the nobility and many of the gentry were **recusants** and in November 1569 during the Revolt of the Northern Earls a full **Catholic mass** was held at Durham Cathedral.

Despite growing support for Protestantism in Europe, Catholicism remained dominant. **Elizabeth was concerned** that the greatest Catholic power, **Spain**, wanted an alliance with France in order to **weaken Protestantism**.

Nature and extent of Puritan threat

Puritans hoped the religious reforms would pave the way for a more Protestant Church of England but this did not happen.

Puritan clergymen then began to ignore and disobey parts of the settlement such as **the Act of Uniformity**.

Elizabeth wanted each church to display a **crucifix**. This angered some Puritan bishops who threatened to resign, forcing Elizabeth to back down.

Clothing was an issue as Elizabeth wanted the clergy to wear **special vestments**, 37 refused and lost their posts but the majority of priests conformed.



Revolt of the Northern Earls (1569-71)

Causes

- The earls wanted **Catholicism restored**.
- They had lost **influence** at court since Elizabeth came to the throne.
- Were uncertain about England's future after Elizabeth refused to marry or name an heir.
- Saw **Mary, Queen of Scots**, as a potential **replacement** to Elizabeth.

Significance

- First and most serious Catholic rebellion against Elizabeth.
- **Treason laws** became harsher.
- Prompted harsher treatment of Catholics.
- The **revolt** encouraged Pope Pius VI to excommunicate Elizabeth I.



Commercial rivalry

- The **New World** had **valuable crops** such tobacco and sugar cane as well as huge supplies of silver but anyone who wanted to trade there had to have a license from Spain.
- Elizabeth I used **Francis Drake** to bring back gold, silver and valuable spices. Drake was also issued with **secret orders** to attack Spanish colonies.
- Drake's actions made it clear that England did not accept Spain's domination of the Americas.
- **Drake's success** gave England a **national hero** and boosted the **Crown's finances** resulting in Elizabeth publically knighting him.

Anglo Spanish relations: Political and religious rivalry

- **European rivals** wanted more territory to gain wealth and power and religion also caused conflict.
- England was not as wealthy as Spain and France but the competition between the two powerful nations was beneficial to Elizabeth.
- **France** wanted to **ally** with England to defend against Spain.
- Spain wanted to ally to protect its ships sailing in the Channel to the **Netherlands**.
- Elizabeth was **pressured** to help the Dutch Protestant rebels after the Duke of Alba's brutal campaign to stamp out Protestantism in the Netherlands.



King Philip of Spain and Queen Elizabeth I

Drake's raid of Cadiz

- **March 1587** Elizabeth ordered Drake to attack Spain's navy.
- On 19th April Drake sailed to **Cadiz** and destroyed 30 ships.
- Drake then attacks the coast of Portugal and the Azores which disrupts Spain's building of the **Armada** by a year.



Spanish Armada

- Philip II launched the **Spanish Armada** because of religion, politics, circumstances and the aggravation caused by Drake and the Dutch rebels
- **130 ships**, 2,431 guns and around 30,000 men were under the command of the **Duke of Medina-Sidonia**.

Ridolfi Plot (1571)

- **Ridolfi** plotted to **murder Elizabeth**, launch a Spanish invasion and put Mary, Queen of Scots, on the throne. The plot **failed**.
- Reinforced the threat posed by **Catholics and by Spain**.

Throckmorton (1583)

- **French Duke of Guise** to invade England and overthrow Elizabeth, restoring Catholicism with help of Throckmorton. Throckmorton was **executed** in May 1584.
- Life for Catholics became more difficult as they were **treated suspiciously** by the government.

Babington (1586)

- Plot focused on murdering Elizabeth and encouraged a Catholic rebellion. The plot was supported by Philip of Spain.
- Demonstrated that **relations between England and Spain** had **broken down**.



Reasons for England's victory

- **England's new ships**, Galleons, were faster and easier to manoeuvre and were **quicker** to fire cannon balls. Fireships were used. The weather was favourable
- The Spanish **Armada** was **not well supplied** and what they did have was not well preserved.
- There were issues around **planning and communications** between Medina-Sidonia and Parma
- **The Battle of Gravelines** on 8th August 1588 defeated the Armada.
- Victory gave Elizabeth I a great **propaganda victory** and helped nurture a feeling of English pride.



Discovering the changes made in Elizabethan society during the golden age

Keywords:

Rural: Population of the countryside.

Arable farming:

Growing crops on farm land.

Subsistence farming:

Growing just enough to feed the family but not to sell.

Vagabonds: Vagrants

who are homeless people without jobs, who roamed the countryside begging for money.

Recession: Falling prices and businesses losing money. This can lead to unemployment.

Astrolabe: An instrument used by sailors used to help them navigate the sea.

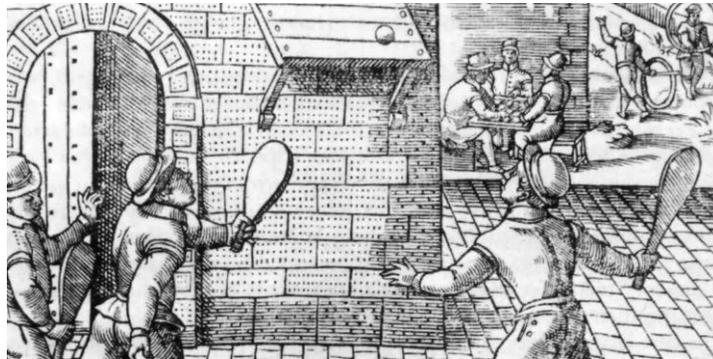
Quadrant: Similar to an astrolabe it was used by sailors to help with navigation at sea.

Colonies: Lands under the control and influence of another country, occupied by settlers from that country.

Monopoly: When one person or company controls the supply of something. This means they can charge what they want for it.

Sport and leisure

- Nobility and gentry participated in **hunting, hawking, fishing and fencing** while working people played football.
- Other sports included **bear baiting** and **cock-fighting**.
- Elizabethans enjoyed **reading history** and poetry and attending the theatre. Mystery plays were popular as they brought the Bible and saint's stories to life.
- All Elizabethans were **passionate about music** and performances were hugely popular. Wealthy families would employ their own musicians and the lower classes would listen to music at fairs and public occasions.



Reasons for increase in poverty

- England's population grew by **35%** under Elizabeth I and much of the growth occurred in towns and cities.
- The **rise in food prices** led to many being unable to afford staple foods such as bread and grains.
- Enclosures led to an **increase in poverty** as labourers could not afford the increased rents.
- **Vagabonds** did not fit into the strict hierarchy of Elizabethan England as they had no employer or master. The issue of vagabonds worsened as rural areas depopulated.

Changing attitudes towards the poor

- **Poor relief** was given to the very poor but vagrants were viewed with disapproval and faced harsh punishments such as whipping and imprisonment.
- Key laws to help the poor were passed in **1563 (Statute of Artificers)**, **1572 (Vagabonds Act)** and **1576 (Poor Relief Act)**.
- **As unemployment** was recognised as a **genuine problem** it led to the poor being provided with a way to make and sell things, often enabling them to keep some independence.



Education

- Children of **nobility** were tutored at home in subjects such as foreign languages, Greek, history and philosophy. Boys and girls were **educated separately**.
- The development of **grammar schools** provided the biggest change to education and increased the number of schools in England.
- **Discipline and punishment** was harsh in Elizabethan England.
- The two universities in Elizabethan England were **Oxford** and **Cambridge** which children went to at 14 or 15 and were taught music, astronomy, logic and medicine.





This unit will enable learners to understand pre-production skills used in the creative and digital media sector.

Keywords:

Storyboards

Mind Maps

Scripts

Moodboards

Client brief

Visualisation diagram

Moodboard:

Purpose:

- Used to generate ideas for a client
- Used to create a mood or a feeling or a product

Content:

- Images
- Colours
- Text/fonts/styles/keywords
- Textures, fabrics and other materials
- Digital mood board = sounds and video clips



Content of client requirements:

- What media product is needed
- Purpose of the media product
- Target audience
- Timescale - when it needs to be done by
- House style e.g. fonts, colours
- Theme/genre/style of the product

Tips for Preproduction document exam questions - What you need to know

1. What should they include
2. What is the purpose
3. Example of how they can be used
4. What are the benefits of using them?

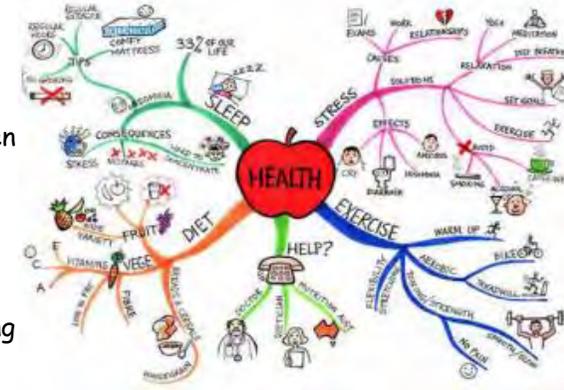
Mind Maps:

Purpose:

- Generate outline ideas quickly
- Develop and show links between different thoughts and ideas

Content:

- Central node with the main theme
- Sub-nodes with interconnecting lines/branches
- Text
- Images can also be used



Visualisation diagrams:

Purpose:

- Plan the layout a product to see what the design will look like
- Show how the finished item may look and make changes where needed

Content:

- Images
- Colours
- Position and style of text
- Fonts to be used
- Annotation/labels





This unit will enable learners to understand pre-production skills used in the creative and digital media sector.

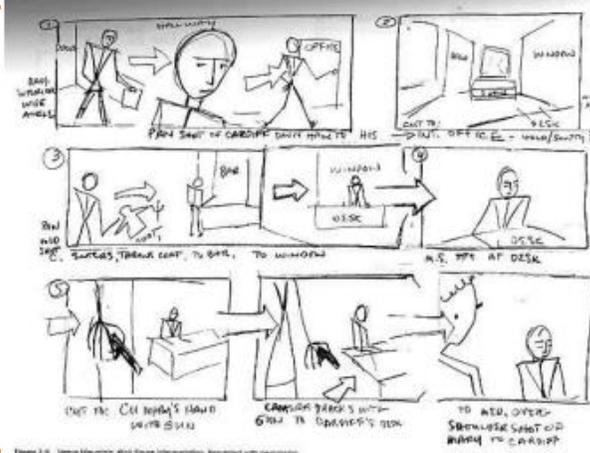
Storyboards:

Purpose:

- Provide a visual representation of how a media project will look along a timeline
- To show the order of the scenes and how they fit together

Content:

- Images/sketches of scene • Locations • Camera shot types and angles • Camera movement • Timings • Lighting • Sound



Target audience:

- Age
- Gender
- Location
- Ethnicity
- Income



102

INT. DON'S OFFICE - DAY

Hagen is alone in the office. He is drinking. He looks up at the sound of cars; the coporegimes are arriving. Then he hears footsteps.

The door opens and in a robe with slippers, Don Corleone slowly enters the room. He walks directly to his stuffed armchair and sits down. His face is stern as he looks into Hagen's eyes.

DON CORLEONE
Give me a drop of assiette.

Hagen rises, and pours a glass for the old man.

DON CORLEONE
My wife was weeping before she fell asleep, outside my window I saw my coporegimes to the house, and it is midnight. So, consigliere of mine. I think you should tell your Don what everyone knows.

HAGEN
(quietly)
I didn't tell wassa anything. I was about to come up and wake you and tell you. Just now.

DON CORLEONE
But you need a drink first.

HAGEN
Yes.

DON CORLEONE
Now you've had your drink.

Pause.

HAGEN
They shot Sunny on the Causeway. He's dead.

Don Corleone blinks. One feels that just for a second he loses all physical strength; he clasps his hands in front of him on the top of the desk and looks into Hagen's eyes.

Scripts:

Purpose:

- Provide stage directions for actors and production crew
- Provide dialogue for actors so that they know what to say

Content:

- Set/locations
- Scene/stage directions
- Camera shot types
- Camera movement
- Sounds and sound effects
- Names of actors/characters
- Dialogue

Example exam questions

1. Explain the purpose of using storyboards (4)
2. State 2 benefits of using storyboards (2)
3. List 4 things that should be included in a storyboard (4)
4. What is the purpose of a visualisation diagram? (1)
5. Explain a benefit of using visualisation diagram (2)
6. List 2 things that should be included in a visualisation diagram (2)
7. What is the purpose for using a mind map/spider diagram? (2)
8. Identify four different items of information that can be added to a storyboard (4)
9. Identify four different items of information that can be added to a mood board (4)



This unit will enable learners to understand pre-production skills used in the creative and digital media sector.

Keywords:

Contingencies = back up plan, extra time if needed

Defamation = Can't say offensive things about someone/an organisation without proof.

Legislation:

- **Health and safety at Work Act**
- **Intellectual Property Act (2014)** = refers to the ownership of an idea or design by the person who came up with it
- **Copyright designs and patent act** = gives the owner of a written document, musical composition, book, picture, or other creative work, the right to decide what other people can do with it
- **Trade marks act 1994** = A way for a business to help people to identify the products that the business makes from products made by another business

Creative Commons: a non-profit organisation that tries to make creative work available for others to use and share.

Classification/Certification: Many countries have a film rating system to help parents determine which movies their children can watch.

Version control:

The management of changes to documents, computer programs, large websites and other collections. This can be used to show how the design changes and develops through time. E.g Moodboard V1, Moodboard V2

Naming documents:

It helps stop confusion with older files if you give relevant names to files clearly and sensibly. This ensures a better workflow and makes it easier to go back and make improvements.

Workplan:

Purpose: Provide timescale for overall project to be completed
Content:

- Tasks
- Durations - amount of time a task is expected to take
- Timescales - how long the project will take
- Milestones - key dates when a section is completed
- Deadlines - date when something has to be done by
- Resources - what is needed
- Contingencies - back up plan, extra time if needed

Work Plan

Task	Duration	Day/Date				
		Mon 3rd	Tue 4th	Mon 10th	Tue 11th	Mon 17th
Find images for mood board	1 hour					
Create a mood board	1 hour					
Ideas for mind map	30 mins					
Create a mind map	1 hour					
Digitise documents	30 mins					
Send to client	5 mins					
Obtain feedback	30 mins					
Make changes	1 hour					



copyright





This unit will enable learners to understand pre-production skills used in the creative and digital media sector.

File formats:

Images: JPEG PNG GIF ODF TIFF PSD BMP

Video: MP4 AVI SWF MPG

Audio: MP3 WAV ACC

Health and Safety:

Site Reece:

A visit to a specific location that will be used for recording purposes. The purpose is to check access, see what is there, identify the best positions and assess environmental considerations.

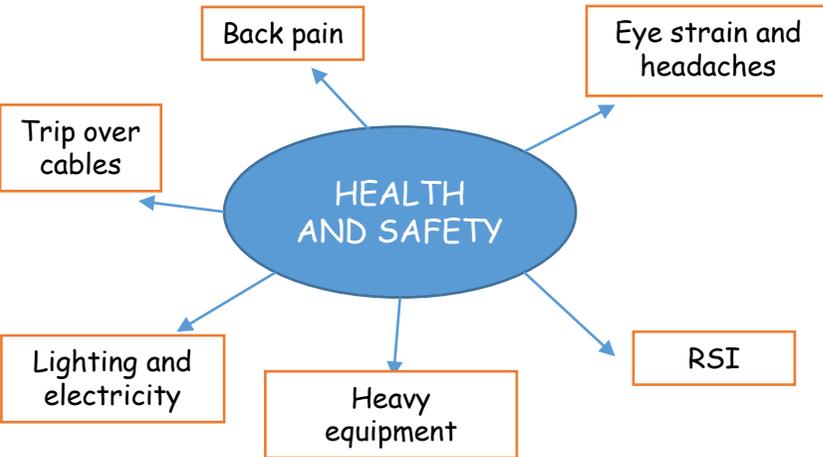
May include:

- Location
- Access
- Lighting
- Health & safety issues
- Availability of power

Risk assessment:

Must be stored to cover you and any organisation that you work for in case of claims. Helps to identify and minimise the risks.

- Identify hazards and dangers
- Decide who might be harmed and how
- Evaluate the risks and decide on precautions to be taken
- Record findings and implement them
- Review assessment and update if necessary



Example exam questions

1. What is the purpose of a work plan? Identify 3 things that should be included (5)
2. Explain the copyright act (2)
3. What is creative commons? (2)
4. Explain the difference between 2 different image files types (4)
5. Why is it important to have a site Reece? (3)
6. How can eye strain be prevented? (1)
7. How can RSI be prevented? (1)



This unit will enable learners to understand the basics of creating multipage websites. It will enable learners to demonstrate their creativity by combining components to create a functional, intuitive and aesthetically pleasing website.

Asset Table:

Create an asset table to show the range of audio, video and images you will be using. This will include listing where you got the assets from and describing any legal issues with using them.

Target Audience:

You need to know your target audience. Who are they? What kind of things do they do? What are their likes and dislikes? What are they interested in? Getting an understanding of these individuals helps you create with ease and make something you know will relate to them.

Client Requirements:

Your client is the person you will be working for. They will tell you what to plan, design or create for them. The client will set out requirements that they want you to follow when you plan the project.

Scenario

Your client is a travel blogger called Angela, who uses social media to document her adventures as ange2050_travel. She does not yet have a website and thinks this would be a good addition to provide more information on the planned destinations for the next two years. The purpose of the website is to promote the travel blogs on Angela's travels to different destinations.

Angela has a list of possible places to visit and updates a travel blog. Information on some of these locations will be needed for the new website:

- Iceland
- Japan
- New Zealand
- Paris
- Venice
- Prague

Angela has asked you to develop a website which contains a minimum of five pages to help her to promote the travel blogs. The website pages should cover some (or all) of the destinations and may provide information on:

- Things to see and do
- How to get there
- When to go

The website must contain an appropriate navigation system and a consistent look across all pages. It should also contain a range of images, appropriate text and any other multimedia assets.

How does the appearance of websites differ on different devices?

- The screen resolution used can change the look of a site
- Operating system used can change the look of a site
- Fewer images may be used on mobile versions
- The web browser may change things
- The orientation can change

Purposes of websites:

- Education
- Online retail
- Information
- Services
- Advertising
- Promotion
- Entertainment

Planning:

- Create a work plan which lists all of the tasks involved in the whole project. Estimate how long each task will take and create a chart or diary to record how long they REALLY take to complete. Build in some contingency time in case things go wrong!
- Create a site map to show the pages of the website and how they will be linked together with navigation features.
- Create a visualisation diagram to plan the content and layout of the individual web pages.



This unit will enable learners to understand the basics of creating multipage websites. It will enable learners to demonstrate their creativity by combining components to create a functional, intuitive and aesthetically pleasing website

Features of websites:

- House style
- Navigation features
- Hyperlinks
- Search facility
- Website footer
- Images/image gallery
- Ordering forms
- Downloadable content
- Logo/Title
- Page Titles
- Email links
- Links to social media
- Internal links
- Shopping basket

Interactive features

- Rollovers
- Animations
- Adverts
- Surveys
- Forums
- Quizzes
- Comment boxes
- Audio/video files

Key terms:

Navigation = The system by which one moves through the website from page to page.

Alt Text = This is a piece of text which appears to explain the nature of an image

Search engine optimisation = The method used to ensure that websites are easily located when searched for.

Hot spot = This is an invisible hyperlink which is placed on an image

Hyperlink = A link which can take you to another website, page or resource

Intellectual property = This refers to creations of the mind such as inventions as well as designs and more

Assets = These are the 'things' which will be used on your website such as images, videos, sounds, etc

Site Map = A plan of how the user will be able to navigate around the final website.

Trademarks = This is a symbol or an image which represents a company or a product

Copyright = This gives a legal right to someone to distribute and reproduce something for a fixed number of years.

Test Plans:

There are a range of elements that all need work to produce a successful product.

Create a test plan to check these functions:

- Navigation
- Links to take the user to the correct page
- Display of images and content
- Playback of video and audio

Questions:

- 1.Create a mind map showing the client requirements and needs of the scenario.
- 2..Create a site map to show the names of the web pages you will create for the scenario
3. Discuss what is meant by house style
4. Give examples of three methods of internet connections. Describe the benefits and drawbacks for each connection method
5. Explain what is meant by intellectual property

Devices used to access webpages:

- Laptops and personal computers
- Tablets
- Mobile devices and smartphones
- Game consoles and digital television
- Smart Speaker
- Smart Watch

Methods of internet connection:

- Wired broadband
- Wi-Fi
- 3G, 4G and 5G wireless broadband

Legislation:

This should include Copyright Law in a commercial context and the use of other people's intellectual property. Links to external websites should be secure and suitable for your users. Considering how legislation applies to sourcing, creating and using assets on your website.



This unit will enable learners to understand the basics of creating digital graphics to a specific client brief. Learners will learn how to plan and design a digital graphic to suit their target audience.

Asset Table:

Create an asset table to show the range of audio, video and images you will be using. This will include listing where you got the assets from and describing any legal issues with using them.

Target Audience: You need to know your target audience: Who are they? What kind of things do they do? What products do they use? How old are they? What are they interested in? The answers to these questions and many more will help you better understand the people you are designing for. Getting an understanding of these individuals helps you create with ease and make something you know will relate to them

Client Brief:

Your client is the person you will be working for. They will tell you what to plan, design or create for them. The client will set out requirements that they want you to follow when you plan the project.

Scenario

New book cover

A book publisher requires a cover jacket for a new fiction book. The storyline of the book is based on a mission to the planet Saturn in our own solar system.

Title: Saturn Explorer

Author: Carotin Jacob

Genre: Science fiction

Publisher: 2020 World

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Export options

- Digital Graphics need to be saved in different formats for different purposes the size and resolution will be different for:
- Print use
- Websites
- Multimedia
- Check the client brief!!

Purposes of websites:

- Education
- Online retail
- Information
- Services
- Advertising
- Promotion
- Entertainment

Planning:

You will need to create a work plan which lists all of the tasks involved in the whole project.

You then need to estimate how long each task will take and create a chart or diary to record how long they REALLY take to complete.

Build in some contingency time in case things go wrong!

Add this to the plan and explain why you had to use it if things don't go according to plan all the time.



This unit will enable learners to understand the basics of creating digital graphics to a specific client brief. Learners will learn how to plan and design a digital graphic to suit their target audience.

What type of file formats do digital graphics use?

.tiff
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.png
.bmp
.gif
.pdf

You will need to find out the different uses and properties of these different file formats and be able to describe why different formats are suitable for different situations.

What can you change about an image to make it more suitable for different uses?

- Size in Pixels
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- Quality
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Visualisation

A Visualisation is a sketch or diagram of what you think the final graphic might look like

Where are digital graphics used?

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- Cropping / Cutout Studio
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Questions:

- 1.Name the 2 different types of compression?
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Correct size in Pixels and Correct Resolution
In Serif Draw Plus - File > Export > Adjust the size and resolution to fit the client brief



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Asset Table:

Create an asset table to show the range of audio, video and images you will be using. This will include listing where you got the assets from and describing any legal issues with using them.

Target Audience: You need to know your target audience: Who are they? What kind of things do they do? What products do they use? How old are they? What are they interested in? The answers to these questions and many more will help you better understand the people you are designing for. Getting an understanding of these individuals helps you create with ease and make something you know will relate to them

Client Brief:

Your client is the person you will be working for. They will tell you what to plan, design or create for them. The client will set out requirements that they want you to follow when you plan the project.

Scenario

New book cover

A book publisher requires a cover jacket for a new fiction book. The storyline of the book is based on a mission to the planet Saturn in our own solar system.

Title: Saturn Explorer

Author: Carotin Jacob

Genre: Science fiction

Publisher: 2020 World

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This unit will enable learners to understand what is meant by Systems Software and the role of an Operating System.

Key Vocab

Basic Input Output System (BIOS): Software stored in ROM responsible for booting up a computer system

Platform: The hardware and operating system for which software is designed

System software: Software which is necessary for the running of other software, comprising *utilities* and the *OS*

Operating System (OS): A collection of programs which tell hardware what to do

Utility: A single-purpose program for system maintenance

Firmware: Software that is stored permanently in a device

Paging: Memory management technique which involves splitting RAM up into equal sized pages, and indexing them

Segmentation: Memory management technique which involves splitting RAM into blocks which fit the gaps

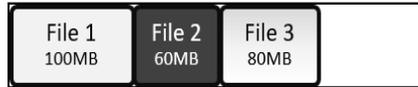
Scheduling: The process of arranging and controlling various processes when multi-tasking

Multi-user: When more than one user has access to the same memory, storage or CPU time

Questions:

1. What is systems software?
2. What is an operating system?
3. What is the purpose of utility software?
4. What is a backup?
5. What is fragmentation?

Fragmentation & Defragmentation



Stage 1: New files are added in order and together



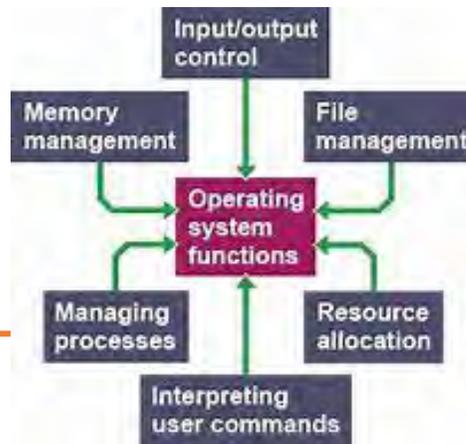
Stage 2: A file is deleted, leaving a small space in storage



Stage 3: A new file is fragmented and fits into the gaps



Stage 4, Defragmentation: Fragments are put together



Utilities:

Anti-malware (software)	Software which prevents malicious software entering the system, identifies it when it is there and removes it
Auto update	A utility which makes sure the utilities are up to date
Backup	A copy of data and programs in case they are lost
Compression software	Software which removes redundant data to reduce file size
Defragmentation	Reorganise the files on a hard drive so they are all stored together, reducing the time the heads have to spend moving around
Disk check	Search the hard drive for bad links and record those areas as unusable
Encryption software	Software which encodes data to be stored or transferred
System cleanup	Identify and remove unused or redundant files

Backup Types:

- Full backup:** All files and folders are copied when backing up
- Incremental Backup:** All changes since the last incremental backup are saved. To restore, start with the full backup and then restore each incremental backup successively
- Differential Backup:** All changes since the last full backup are saved. To restore, start with the full backup, then restore the latest differential backup
- Backup plan:** A scheme of when and how to back up data



This unit will enable learners to understand the difference between RAM/ ROM, virtual memory and flash memory.

Key Vocab

Read Only Memory (ROM): Non-volatile memory which cannot be over-written.

Generally used for booting

Storage device: Any hardware which can hold, read and write data

Storage medium: The type of material or method used to store data

Tertiary storage: External high-capacity storage

Volatile: Memory which requires power

Non-volatile: Memory which persists without power

Secondary Storage: Types:

Flash: A type of SSD which stores information by forcing electrons through a barrier with a large current

Magnetic: Cheap storage which requires moving parts and writable magnetic disks

Optical: Cheap storage which requires a laser and a disk

Solid State Drive (SSD): Memory with no moving parts

Questions:

1. What is primary memory?
2. What are the two types of primary memory?
3. In terms of memory, what does volatile mean?
4. What is virtual memory?
5. Why does virtual memory hamper processor performance?



Secondary Storage: Qualities:

1 **Capacity:** Amount of data a storage device can hold

2 **Durability:** How well the device resists damage

3 **Portability:** How easily the device can be carried

4 **Reliability:** How well the data resists corruption

5 **Speed:** How quickly the data can be read from the storage device

6 **Cost:** Pounds per GB

The Cloud

Cloud

Remotely located storage and software, accessed via the internet

Advantages	Disadvantages
No need to update application software	Entrusting potentially sensitive data with outsiders
No need to maintain the equipment, software or data	Safety and security of sensitive data is outside your control
No need to employ network managers or other technical staff	The service must be totally reliable
Service provider takes care of backups	Requires internet connection
Easy to share files and collaborate across platforms and locations	

Primary Storage:

Main memory/ Primary storage: Other ways of saying RAM

Virtual memory: Part of secondary storage which is used as main memory when RAM is full

Dynamic RAM: Single transistor / capacitor RAM which needs to be refreshed every few milliseconds

Static RAM: 4/5 transistor RAM which can hold data without being refreshed (but does need power)



This unit will enable learners to understand types of networks, factors that affect the performance of networks, the different roles of computers in a client-server, the hardware needed to connect stand-alone computers into a Local Area Network, the Internet as a worldwide collection of computer networks and Star and Mesh network topologies

Computer Networks

A network is a set of computers that are connected to one another.

Standalone computers are isolated from other devices.

Advantages of a network

- Share resources, such as software applications, files and hardware (eg printers).
- Allows communication (eg email) and can transfer files easily.
- Easier network management (eg can backup data onto a central fileserver; updates can be sent to all computers; users on a network can login to any computer)

Disadvantages of a network

- Greater security risk as computers can be hacked if they are connected to the internet.
- Worms can spread from one computer to another
- A problem with any shared resource, (eg file server goes down) can impact the whole network.

Types of Computer Networks

Personal Area Network (PAN) set up around an individual person. Many people have multiple devices such as tablets, phones and computers that can be interconnected using a PAN. A Bluetooth PAN uses radio waves to communicate wirelessly between devices over a range of a few metres.

Local Area Network (LAN) covers a relatively small geographical area typically extends over the range of a single organisation such as a university campus, school site. LANs are usually managed by a single organisation.

Wide Area Network (WAN) made up of many local area networks and covers a much wider geographical area. The internet the ultimate WAN. It is a network of networks with billions of interconnected devices. No single person or organisation has control over a WAN.

Network Topology

A network topology describes how a set of computers are arranged within a network.

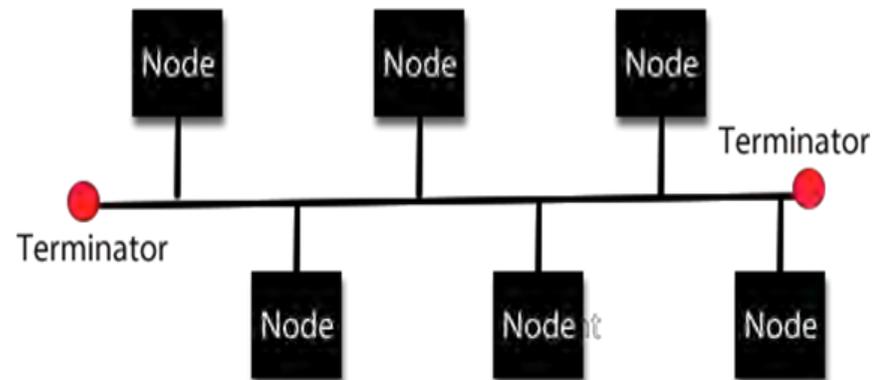
Bus network topology All devices including clients, servers, printers and so on are connected to a cable called a bus. All communication is via the shared bus. At either ends of the bus is a terminator.

Advantages

- Easy and cheap to install and does not require much cable
- Easy to add more computers

Disadvantages

- If the main cable fails then then the whole network fails.
- Less secure as data are broadcast to all devices on the network.
- Can be slow as there are collisions between data along the shared bus.
- Will get slower as more computers are added.





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Network Topology (continued)

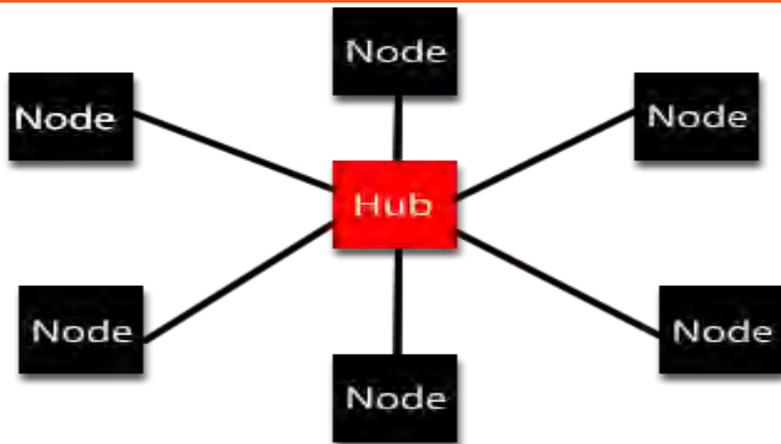
Star network topology all devices including clients, servers, printers and so on are connected to a central hub or switch. All communication is via the hub

Advantages

- Greater security as data are only sent to the intended recipient.
- If any of the connections fail only a single node will be affected.
- Fewer collisions between data packets

Disadvantages

- If the central hub fails then every computer on the network is affected.
- Expensive as extra cable and hardware (hubs) are needed.



Wired and Wireless

Computers can be connected using wired or wireless methods.

Wired transmission methods use cables to communicate.

Wireless transmission use radio waves communicate (eg Wi-Fi).

Advantages of wireless

- Can use computer anywhere and not constrained by cables

Disadvantages of wireless

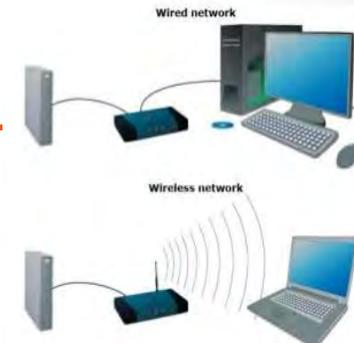
- Packets can be intercepted more easily than wired connections
- Security is a much more difficult challenge, as the network can be accessed from outside the confines of a building.
- Slower than wired methods
- Signal can be interfered with by other electronic devices.

Advantages of wired

- Allows more control, security and reliability. Can restrict who has access to the network.
- Wired methods have greater speeds than wireless methods.

Disadvantages of wired

- Cables can be difficult to maintain in big organisations





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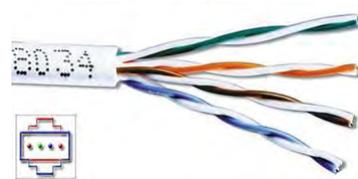
Wired networks use a variety of cables, including copper and fibre optic.

- **Copper** cables use electrical signals to transmit data. Three main types:
 - **Coaxial cable** – the signal loses strength over long distances
 - **Unshielded twisted pair** – A pair of copper cables are twisted together and allows data to be transmitted over longer distances
 - **Shielded twisted pair** – Shielding around the twisted cables means the signal is less susceptible to interference.
- **Fibre optic** cables are glass or plastic and use pulses of light to transmit data

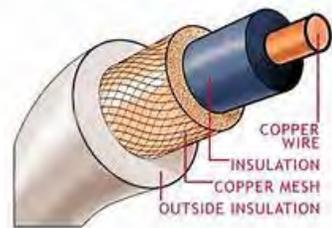
Shielded twisted pair (STP)



Unshielded twisted pair (UTP)



A diagram of a coaxial cable:



Networking hardware

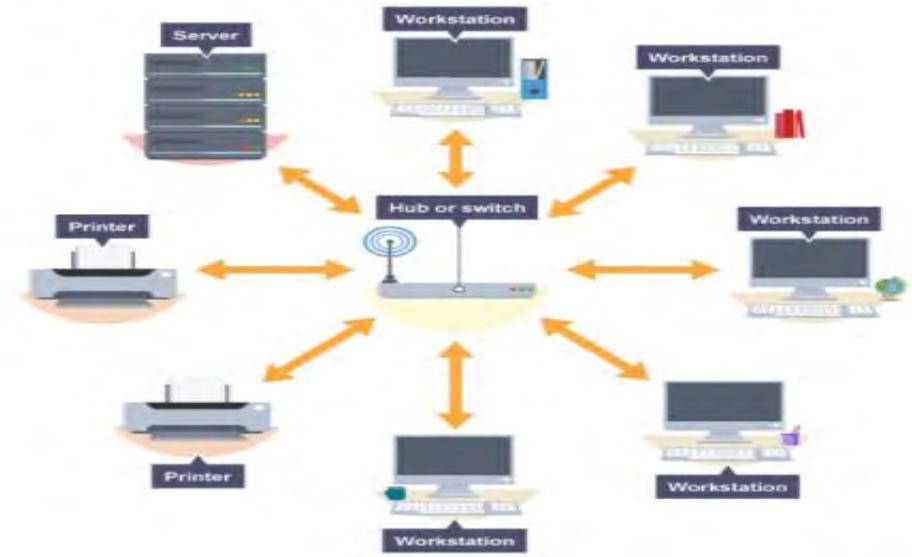
Computers need networking hardware in order to connect to each other.

Routers, hubs, switches and bridges are all pieces of networking equipment that can perform slightly different tasks.

A router can often incorporate hubs, switches and wireless access within the same hardware.

Hubs, bridges and switches allow multiple devices to connect to the router and they transfer data to all devices on a network. A router is a more complex device that usually includes the capability of hubs, bridges and switches.

Hubs, bridges and switches



Questions:

1. What is a LAN (local area network)?
2. What is a WAN (Wide area network)?
3. What are the most common network topologies?
4. What are **two** advantages of networking computers?
5. What is the purpose of a router?



This unit will enable learners to understand the various different types of threats facing networks and the ways in which these threats can be mitigated and defended against. This will include the policies that can be employed by individuals and companies.

Types of threat

Hacking Attempting to bypass a system's security features to gain unauthorised access to a Computer

Malware is malicious software, loaded onto a computer with the intention to cause damage or to steal information. Viruses are a type of malware

Phishing is a common way to try to steal information like passwords. Emails are sent, requesting the user logs into a website, but the site is a fake, and the users details are Logged

Social engineering People are the weakest point of any system. If a hacker can convince a user to give over their data, this is the easiest way into a secure system

Brute force attack Using and algorithm to try every possible combination of characters to 'guess' the users password.

SQL injection Using SQL statements to trick a database management system (DBMS) into providing large amounts of data to the hacker

Data interception Data interception, or Man in the Middle attacks are hacks that use 'packet sniffer' software to look at every piece of data being transmitted in the local area to find ones that meet the hacker's criteria. Often done by creating 'fake' wireless networks to record users details

Denial of Service Attack Hackers flood a network with huge amounts of fake data and requests in an attempt to overload the system so that it crashes

Types of malware

Virus A program designed to infect a computer, then copy itself. Requires human 'help' to spread; usually through infected software being installed or spread through unsecure removable media such as usb-drives

Worm A self-replicating program, which can run itself allowing it to spread very quickly

Trojan Horse disguises itself as legitimate software, and appears to perform one task, but is performing another

Protections

Penetration Testing Employing a white hat hacker to try to break into a system to test how good the security is. Any problems in the security can then be fixed before they become vulnerable to real attack

Network forensics Network procedures that capture, record and analyse all network events to discover the source of security attacks

Network Policies Rules which govern how a network may be used - see next slide

Anti-malware software Software which analyses files, network traffic and incoming data to look for known malware such as viruses or worms. An infected file is quarantined, and either cleaned or securely deleted to prevent further infection. Needs updating very regularly to ensure that the newest malware is being checked for

Firewall A firewall protects a system by checking all incoming and outgoing network traffic is legitimate

User level access Limiting the access of a user by their requirements to carry out their job. An admin will have more rights than a student, for example. Often even admins do not give themselves full rights to prevent accidents, and will instead have a super-user account that will be used only for special high level jobs.

Encryption Encoding all data with a secure private, asymmetric key system, so that if data is stolen, it cannot be read or used.



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Common areas of network policy

Acceptable Use Governs the general use of the computer system and equipment by employees. Usually limited to that which is required to carry out only the tasks that a user is employed to undertake

Malware is malicious software, loaded onto a computer with the intention to cause damage or to steal information. Viruses are a type of malware

Email Governs what may and may not be sent by email

Web Access The configuration of web browsers may limit the types and categories of website that can be accessed

Mobile Use What devices are and are not allowed to be used.

Remote Access Govern what can be accessed from outside the system, and what can only be accessed onsite

Wireless Govern how wireless access points (WAPs) are secured, who has access, and under what circumstances

Software Governs who can install software, and which users are able to use that software. May have different levels of access once inside the software

Server Rules about what services are provided by the institution and who may access data stored centrally and for what purposes

Back Up Back up policy determines how frequently back ups are undertaken, and what type of back up (full, incremental, differential). It will also state where the back up media must be stored and for how long. Often a full weekly back up is required to be stored in a fire proof box in an offsite location

Incident Response Plan Details what to do if something goes wrong, or if an attack is discovered.

People are usually the weakest part of a network or computer system



Questions

1. What does encryption mean?
2. What is a brute force attack?
3. What is User Level Access?
4. What is a Denial of Service attack?
5. What is penetration testing?



This unit will enable learners to understand the basics of python programming and develop their programming skills.

Print *Displays content on screen*

```
>>> print("Hello World")
Hello World
```

Variables *Place to store data in a program*

```
>>> text = "Hello"
>>> name = "Mia"
>>> print(text, name)
Hello Mia

>>> print(text, "your name is", name)
Hello your name is Mia
```

input *Allows user to enter data*

```
>>> name = input("What is your name? ")
What is your name? Daniel

>>> print(name)
Daniel
```

- Equals: `a == b`
- Not Equals: `a != b`
- Less than: `a < b`
- Less than or equal to: `a <= b`
- Greater than: `a > b`
- Greater than or equal to: `a >= b`



Selection *Gives a choice in programs*

```
if totalCost >= 20 :
    postage = 0
elif totalCost >= 10:
    postage = 1.5
else :
    postage = 2.95
```

Diagram labels: CONDITION, EXECUTED WHEN CONDITION IS TRUE, 2nd CONDITION (OPTIONAL), EXECUTED WHEN ALL CONDITIONS ARE FALSE

Changing variable types (casting):

- int() - integer – whole number
- float() –floating point (real) – decimal point
- str() - string – a series of characters (text)

Example code turns variable into integer:

```
age = int(age)
user_age = int(input("Enter your age: "))
```

`\n` creates a line return in a string

Top Tips:Download Python Idle at home
Practise creating programs
Google W3schools python

Iteration: FOR loop
Used to repeat things a certain number of times

```
for x in range(6):
    print(x)
```

0
1
2
3
4
5
>>>

```
for x in range(4):
    print("Hello")
```

Hello
Hello
Hello
Hello
>>>

Iteration: while loop
Performs a task while a certain condition is TRUE

```
while distance > 0 :
    print ("Are we there yet?")
    distance -= 1
```

Diagram labels: CONDITION, CODE TO LOOP IS INDENTED, CODE IS REPEATED WHILE CONDITION IS TRUE



This unit will enable learners to understand the basics of python programming and develop their programming skills.

Python -> English	
<code>print('hello!')</code>	Prints a value on screen (in this case, hello!)
<code>input('')</code>	Inputs a value into the computer.
<code>x=input('')</code>	Inputs a value and stores it into the variable x.
<code>x=int(input(''))</code>	Inputs a value into x, whilst also making it into an integer.
<code>print(str(x))</code>	Prints the variable x, but converts it into a string first.
<code>if name == "Fred":</code>	Decides whether the variable 'name' has a value which is equal to 'Fred'.
<code>else:</code>	The other option if the conditions for an if statement are not met (eg. name = 'Bob' when it should be Fred)
<code>elif name == "Tim"</code>	elif (short for else if) is for when the first if condition is not met, but you want to specify another option.
<code>#</code>	# is used to make comments in code – any line which starts with a # will be ignored when the program runs.

Key vocabulary	
Python	A high level programming language.
Programming	The process of writing computer programs.
Code	The instructions that a program uses.
Sequence	Parts of the code that run in order and the pathway of the program reads and runs very line in order.
Selection	Selects a pathways through the code based on whether a condition is true
Iteration	Code is repeated (looped), either <i>while</i> something is true or <i>for</i> a number of times
Algorithm	A set of rules/instructions to be followed by a computer system
Variable	A value that will change whilst the program is executed. (eg. temperature, speed)
Comparative Operator	When comparing data, an operator is used to solve the equality such as <>, != or ==
Syntax	The punctuation/way that code has to be written so that the computer can understand it. Each programming language has its own syntax.
Data Type	This indicates how the data will be stored. The most common data types are integer, string, and float/real.
String	A collection of letters, numbers or characters. (eg, Hello, WR10 1XA)
Integer	A whole number. (eg. 1, 189)
Float/Real	A decimal number, not a whole number. (eg. 3.14, -26.9)
Boolean	1 of 2 values. (eg. True, False, Yes, No)

Questions:

1. What is **print** used for in python?
2. What is **input** used for in python?
3. Name two datatypes?
4. Name 3 programming constructs?
5. What is an algorithm?



On Holiday - planning a holiday, booking accommodation and travel, going sightseeing and talking about the weather

From... to... 从... 到...:

从 **cóng** ... 到 **dào** ... describes a starting and finishing point.

It can be used with time or physical location.

我们从九点到三点上学 **wǒ men cóng jiǔ diǎn dào sān diǎn shàng kè** We have lessons from 9 till 3

明年我要坐火车从北京到上海 **míngnián wǒ yào zuò huǒchē cóng běijīng dào shànghǎi** Next year I will go by train from BJ to SH

Future tense

There is no future tense in Mandarin. The future is created by context. Common verbs used in Mandarin to imply the future are:

要 **yào** implies wanting to do something (ie in the future)

会 **huì** implies a factual statement or prediction about the future

我学习中文 **wǒ xué xí zhōng wén** I study Chinese

明天我要学习中文 **míng tiān wǒ yào xué xí zhōng wén**

Tomorrow I will study Chinese (because I need/want to).

明天我会学习中文 **míng tiān wǒ huì xué xí zhōng wén**

Tomorrow I will study Chinese (because that is the plan I made)

Weather Vocab:

天气 **tiān qì** weather

冷 **lěng** cold

热 **rè** hot

下雨 **xià yǔ** to rain

下雪 **xià xuě** to snow

刮风 **guā fēng** windy

太阳 **tài yáng** sun

有太阳 **yǒu tài yáng** sunny

多云 **duō yún** cloudy

Travel Vocab:

度假 **dù jià** go on holiday

地方 **dì fāng** place

有名 **yǒu míng** famous

海滩 **hǎi-tān** beach

森林 **sēn lín** forest

寺庙 **sì miào** temple

风景 **fēng jǐng** scenery

城市 **chéng shì** city

国家 **guó jiā** nation

Booking a Holiday Vocab:

快要 **kuài yào** just about to

订 **dìng** to book

票 **piào** ticket

多长时间 **duō cháng** how much

时间 **shí jiān** time

司机 **sī jī** driver

酒店 **jiǔ diàn** large hotel

空房间 **kōng fáng jiān** free room

前台 **qián tái** front desk

需要 **xū yào** must

钥匙 **yào shi** key

房费 **fáng fèi** room fee

查询 **chá xún** search

车次 **chē cì** train number

目的地 **mù dì dì** destination

出发 **chū fā** to depart

到达 **dào dá** to arrive

单程 **dān chéng** single ticket

来回 **lái huí** return ticket

一等座 **yī děng zuò** first class

无座 **wú zuò** standing class

回国 **huí guó** return to home

Time duration

To say how long something lasts, the duration goes after the verb:

我要学习三个小时 **wǒ yào xué xí sān ge xiǎoshí** I will study for 3 hours

If it is in the past, 了 goes after the verb

我学习了三个小时 **wǒ xué xí le sān ge xiǎo shí** I studied for 3 hours

NB: Point in time goes before the verb, duration goes after:

我明天要学习三个小时 **wǒ míng tiān yào xué xí sān ge xiǎo shí**

Tomorrow I will study for 3 hours

Yesterday/Today/Tomorrow

昨天 **zuótiān**

今天 **jīntiān** 明天 **míngtiān**

Last / This / Next Year:

去年 **qùnián**

今年 **jīnnián** 明年 **míngnián**

Again: 再 **zài** means 'again' comes before the verb

再见 **zài jiàn** means 'see you again'

It can also mean 'after a delay'

明天再说 **míng tiān zài shuō** Let's talk again tomorrow

Questions:

1. 你们去哪儿度假?

nǐ men qù nǎer dù jià?

Where will you go on holiday?

2. 你们怎么去?

nǐ men zěn me qù?

How will you get there?

3. 那边的天气怎么样?

nà biān de tiān qì zěn me yàng?

What is the weather like there?

Have you ever?

Put 过 after the verb when asking & answering 'have you ever'.

你去过中国吗? **nǐ qù guò zhōngguó ma?** Have you ever been to China

我没吃面条 **wǒ méi chī miàn tiáo** I didn't eat noodles

我没吃过面条 **wǒ méi chī guò miàn tiáo** I have never eaten noodles



Booking accommodation, describing distance, planning a trip. Also - famous sights in Beijing

Talking about distance / proximity:

There is a special pattern to say if something is near or far in Chinese: Place A 离(li) Place B 很近 远 (hěn jìn/yuǎn)

中国离英国很远 zhōng guó lí yīng guó hěn yuǎn China is very far from England

银行离我家很近 yínháng lí wǒ jiā hěn jìn The bank is very close to my house.

Hotel & Travel Vocab:

单人房	dān rén fáng	single room
双人房	shuāng rén fáng	double room
登记表	dēng jì biǎo	registration form
身份证	shēn fèn zhèng	ID card
护照	hù zhào	passport
旅行	lǚ xíng	travel / to travel
旅行袋	lǚ xíng dài	suitcase
丢	diū	to lose
拿	ná	to carry, take
旅游车	lǚ yóu chē	tourist coach
目的地	mù dì dì	destination
出发	chū fā	to depart
到达	dào dá	to arrive
单程	dān chéng	single ticket
来回	lái huí	return ticket
回国	huí guó	return home
站台	zhàn tái	platform
车次	chē cì	train number
酒店	jiǔ diàn	hotel
免费	miǎn fèi	free
换钱	huàn qián	exchange
接	jiē	to receive/collect
送	sòng	to give

How to say 'extremely' in Chinese?

We have been using 很 and 非常 to say 'very' in Mandarin, but there are two 'extremely' good ways to say 'extremely':

Subject + adjective + 极了 jí le

今天天气热极了 jīn tiān tiān qì rè le jí le Today the weather is extremely hot.

Subject + adjective + 的不得了 de bù dé liǎo

今天天气热得不得了 jīn tiān tiān qì rè de bù dé liǎo Today the weather is extremely hot.

Sightseeing Vocab:

纪念品	jì niàn pǐn	souvenir
礼物	lǐ wù	a gift
付钱	fù qián	to pay
信用卡	xìn yòng kǎ	credit card
现金	xiànjīn	cash
门票	mén piào	entry ticket
慢	màn	slow
参观	cān guān	to visit
京剧	jīng jù	Beijing Opera
晒太阳	shài tài yáng	sunbathe
博物馆	bó wù guǎn	museum
度假	dù jià	spend a holiday
当然	dāng rán	of course

Past tense

Previously we have learnt that to use the past tense, we simply added 了 after the verb: 我吃了米饭 - I ate rice.

However, you use 过 guò when asking / answering 'have you ever' questions.

In the negative, you use 没 méi

你去过中国吗? nǐ qù guò zhōng guó ma? Have you ever been to China?

我去过/ 我没去过 wǒ qù guò / wǒ méi qù guò I have been / I have never been.

Notice the difference in the two following sentences:

我没去中国。 wǒ méi qù zhōng guó。 I didn't go to China.

我没去过中国 wǒ méi qù guò zhōng guó I have never been to China

很 or 是? 是 means 'to be' but can't be used with an adj. alone
北京很大 Beijing is big
北京是大城市 Beijing is a big city

Questions:

- 你去过中国吗? nǐ qù guò zhōng guó ma? Have you ever been to China?
- 酒店在哪儿? jiǔ diàn zài nǎ ér? How will you get there?
- 双人房怎么样? shuāng rén fáng zě me yàng? How is the double room?

Answers:

- 我没去过 wǒ méi qù guò I have never been.
- 酒店离银行很近? jiǔ diàn lí yínháng hěn jìn It is close to the bank
- 双人房大的不得了 shuāng rén fáng dà de bù dé liǎo It is extremely big



Talk about parts of your body and your health as well as talking about your time at school

Resultative complements:

With resultative complements - a verb is followed by a word that tells us the result of the action. For example:

说完 **shuō wán** to finish speaking

说错 **shuō cuò** to say something incorrectly

说好 **shuō hǎo** to be sure about something

Some are logical and easy to understand but ...好 means 'finished to satisfaction'

A very common complement is ...到 It means 'to reach, manage to do sthg, or until':

看到 **kàn dào** to see

找到 **zhǎo dào** to find

来到 **lái dào** to arrive at

Parts of the body:

头发 **tóu fà** hair

眼睛 **yǎn jīng** eye

耳朵 **ěr duǒ** ears

鼻子 **bí zi** nose

腿 **tuǐ** leg

手 **shǒu** hands

脚 **jiǎo** foot

嘴 **zuǐ** mouth

牙齿 **yá chǐ** tooth

头 **tóu** head

疼 **téng** hurt, ache

穿 **chuān** to wear

戴 **dài** to wear

Medicine:

看病 **kàn bìng** to see a doctor

西药 **xī yào** Western meds

中药 **zhōng yào** Chinese meds

生病 **shēng bìng** become ill

病 **bìng** illness

针灸 **zhēn jiǔ** acupuncture

让 **ràng** to allow

药 **yào** medicine

伤 **shàng** to wound

难 **nán** difficult

感冒 **gǎn mào** to catch a cold

身体 **shēn tǐ** body

健康 **jiàn kāng** health(y)

Good and bad habits:

习惯 **xí guàn** habit

吃蛋糕 **chī dàn gāo** eat cake

散步 **sàn bù** to stroll

吸烟 **xī yān** to smoke

喝酒 **hē jiǔ** drink alcohol

打球 **dǎ qiú** play ball

睡觉 **shuì jiào** to sleep

爬山 **pá shān** to climb

Ordinals with 第:

Ordinal numbers (1st, 2nd, 3rd etc.) are indicated with 第 before the number. For example: 第一 means 'first'.

Ordinal numbers are followed by a measure word. For example:

第一个人 **dì yí ge rén** first person

第二年 **dì èr nián** second year

第四本书 **dì sì běn shū** fourth book

Ordinals are commonly used to help build an argument, and you should aim to bring them into your work:

我不要学化学。第一，化学很难。第二，我不喜欢化学老师。

Wǒ bú yào xué huàxué. Dì yī, huàxué hěn nán. Dì èr, wǒ bù xǐ huān huà xué lǎo shī

I don't like chemistry. Firstly, chemistry is hard. Secondly, I don't like the chemistry teacher.

School

严格 **yán gé** strict

汉子 **hàn zi** Character

问题 **wèn tí** question

习惯 **xí guàn** habit

完 **wán** to finish

错 **cuò** wrong

教 **jiào** to teach

学期 **xué qī** term

问 **wèn** to ask

有空 **yǒu kòng** free time

父亲 **fù qīn** father

母亲 **mǔ qīn** mother

高考 **gāo kǎo** exam

教育 **jiào yù** education

设备 **shè bèi** equipment

希望 **xī wàng** to hope

重要 **zhòng yào** important

School Subjects:

科目 **kē mù** subject

生物学 **shēng wù xué** biology

化学 **huà xué** chemistry

物理 **wù lǐ** physics

美术 **měi shù** fine art

工艺 **gōng yì** arts & crafts

感兴趣 **gǎn xìng qù** interested in

懂 **dǒng** understand

容易 **róng yì** easy

礼堂 **lǐ táng** hall

办公室 **bàn gōng shì** office

食堂 **shí táng** canteen

操场 **cāo chǎng** sports field

走廊 **zǒu láng** corridor

考试 **kǎo shì** exam

校长 **xiào zhǎng** headteacher

Keeping fit and healthy:

参加 **cān jiā** to attend

比赛 **bǐ sài** competition

米 **mǐ** metre

更 **gèng** more

快 **kuài** fast

金牌 **jīn pái** gold medal

赛车 **sài chē** car racing

队员 **duì yuán** teammate

体操 **tǐ cāo** gymnastics

滑雪 **huá xuě** to ski

滑冰 **huá bīng** to skate

奥运会 **ào yùn huì** Olympics

冬奥会 **dōng ào huì**

大家 **dà jiā** everyone



越...越...:
越 is used in sentence structures to show matching trends:
天气越好, 人越多。The better the weather, the more ppl.
电脑越贵越好。The more expensive the computer, the better

如果...就... If... then...:
The full sentence structure is:
如果...的话, ...就 + verb *rú guǒ...de huà,...jiù + verb*
如果穿毛衣的话, 你就不会很冷
rú guǒ chuān máo yī de huà,nǐ jiù bú huì hěn lěng
If you wear a jumper, you won't be cold.
This is a flexible structure, either 如果and就can be omitted

Modal Verbs:
Here is a list of the most common modal verbs in Chinese.
You will need to practice them to get the feel of how to use them correctly:

可以	kě yǐ	can, may	(used for permission)
能	néng	can	(physically able to)
会	huì	can, will	(talking about future facts)
要	yào	must, should	(involving desire/necessity)
应该	yīng gāi	should	(moral necessity)
想	xiǎng	would like to	(softer than 要)
得	deí	must, need to	
必需	bì xū	absolutely must	
愿意	yuàn yì	willing to	

Proof reading:
申 When you write or type Chinese characters, you can often choose a character that sounds correct, but is the wrong character.
Always double check your writing!

Career Plans

警察	jǐng chá	police
厨师	chú shī	chef
飞行员	fēi xíng yuán	pilot
售货员	shòu huò yuán	salesman
同事	tóng shì	colleague
毕业	bì yè	to graduate
赚钱	zhuàn qián	earn money
工资	gōng zī	salary
帮助	bāng zhù	to help
别人	bié rén	other ppl
压力	yā lì	pressure
职业	zhí yè	profession
名片	míng piàn	namecard
听说	tīng shuō	one hears
流利	liú lì	fluent

The Internet:

网民	wǎng mǐn	internet user
好处	hǎo chù	advantage
坏处	huài chù	disadvantage
发	fā	to send
寄信	jì xìn	to send a letter
短信	duǎn xìn	text message
马上	mǎ shàng	immediately
生意	shēng yì	business
花	huā	to spend
相信	xiāng xìn	to believe
影响	yǐng xiǎng	to influence
省钱	shěng qián	to save money
不错	bù cuò	not bad
奇怪	qí guài	strange

Applying for a job:

申请	shēn qǐng	to apply
性别	xìng bié	gender, sex
出生	chū shēng	to be born
日期	rì qī	date
联系	lián xì	to contact
地址	dì zhǐ	address
笑	xiào	smile

Social Media:

微信	wēi xìn	WeChat
字典	zì diǎn	dictionary
新闻	xīn wén	news
网站	wǎng zhàn	website
笔友	bǐ yǒu	pen pal
网友	wǎng yǒu	online pal
找	zhǎo	to find
网页除	wǎng yè	web page
复制	fù zhì	copy
下载	xià zǎi	download
打字	dǎ zì	copy
删除	shān chú	delete
电子邮件	diàn zǐ yóu jiàn	email

Interviewing for a job:

面试	miàn shì	interview
面谈	miàn tán	interview
个人	gè rén	individual
简历	jiǎn lì	CV
目标	mù biāo	objective
义工	yì gōng	volunteer work
理想	lǐ xiǎng	ideal
能力	néng lì	ability
机会	jī huì	opportunity
广告	guǎng gào	advertisement
兼职	jiān zhí	part-time work



Making sure we are ready for the MEP Hurdle Test - the HSK Exam!

HSK Examinations:

HSK stands for Hanyu Shuiping Kaoshi (汉语水平考试), literally translating to "Mandarin Level Exam", and is the internationally recognised standard for assessing the Chinese language level of non-native speakers.

The HSK exam was developed by the [Beijing Language and Culture University](#) (BLCU) in 1984 and is now managed by [Hanban](#), the organisation responsible for the Confucius Institutes in universities around the world.

The HSK test is designed to assess taker's reading, writing and listening abilities. There is no speaking section as this is tested through a separate exam called the HSKK (Hanyu Shuiping Kouyu Kaoshi or Mandarin Level Spoken Language Exam).

HSK Vocabulary:

See how many of these characters you can recognize / pronounce / understand the meaning of / write.

阿姨 啊 矮 爱好 安静

把 班 搬 办法 办公室 半 帮忙 包 饱 北方 被 鼻子 比较 比赛 笔记本 必须 变化 别人 冰箱 不但 而且 菜单 参加 草 层 差 超市 衬衫 成绩 城市 迟到 除了 船 春 词典 聪明

打扫 打算 带 担心 蛋糕 当然 地 灯 地方 地铁 地图 电梯 电子邮件 东 冬 动物 短 段 锻炼 多么 饿 耳朵

发 发烧 发现 方便 放 放心 分 附近 复习

干净 感冒 感兴趣 刚才 个子 根据 跟 更 公斤 公园 故事 刮 风 关 关系 关心 关于 国家 过 过去

还是 害怕 黑板 后来 护照 花 花 画 坏 欢迎 还 环境 换 黄河 回答 会议 或者

几乎 机会 极 记得 季节 检查 简单 见面 健康 讲 教 角 脚 接 街道 节目 节日 结婚 结束 解决 借 经常 经过 经理 久 旧 句子 决定

可爱 渴 刻 客人 空调 口 哭 裤子 筷子

蓝 老 离开 礼物 历史 脸 练习 辆 聊天 了解 邻居 留学 楼 绿

马 马上 满意 帽子 米 面包 明白

拿 奶奶 南 难 难过 年级 年轻 鸟 努力

爬山 盘子 胖 皮鞋 啤酒 瓶子

其实 其他 奇怪 骑 起飞 起来 清楚 请假 秋 裙子

然后 热情 认为 认真 容易 如果 伞

上网 生气 声音 世界 试 瘦 叔叔 舒服 树 数学 刷牙 双 水平 司机

太阳 特别 疼 提高 体育 甜 条 同事 同意 头发 突然 图书馆 腿

完成 碗 万 忘记 为 为了 位 文化

西 习 惯 洗手间 洗澡 夏 先 相信 香蕉 向 像 小心 校长 新闻 新鲜 信用卡 行李 箱 熊猫 需要 选择 要求 爷爷

一般 一边 一定 一共 一会儿 一样 一直 以前 音乐 银行 饮料 应该 影响 用 游戏 有名 又 遇到 元 愿意 月亮 越 站 张 长 着急 照顾 照片 照相机 只 只 只有 才 中间 中文 终于 种 重要

周末 主要 注意 自己 自行车 总是 嘴 最后 最近 作业



Review of AQA Book 1 - Reflect / Review these Units to make sure you know the Key Language Points

Unit 1: 我的爱好 Topic: My Hobbies

Recap your vocab, and review activities on www.secondaryschoolchinese.com

- (1) 跟/和... 一起... doing something together
- (2) 去(place) + verb for arranging meeting friends
- (3) When to use 会 /可以 / 能 to say 'can'

Unit 2: 怎么去 Topic: Getting Around

Recap your vocab, and review activities on www.secondaryschoolchinese.com

- (1) 在(place) + verb -referring to places in town
- (2) A 在 B。。。边 for describing location
- (3) 坐(transport) 去 (location) to say how you travel

Unit 3: 我家人 Topic: My Family

Recap your vocab, and review activities on www.secondaryschoolchinese.com

- (1) 不太, 非常, 有点儿 to describe opinions
- (2) Verb+得 to describe how people do things

Unit 4: 买东西 Topic: Going Shopping

Recap your vocab, and review activities on www.secondaryschoolchinese.com

- (1) ...还是... comparing options
- (2) adjective + 的 for descriptions
- (3) 给... + verb for buying gifts
- (4) 太。。。了 'too'

Unit 5: 他怎么样 Topic: Describing People

Recap your vocab, and review activities on www.secondaryschoolchinese.com

- (1) 虽然..., 但是... although...,but...
- (2) 真 for describing personalities
- (3) Relative clause + 的+ noun for descriptions

Unit 6: 出去吃饭 Topic: Eating Out

Recap your vocab, and review activities on www.secondaryschoolchinese.com

- (1) Using了 for completed actions
- (2) Using没有 for past negatives
- (3) 吧 For making suggestions

Unit 7: 我的一天 Topic: Daily Routine

Recap your vocab, and review activities on www.secondaryschoolchinese.com

- (1) 以前/以后 for describing routines
- (2) 因为...,所以... because..., so...
- (3) 正在。。。呢 what you are doing right now.

Unit 8: 放假 Topic: On Holiday

Recap your vocab, and review activities on www.secondaryschoolchinese.com

- (1) 快要...了 when talking about the weather
- (2) 从(place/time A) 到(place/time B) to describe a starting and finishing point (location or time)



Tips

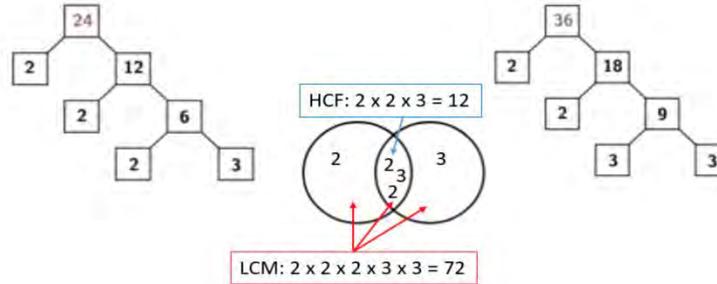
- 2 is the only even prime number
- Any number to the power of zero is 1
- Every whole number can be written as a unique product of primes

Key Words

- Factor** - Goes into other numbers with no remainders
- Index/indices** - the power of a number
- Place Value** - position of the digitals in a number (units/tens etc.)
- Prime** - Only divisible by 1 and itself
- Surds** - roots with irrational values

Examples

Finding HCF and LCM of 24 and 36



1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Key Concepts

Laws of Indices

$$a^m \times a^n = a^{m+n}$$

$$a^m \div a^n = a^{m-n}$$

$$(a^m)^n = a^{mn}$$

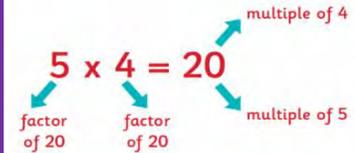
$$a^{-m} = \frac{1}{a^m}$$

$$\frac{a^m}{a^n} = \frac{a^m}{a^n}$$

$$a^{\frac{m}{n}} = \sqrt[n]{a^m}$$

What do I need to be able to do?

- Calculations with numbers including decimals
- Understand place value
- Factors and Multiples (HCF/LCM)
- Indices
- Standard form
- Prime factors
- Zero, negative and fractional indices
- Surds



Key Concepts

Surds are irrational numbers that cannot be simplified to an integer from a root.

Examples of a surd:
 $\sqrt{3}, \sqrt{5}, 2\sqrt{6}$

We use **standard form** to write a very large or a very small number in scientific form.

Must be $\times 10^b$
b is an integer

$a \times 10^b$
Must be $1 \leq a < 10$

Writing in the form $a\sqrt{b}$

Think square numbers $\sqrt{200}$ Square Factors = 4, 25, 100
Choose the largest square factor

$$\sqrt{100} \times \sqrt{2} = 10\sqrt{2}$$

$$\sqrt{a} \times \sqrt{b} = \sqrt{a \times b}$$

$$\sqrt{3} \times \sqrt{7} = \sqrt{3 \times 7} = \sqrt{21}$$

$$\frac{\sqrt{a}}{\sqrt{b}} = \sqrt{\frac{a}{b}} \quad \frac{\sqrt{6}}{\sqrt{10}} = \sqrt{\frac{6^3}{10^5}} = \sqrt{\frac{3}{5}}$$

$$\sqrt{a} + \sqrt{b} \neq \sqrt{a+b} \quad \sqrt{5} + \sqrt{20} = \sqrt{25} \times$$

Questions:

Simplify fully:

- 1) $2\sqrt{27}$
- 2) $2\sqrt{18} \times 3\sqrt{2}$
- 3) $\sqrt{72}$
- 4) $12\sqrt{56} \div 6\sqrt{8}$
- 5) $3\sqrt{2}(5 - 2\sqrt{8})$
- 6) $(2 + \sqrt{5})(3 - \sqrt{5})$



Expand and simplify:

1) $4(m + 5) + 3$
 $= 4m + 20 + 3$
 $= 4m + 23$

2) $(p + 2)(2p - 1)$
 $= p^2 + 4p - p - 2$
 $= p^2 + 3p - 2$

3) $(p + 3)(p - 1)(p + 4)$
 $= (p^2 + 3p - p - 3)(p + 4)$

$= (p^2 + 2p - 3)(p + 4)$
 $= p^3 + 4p^2 + 2p^2 + 8p - 3p - 12$
 $= p^3 + 6p^2 + 5p - 12$

Factorise fully:

1) $16at^2 + 12at = 4at(4t + 3)$

2) $x^2 - 2x - 3 = (x - 3)(x + 1)$

3) $6x^2 + 13x + 5$
 $= 6x^2 + 3x + 10x + 5$
 $= 3x(2x + 1) + 5(2x + 1)$
 $= (3x + 5)(2x + 1)$

4) $4x^2 - 25$
 $= (2x + 5)(2x - 5)$

hegartymaths

160-166, 168, 169, 223-228

Key Words

- Substitute
- Equation
- Formula
- Identity
- Expression
- Solve
- Rearrange
- Term
- Inverse

Difference of Two Squares

$$a^2 - b^2 = (a + b)(a - b)$$

Examples:

$9x^2 - 16$
 $= (3x)^2 - 4^2$
 $= (3x + 4)(3x - 4)$

$4x^2 - 81y^2$
 $= (2x)^2 - (9y)^2$
 $= (2x + 9y)(2x - 9y)$

Examples

- $5(y + 6) = 5y + 30$ is an identity as when the brackets are expanded we get the answer on the right hand side
- $5m - 7$ is an **expression** since there is no equals sign
- $3x - 6 = 12$ is an **equation** as it can be solved to give a solution
- $C = \frac{5(F - 32)}{9}$ is a **formula** (involves more than one letter and includes an equal sign)
- Find the value of $3x + 2$ when $x = 5$
 $(3 \times 5) + 2 = 17$
- Where $A = b^2 + c$, find A when $b = 2$ and $c = 3$
 $A = 2^2 + 3$
 $A = 4 + 3$
 $A = 7$

Key Concept

- An expression can be simplified by collecting like terms.
- Like terms are those which contain the same letter symbol and equal powers.
- Just as $2 + 2 + 2$ can be written as 3×2 , $a + a + a$ can be written as $3 \times a$.
- However, with algebraic notation, \times and \div symbols are not included, so $3 \times a$ becomes $3a$ and $3 \div a$ becomes $3/a$

Questions:

A) Expand:

1) $5(m - 2) + 6$ 2) $(5g - 4)(2g + 1)$ 3) $(y + 1)(y - 2)(y + 3)$

B) Factorise:

1) $5b^2c - 10bc$ 2) $x^2 - 8x + 15$ 3) $3x^2 + 8x + 4$ 4) $9x^2 - 25$

$$(x + 3)^2 - 4 = 0$$

$$(x + 3)^2 = 4$$

$$(x + 3) = \pm 2$$

$$\text{so } x = -3 \pm 2$$

$$x = -1 \text{ and } x = -5$$

Add 4 to each side

Take the square root of each side, $\sqrt{4} = \pm 2$ ($-2 \times 2 = 4$, $2 \times 2 = 4$)

ANSWERS: A 1) $5m - 8$ 2) $10g^2 - 14g - 4$ 3) $y^3 - 2y^2 - 5y - 6$ 4) $(3x + 5)(3x - 5)$ B 1) $5b^2c - 10bc$ 2) $(x - 3)(x - 5)$ 3) $(3x + 2)(x + 2)$ 4) $(3x + 5)(3x - 5)$

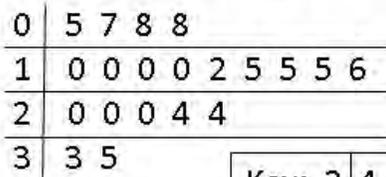


Stem and Leaf

Here are the times, in minutes, taken to solve a puzzle

5 10 15 12 8 7 20 35 24 15
20 33 15 24 10 8 10 20 16 10

Draw a stem and leaf diagram:



Key: 2 | 4 = 24

Calculate the median value = 15
State the mode = 10
Calculate the range = 35 - 5 = 30

Tips

A frequency polygon is another way of showing data in a histogram. The midpoints of the top of each bar are joined with straight lines.

Key Words

- Midpoint
- Frequency polygon
- Pie chart
- Degrees
- Scatter graph
- Correlation
- Line of best fit
- Two-way table
- Stem and Leaf diagram
- Median
- Compare

Two-way tables

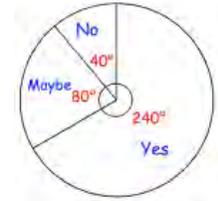
This **two-way table** gives information on how 100 students travelled to school.

	Walk	Car	Other	Total
Boy	15	25	14	54
Girl	22	8	16	46
Total	37	33	30	100

Always double check that your rows and columns add up to the total value.

Pie charts

Answer	Frequency	Angle
Yes	60	240
No	10	40
Maybe	20	80
Total	90	360



× 4

Scatter diagrams

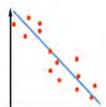
A **frequency polygon** is a line graph which connects the midpoints of grouped data.

A **pie chart** represents data into proportional sections.

A **scatter-graph** shows the relationship between two variables. **Correlation** is used to describe the relationships.



Positive Correlation



Negative Correlation



No Correlation

Mean

7, 3, 4, 1, 7, 6

Sum of numbers divided by the total numbers

$$\text{Mean} = (7+3+4+1+7+6)/6 = 28/6 = 4.66$$

Median

7, 3, 4, 1, 7, 6

Arrange in order and pick the middle value

1, 3, 4, 6, 7, 7

$$\text{Median} = (4+6)/2 = 5$$

Mode

7, 3, 4, 1, 7, 6

Most common number

7, 3, 4, 1, 7, 6

$$\text{Mode} = 7$$

Range

7, 3, 4, 1, 7, 6

Difference between highest and lowest

$$\text{Range} = 7 - 1 = 6$$

Modal group (mode)

Group with the highest frequency

Median group

Find the cumulative frequency of the frequency. The median lies in the group which holds the $\frac{\text{Total frequency}+1}{2}$ number

Estimate the mean

From grouped data the mean can only be an estimate as we do not know where the data lies in each group.

$$\frac{\text{Total } fx}{\text{Total } f}$$

Questions:

1) Draw a frequency polygon using this data.

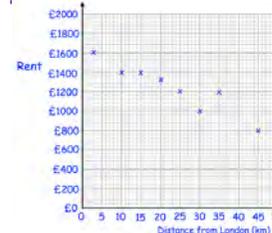
Marks	Frequency
0 < m ≤ 10	8
10 < m ≤ 20	11
20 < m ≤ 30	23
30 < m ≤ 40	19
40 < m ≤ 50	15

2) Draw a pie chart using this data.

Make	Frequency
Ford	8
Mazda	14
Volkswagen	21
Fiat	20
Honda	9

3a) What type of correlation is shown?

b) The distance from London of a house is 22km. What is an estimate of the rent it will cost?



ANSWERS: 2) Angles - 40, 70, 105, 100, 45
3a) Negative correlation b) Between £1200 and £1300



In this chapter you practise calculating with fractions, percentages and ratios to solve problems.

Key Words

Percent
Percentage
change
Reverse
percentage
Appreciate
Depreciate
Interest
Denominator
Numerator

Tips Reverse Percentage

Reverse percentages: This is when we are trying to find out the original amount.

A pair of trainers cost £35 in a sale. If there was 20% off, what was the **original price** of the trainers?

$$\begin{aligned} \text{Value} &\div (1 - 0.20) \\ &= 35 \div 0.8 \\ &= \text{£}43.75 \end{aligned}$$

Examples

A house is valued at £200,000 in 2018. It was sold in 2020 for a price of £240,000.

What percentage profit was made on this house?

$$\begin{aligned} \text{Profit} &= \frac{240000 - 200000}{200000} \times 100 \\ &= \text{20\% Profit} \end{aligned}$$

Compound Interest/depreciation:

The original value of a car is £5000. The value of the car **depreciates** at a rate of 7.5% per annum.

Calculate the value of the car after 3 years.

$$\begin{aligned} \text{Value} &\times (1 - \text{percentage as a decimal})^{\text{years}} \\ &= 5000 \times (1 - 0.075)^3 \\ &= 5000 \times (0.925)^3 \\ &= \text{£}3957.27 \end{aligned}$$

Key Concept

We use **multipliers** to increase and decrease an amount by a particular percentage.

Percentage increase:

$$\text{Value} \times (1 + \text{percentage as a decimal})$$

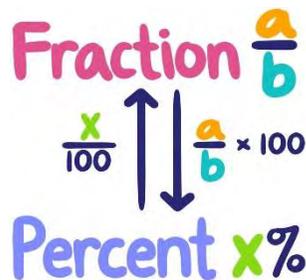
Percentage decrease:

$$\text{Value} \times (1 - \text{percentage as a decimal})$$

Appreciation means that the value of something is going up or increasing.

Depreciation means that the value of something is going down or reducing.

Per annum is often used in monetary questions meaning **per year**.



Box A has 8 fish fingers costing £1.40.
Box B has 20 fish fingers costing £ 3.40.
Which box is the better value?



$$\begin{aligned} A &= \frac{\text{£}1.40}{8} \\ &= \text{£}0.175 \end{aligned} \qquad \begin{aligned} B &= \frac{\text{£}3.40}{20} \\ &= \text{£}0.17 \end{aligned}$$

Therefore Box B is better value as each fish finger costs less.

What is a ratio?

Relationship between the number of parts, has a colon (:).

How do we write the ratio a:b in the form 1:n?

divide each part by the number 'a' to get 1 : b/a.

How do we share an amount in a ratio?

1. add together the number of parts
2. divide the amount of what you want to share by the total number of parts
3. multiply each part by the answer from step 2

Questions:

- 1) Jane invests £670 into a bank account that pays out 4% compound interest per annum. How much will be in the bank account after 2 years?
- 2) A house has decreased in value by 3% for the past 4 years. If originally it was worth £180,000, how much is it worth now?

ANSWERS: 1) £724.67 2) £159352.71



Key Concepts

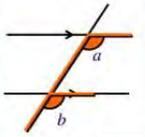
Angles in a triangle equal 180° .
 Angles in a quadrilateral equal 360° .
Vertically opposite angles are equal in size.
 Angles on a straight line equal 180° .
Base angles in an isosceles triangle are equal.
Alternate angles are equal in size.
Corresponding angles are equal in size.
Allied/co-interior angles are equal 180° .

Key Words

Angle
 Vertically opposite
 Straight line
 Alternate
 Corresponding
 Allied
 Co-interior

Tips:

Corresponding angles are equal

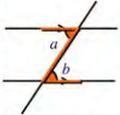


$$a = b$$

Look for an F-shape

Tips:

Alternate angles are equal

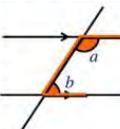


$$a = b$$

Look for a Z-shape

Tips:

Interior angles add up to 180°



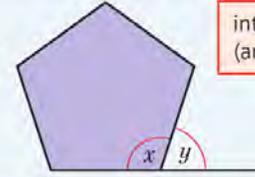
$$a + b = 180^\circ$$

Look for a C- or U-shape

Key point 4

When one side of a polygon is extended at a vertex:

- angle x is the interior angle
- angle y is the exterior angle.



interior angle + exterior angle = 180°
 (angles on a straight line add up to 180°)

Examples

$$x = 180 - (23 + 124)$$

$$x = 33^\circ$$

$$f = 44^\circ$$

Alternate angles are equal

$$c = 180 - 129$$

$$x = 51^\circ$$

Corresponding angles are equal

$$? = 360 - (65 + 110 + 87)$$

$$? = 98^\circ$$

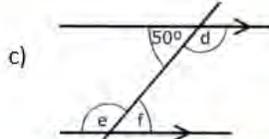
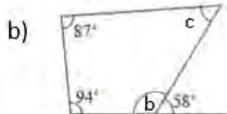
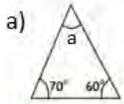
$$b = (180 - 116) \div 2$$

$$b = 32^\circ$$

Allied/co-interior angles equal 180°

Questions

Calculate the missing angle:



Exam-style question

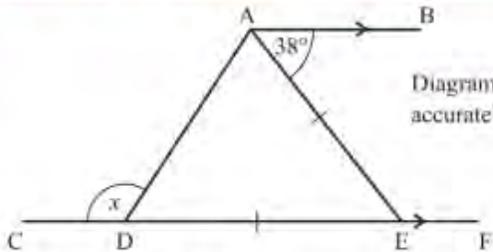


Diagram NOT accurately drawn

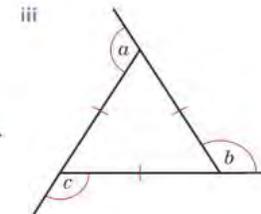
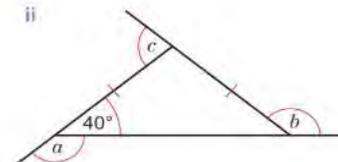
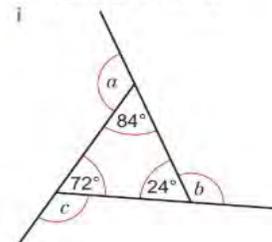
CDEF is a straight line.
 AB is parallel to CF. $DE = AE$.
 Calculate the size of the angle marked x .
 You must give reasons for your answer.

(4 marks)

Questions

For each triangle work out

- the sizes of angles a , b and c
- the value of $a + b + c$.





Content: Pythagoras' Theorem, SOH CAH TOA, Right-angle Triangle Trigonometry.

Key Concepts

Pythagoras' theorem and basic trigonometry both only work with **right angled triangles**.

Pythagoras' Theorem - used to find a missing length when two sides are known

$$a^2 + b^2 = c^2$$

c is always the hypotenuse (longest side)

Basic trigonometry SOHCAHTOA -

used to find a missing side or an angle

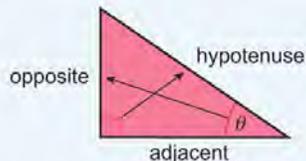


When finding the missing angle we must press **SHIFT** on our calculators first.

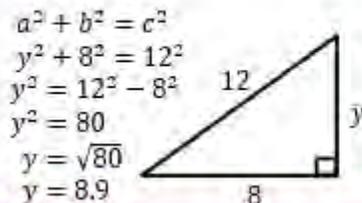
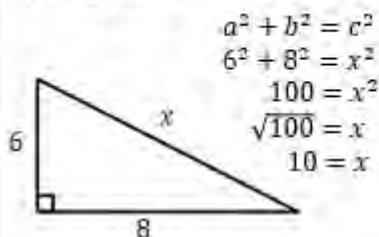
Key Words

Right angled triangle
degrees
angle.
Hypotenuse
Opposite
Adjacent
Sine
Cosine
Tangent

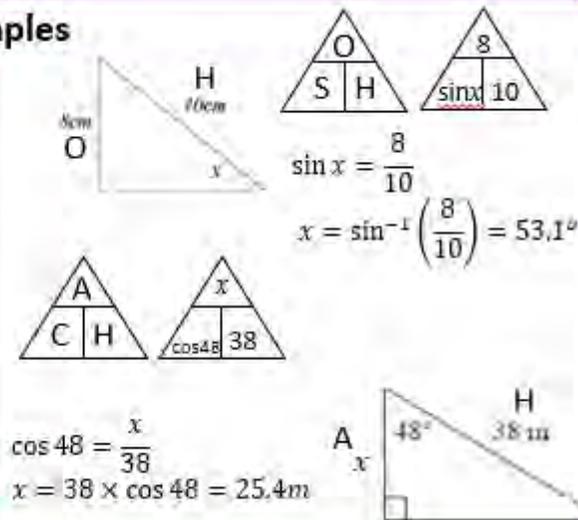
Tips:



Pythagoras' Theorem



Examples



Exam-style question

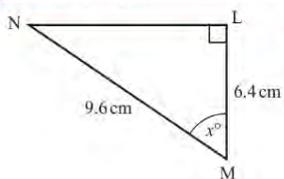


Diagram NOT accurately drawn

LMN is a right-angled triangle.

MN = 9.6 cm.

LM = 6.4 cm.

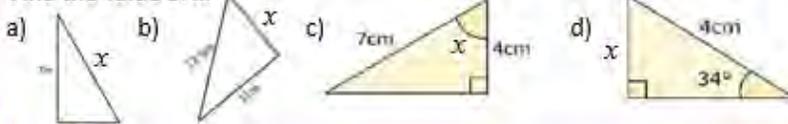
Calculate the size of the angle marked x° .

Give your answer correct to 1 decimal place. **(3 marks)**

June 2012, Q16, 1MA0/2H

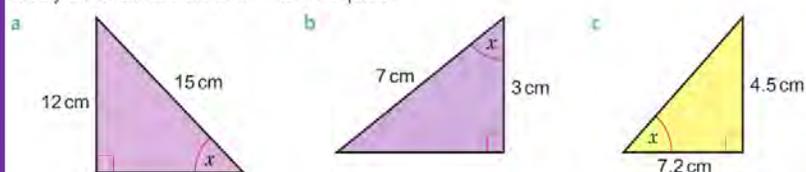
Questions

Find the value of x .



Calculate the size of angle x in each triangle.

Give your answers correct to 1 decimal place.



Exam-style question

ABCD is a trapezium.

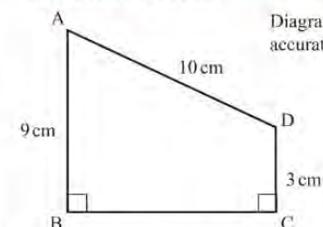


Diagram NOT accurately drawn

AD = 10 cm, AB = 9 cm, DC = 3 cm

Angle ABC = angle BCD = 90°

Calculate the length of AC.

Give your answer correct to 3 significant figures. **(5 marks)**

Nov 2012, Q15, 1MA0/2H



Content: Linear Graphs, Real life Graphs, Line Segments, Quadratic Graphs .

Key Concepts

Coordinates in 2D are written as follows:

x is the value that is to the left/right (x, y) y is the value that is to up/down

Straight line graphs always have the equation:

$$y = mx + c$$

m is the **gradient** i.e. the steepness of the graph.
 c is the **y intercept** i.e. where the graph cuts the y axis.

Parallel lines always have the same **gradient**.

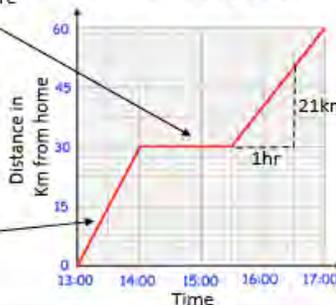
Key Words

Intercept: Where two graphs cross.
Gradient: This describes the steepness of the line.
y-intercept: Where the graph crosses the y -axis.
Linear: A linear graph is a straight line.
Quadratic: A quadratic graph is curved, u or n shape.

Examples

Horizontal sections are where the object is stationary

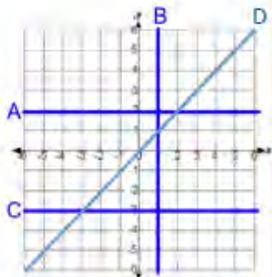
Diagonal lines show the object moving away from home or moving closer to home



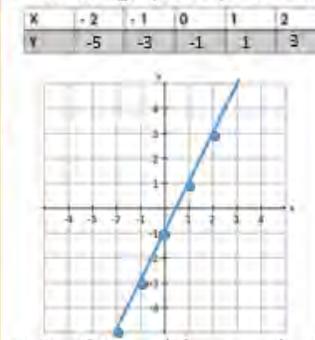
$$\text{Speed} = \frac{\text{distance}}{\text{time}}$$
$$\text{Speed} = \frac{21}{1}$$
$$\text{Speed} = 21\text{km/h}$$

Examples

Draw the graph of $y = 2x - 1$



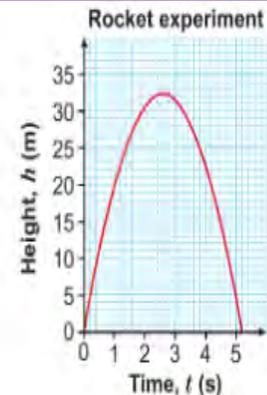
A: $y = 2$ B: $x = 1$
C: $y = -3$ D: $y = x$



Notice this graph has a gradient of 2 and a y -intercept of -1.

Modelling / STEM Some maths students are investigating the effects of gravity on bottle rockets. The students measure the rocket's height until it falls back to the ground. The graph shows the rocket's height, h metres, at time t seconds after take-off.

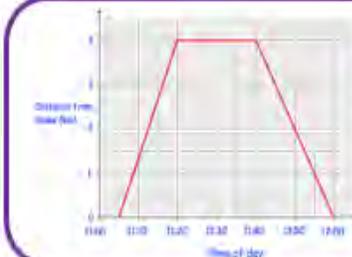
- a What type of graph is this?
- b When is the rocket travelling fastest?
- Q8b hint** Faster speed = steeper gradient
- c When is the rocket's speed zero?
- d What is the maximum height that the rocket reaches?
- e How long is the rocket in the air?



Types of Graphs

Linear (straight line) $y = mx + c$ Positive Grad $y = -mx + c$ Negative Grad	Quadratic $y = \dots x^2 + \dots$ Positive x^2 $y = \dots x^2 + \dots$ Negative x^2	Cubic $y = \dots x^3 + \dots$ Reciprocal $y = \frac{1}{x}$
-------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------

- 1) Plot the line $y = 3x - 2$
- 2) Find the equation of the line for the attached graph.
- 3) State the equation of a line that would be parallel to this line.



A distance-time graph shows the journey of someone from home to the shop and back again.

- 1) How long were they at the shop for?
- 2) How far away from home is the shop?
- 3) How far did they travel in total?
- 4) What speed did they travel on the way to the shop in km/h?

ANSWERS: 1) 20 minutes 2) 4km 3) 8km 4) 16km/h



Key Words

- Area:** It is the size of a surface (2D shapes)
- Perimeter:** It is the distance around a 2D shape
- Volume:** It is the amount of 3-dimensional space an object takes up (with liquid this is called capacity)
- Perpendicular:** Two lines that meet at 90°
- Vertex:** A point where two or more-line segments meet
- Face:** It is any of the flat surfaces of a solid object
- Edge:** A line segment on the boundary joining one vertex to another
- Commutative:** you can swap the order around in the calculation and still achieve the same answer

Tips

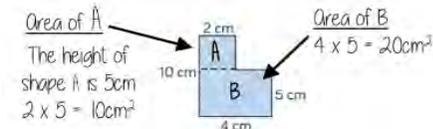
- Always check the units of measurement.
- Area is measured in units squared
- Volume is measured in units Cubed

Examples

Area

Rectangle/ Square area = Base x Height

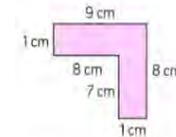
Compound Shapes



Total area = Area A + Area B = $10 + 20 = 30\text{cm}^2$

Perimeter

Length around the outside of the shape.



In compound shapes make sure all the lengths have measurements

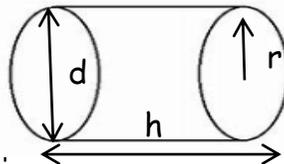
Perimeter = $9\text{cm} + 8\text{cm} + 1\text{cm} + 7\text{cm} + 8\text{cm} + 1\text{cm}$
 $= 34\text{cm}$

Perimeter: often asks about boundaries or walls in questions

Key Concept

A cylinder is a prism with the cross section of a circle.

The volume of a cylinder is calculated by $\pi r^2 h$ and is the space inside the 3D shc.

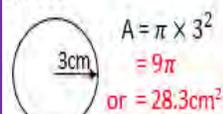


The surface area of a cylinder is calculated by $2\pi r^2 + \pi dh$ and is the total of the areas of all the faces on the shape.

Examples

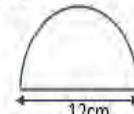
Calculate:

a) Area



$A = \pi \times 3^2$
 $= 9\pi$
 Or $= 28.3\text{cm}^2$

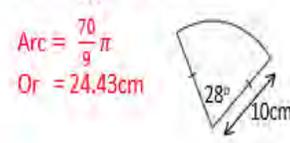
c) Area



$P = \frac{\pi \times r^2}{2}$
 $P = \frac{\pi \times 6^2}{2}$
 $P = 18\pi$
 Or $= 56.55\text{cm}^2$

d) Area of a sector

$\text{Arc} = \frac{\theta}{360} \times \pi \times r^2$
 $\text{Arc} = \frac{28}{360} \times \pi \times 10^2$
 $\text{Arc} = \frac{28}{360} \times \pi \times 100$



$\text{Arc} = \frac{70}{9} \pi$
 Or $= 24.43\text{cm}$

b) Radius when the area is 20cm²

$A = \pi \times r^2$
 $20 = \pi \times r^2$
 $\frac{20}{\pi} = r^2$
 $\sqrt{\frac{20}{\pi}} = r$
 Or 2.52cm

$$\text{Volume} = \frac{4}{3} \pi r^3$$

Find the volume of the sphere with diameter 16cm. Give your answer to 3 significant figures

$$\text{Volume} = \frac{4}{3} \times \pi \times (8)^3$$

$$2144.660585\text{cm}^3$$

$$2140\text{cm}^3$$

For a hemisphere, don't forget to halve your answer

Questions:

Calculate the volume and surface area of:

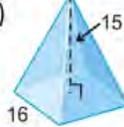
1)



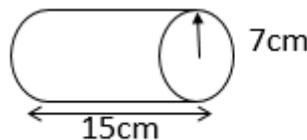
2)



3)



4)



ANSWERS: (1) Volume = 735π or 2309.07cm³ Surface area = 308π or 967.61cm²

ANSWERS: (1) V = 3053.6cm³ SA = 1017.9cm² (2) V = 1206.4cm³ SA = 696.2cm² (3) V = 1280cm³ SA = 800cm²



Key Words

- Rotate
- Clockwise
- Anticlockwise
- Centre
- Degrees
- Reflect
- Mirror image
- Translate
- Vector

Translation

Reflection

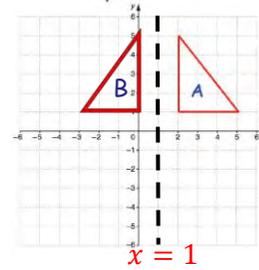
Enlargement

Rotation

Invariant points
(Higher only)

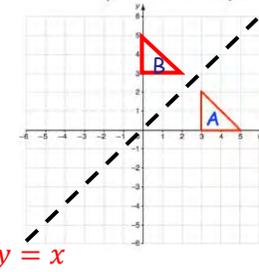
Examples

Reflect shape A in the line $x = 1$. Label it B.

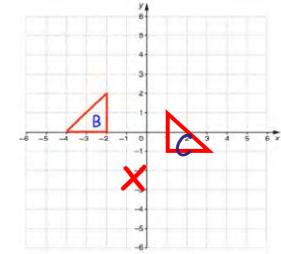


Transformations

Reflect shape A in the line $y = x$. Label it B.



Rotate shape B from the point $(-1, -2)$ clockwise, 90° . Label it C.



Key Concept

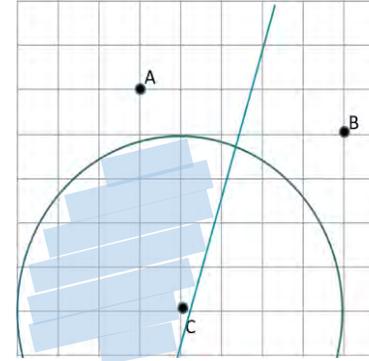
A **translation** moves a shape on a coordinate grid. Vectors are used to instruct the movement:

- Positive-Right
- Negative - Left
- Positive-Up
- Negative - Down



Tips

- A positive scale factor will increase the size of an image
- A fractional scale factor will reduce the size of an image
- A negative scale factor will place the image on the opposite side of the centre of enlargement with the image inverted



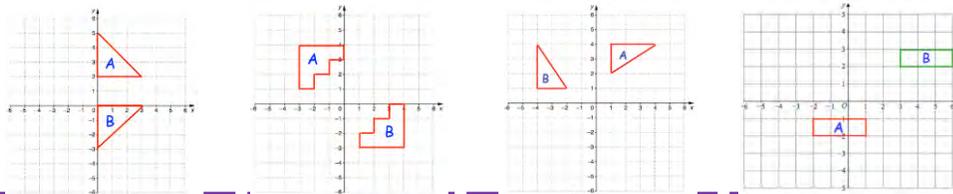
Shade the region that is:

- closer to A than B
- less than 4 cm from C

Line bisector of A and B

Circle with radius 4cm

Questions: Describe the **single** transformation you see on each coordinate grid from A to B:



ANSWERS: a) reflection, $y = 1$ b) reflection $y = x$ c) rotation, centre $(0,0)$, 90° anticlockwise d) translation $\begin{pmatrix} 4 \\ 0 \end{pmatrix}$



Solving algebraic problems involving quadratic equations, simultaneous equations and inequalities

Key Concepts

We can solve quadratic equations in 4 different ways:

$$ax^2 + bx + c = 0$$

Factorising – put into brackets first

Completing the square

$$\left(x + \frac{b}{2}\right)^2 + c - \left(\frac{b}{2}\right)^2 = 0$$

Quadratic formula

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Key Words

- Solve
- Quadratic Equation
- Factorise
- Completing the Square
- Quadratic formula

Examples

Factorising:

$$x^2 + 7x + 10 = 0$$

$$(x + 2)(x + 5) = 0$$

Either: $x + 2 = 0$
 $x = -2$

Or: $x + 5 = 0$
 $x = -5$

Completing the square – leave your answer in root form:

$$x^2 + 6x + 5 = 0$$

$$\left(x + \frac{6}{2}\right)^2 + 5 - \left(\frac{6}{2}\right)^2 = 0$$

$$(x + 3)^2 + 5 - 3^2 = 0$$

$$(x + 3)^2 - 4 = 0$$

Either: $x = \sqrt{4} - 3$

Or: $x = -\sqrt{4} - 3$

Quadratic formula – give your answer to 2 decimal places:

$$x^2 + 4x - 2 = 0$$

$$x = \frac{-4 \pm \sqrt{4^2 - 4(1)(-2)}}{2(1)}$$

$$x = \frac{-4 \pm \sqrt{16 + 8}}{2}$$

Either: $x = 0.45$

Or: $x = -4.45$

- 1) Solve by factorising: $x^2 + 6x + 8 = 0$
- 2) Solve by completing the square: $x^2 + 8x + 10 = 0$
- 3) Solve by using the quadratic formula: $x^2 + 9x - 1 = 0$

ANSWERS: 1) $x = -2, x = -4$ 2) $x = \sqrt{6} - 4, x = -\sqrt{6} - 4$ 3) $x = 0.11, x = -9.11$



Key Concepts

Simultaneous equations are when **more than one equation** are given, which involve **more than one variable**. The variables have the **same value** in each equation.

Key Words

Simultaneous
Substitution
Elimination
Linear
Quadratic

Two linear equations:

$$\begin{array}{r} 3x + 2y = 18 \\ 3x - y = 9 \quad \times 2 \\ \hline 3x + 2y = 18 \\ 6x - 2y = 18 \quad + \\ \hline 9x = 36 \\ x = 4 \end{array}$$

SSS – Same Sign Subtract
DSA – Different Sign Add

Substitute in $x = 4$ into an original equation

$$\begin{array}{r} 3x + 2y = 18 \\ (3 \times 4) + 2y = 18 \\ 12 + 2y = 18 \\ 2y = 6 \\ y = 3 \end{array}$$

One linear and one quadratic equation: Examples

$$\begin{array}{r} x^2 + y^2 = 17 \\ y = x - 3 \end{array}$$

Substitute $y = x - 3$ into y in the quadratic equation.

$$\begin{array}{r} x^2 + (x - 3)^2 = 17 \\ x^2 + x^2 - 6x + 9 - 17 = 0 \\ 2x^2 - 6x - 8 = 0 \end{array}$$

Solve by factorising or using the quadratic formula.

$$x = 4 \text{ or } x = -1$$

Substitute the x values into the linear equation to find the corresponding y values.

$$\text{When } x = 4, \quad y = 4 - 3 = 1$$

$$\text{When } x = -1, \quad y = -1 - 3 = -4$$

VIRAL MATH PUZZLE

$$\begin{array}{r} \text{Hexagon} + \text{Hexagon} + \text{Hexagon} = 45 \\ \text{Banana} + \text{Banana} + \text{Hexagon} = 23 \\ \text{Banana} + \text{Clock} + \text{Clock} = 10 \\ \text{Clock} + \text{Banana} + \text{Banana} \times \text{Hexagon} = ?? \end{array}$$



Solve each set of simultaneous equations:

$$\begin{array}{r} 1) \quad 3x + 2y = 4 \\ \quad 4x + 5y = 17 \end{array} \quad \begin{array}{r} 2) \quad x^2 + y^2 = 13 \\ \quad x = y - 5 \end{array}$$

ANSWERS: 1) $x = -2$ and $y = 5$ 2) $x = 3$ and $y = -2$, $y = -3$ and $x = 2$



Key Concepts

Inequalities show the **range** of numbers that satisfy a rule.

$x < 2$ means x is less than 2

$x \leq 2$ means x is less than or equal to 2

$x > 2$ means x is greater than 2

$x \geq 2$ means x is greater than or equal to 2

On a **number line** we use circles to highlight the key values:

- is used for less/greater than
- is used for less/greater than or equal to

Examples

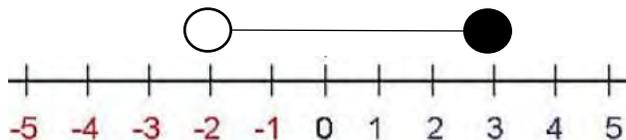
a) State the values of n that satisfy:

$$-2 < n \leq 3$$

Cannot be equal to 2 Can be equal to 3

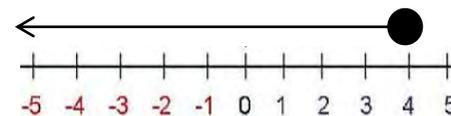
-1, 0, 1, 2, 3

b) Show this inequality on a number line:



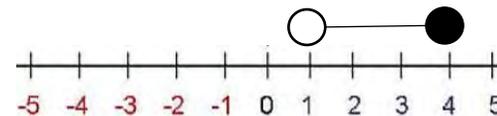
Solve this inequality and represent your answer on a **number line**:

$$\begin{aligned}
 5x - 6 &\leq 14 \\
 +6 &\quad +6 \\
 5x &\leq 20 \\
 \div 5 &\quad \div 5 \\
 x &\leq 4
 \end{aligned}$$



Solve this inequality and represent your answer on a **number line**:

$$\begin{aligned}
 4 < 3x + 1 &\leq 13 \\
 -1 &\quad -1 \\
 3 < 3x &\leq 12 \\
 \div 3 &\quad \div 3 \\
 1 < x &\leq 4
 \end{aligned}$$



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265-272

Key Words
Inequality
Greater than
Less than
Represent
Number line

- 1) State the values of n that satisfy: $-3 \leq n < 2$
- 2) Solve $4x - 2 \leq 6$ and represent your answer on a number line
- 3) Solve $5 < 2x + 3 \leq 9$ and represent your answer on a number line

ANSWERS: 1) $-3, -2, -1, 0, 1, 2$ 2) $x \leq 2$ 3) $1 < x \leq 3$



Key Concepts

Two way tables are used to tabulate a number of pieces of information.

Probabilities can be formulated easily from two way tables.

Probabilities can be written as a **fraction, decimal or a percentage** however we often work with fractions. You do not need to simplify your fractions in probabilities.

Estimating the number of times an event will occur

$$\text{Probability} \times \text{no. of trials}$$

Examples

There are only red counters, blue counters, white counters and black counters in a bag.

Colour	Red	Blue	Black	White
No. of counters	9	3x	x-5	2x

A counter is chosen at random, the probability it is red is $\frac{9}{100}$. Work out the probability it is black.

$$9 + 3x + x - 5 + 2x = 100$$

$$6x + 4 = 100$$

$$x = 16$$

$$\text{Number of black counters} = 16 - 5$$

$$= 11$$

$$\text{Probability of choosing black} = \frac{11}{100}$$

80 children went on a school trip. They went to London or to York.
23 boys and 19 girls went to London. 14 boys went to York.

	London	York	Total
Girls	19	24	43
Boys	23	14	37
Total	42	38	80

What is the probability that a person is chosen that went to London? $\frac{42}{80}$

If a girl is chosen, what is the probability that she went to York? $\frac{24}{38}$



353, 422-424

Key Words

Two way table
Probability
Fraction
Outcomes
Frequency

	1	2	3
Prob	0.37	2x	x

- Calculate the probability of choosing a 2 or a 3.
- Estimate the number of times a 2 will be chosen if the experiment is repeated 300 times.

2a) Complete the two way table:

	Year Group			Total
	9	10	11	
Boys			125	407
Girls		123		
Total	303	256		831

b) What is the probability that a Y10 is chosen, given that they are a girl .



Key Concepts

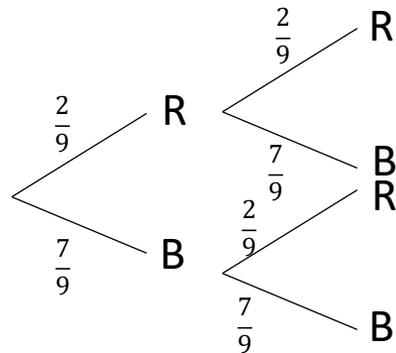
Independent events are events which do not affect one another.

Dependent events affect one another's probabilities. This is also known as **conditional probability**.

Mutually Exclusive Events are two (or more) events which cannot both happen at the same time

Examples

There are red and blue counters in a bag.
The probability that a red counter is chosen is $\frac{2}{9}$.
A counter is chosen and **replaced**, then a second counter is chosen.
Draw a tree diagram and calculate the probability that two counters of the same colour are chosen.



Prob of two reds:

$$\frac{2}{9} \times \frac{2}{9} = \frac{4}{81}$$

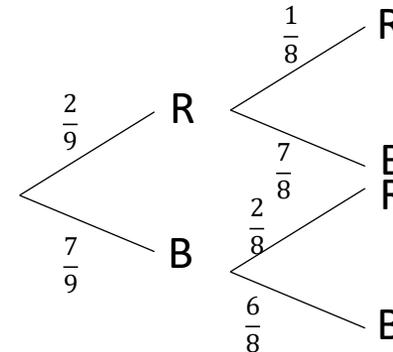
Prob of two blues:

$$\frac{7}{9} \times \frac{7}{9} = \frac{49}{81}$$

Prob of same colours:

$$\frac{4}{81} + \frac{49}{81} = \frac{53}{81}$$

There are red and blue counters in a bag.
The probability that a red counter is chosen is $\frac{2}{9}$.
A counter is chosen and **not replaced**, then a second counter is chosen.
Draw a tree diagram and calculate the probability that two counters of the same colour are chosen.



Prob of two reds:

$$\frac{2}{9} \times \frac{1}{8} = \frac{2}{72}$$

Prob of two blues:

$$\frac{7}{9} \times \frac{6}{8} = \frac{42}{72}$$

Prob of same colours:

$$\frac{2}{72} + \frac{42}{72} = \frac{44}{72}$$



361-362, 364-367,
389-390

Key Words
Independent
Dependant
Conditional
Probability
Fraction

1) There are blue and green pens in a drawer. There are 4 blues and 7 greens.
A pen is chosen and then **replaced**, then a second pen is chosen.
Draw a tree diagram to show this information and calculate the probability that pens of different colours are chosen.

2) There are blue and green pens in a drawer. There are 4 blues and 7 greens.
A pen is chosen and **not replaced**, then a second pen is chosen.
Draw a tree diagram to show this information and calculate the probability that pens of different colours are chosen.



Key Concepts

Probabilities can be described using **words** and **numerically**.

We can use **fractions**, **decimals** or **percentages** to represent a probability.

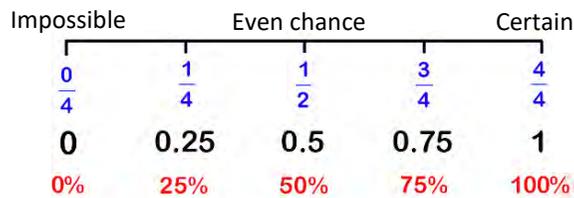
Theoretical probability is what should happen if all variables were fair.

All probabilities must **add to 1**.

The probability of something **NOT** happening equals:

$$1 - (\text{probability of it happening})$$

Probability scale:



Examples

There are only red counters, blue counters, white counters and black counters in a bag.

Colour	Red	Blue	Black	White
No. of counters	9	3x	x-5	2x

A counter is chosen at random, the probability it is red is $\frac{9}{100}$. Work out the probability it is black.

$$9 + 3x + x - 5 + 2x = 100$$

$$6x + 4 = 100$$

$$x = 16$$

$$\text{Number of black counters} = 16 - 5 = 11$$

$$\text{Probability of choosing black} = \frac{11}{100}$$

There are only red counters, blue counters, white counters and black counters in a bag.

Colour	Red	Blue	Black	White
No. of counters	9	3	5	2

- 1) What is the probability that a blue counter is chosen? $\frac{3}{19} = \frac{\text{number of blue}}{\text{total number of counters}}$
- 2) What is the probability that red is **not** chosen? $\frac{10}{19} = \frac{\text{number of all other colours}}{\text{total number of counters}}$



Key Words

- Theoretical
- Probability
- Fraction
- Decimal
- Percentage
- Certain
- Impossible
- Even chance

	1	2	3
Prob	5	4	9

	1	2	3
Prob	0.37	2x	x

- 1a) Calculate the probability of choosing a 2.
- 1b) Calculate the probability of not choosing a 3.
- 2) Calculate the probability of choosing a 2 or a 3.

ANSWERS: 1a) $\frac{18}{4}$ b) $\frac{18}{9}$ 2) $P(2) = 0.42$ $P(3) = 0.21$



Key Concepts

Experimental probability differs to theoretical probability in that it is based upon the **outcomes from experiments**. It may not reflect the outcomes we expect.

Experimental probability is also known as the **relative frequency** of an event occurring.

Estimating the number of times an event will occur:

$$\text{Probability} \times \text{no. of trials}$$

Examples

Colour	red	blue	white	black
Prob	x	0.2	0.3	x

A spinner is spun, it has four colours on it. The relative frequencies of each colour are recorded. The relative frequency of red and black are the same.

a) What is the relative frequency of red?

$$1 - (0.2 + 0.3) = 0.5$$

$$x = \frac{0.5}{2} = 0.25$$

b) If the spinner is spun 300 times, how many times do you expect it to land on white?

$$0.3 \times 300 = 90$$



355-357

Key Words
Experimental
Relative frequency
Fraction
Decimal
Probability
Estimate

Number	1	2	3	4
Prob	x	0.46	0.28	x

A spinner is spun which has 1,2,3,4 on it. The probability that a 1 and a 4 are spun are equal.

a) What is the probability that a 4 is landed on?

b) If the spinner is spun 500 times how many times do we expect it to land on a 2?

ANSWERS: a) 0.13 b) 230



Key Concepts

Venn diagrams show all possible relationships between different sets of data.

Probabilities can be derived from Venn diagrams. Specific notation is used for this:

$P(A \cap B)$ = Probability of A **and** B

$P(A \cup B)$ = Probability of A **or** B

$P(A')$ = Probability of **not** A

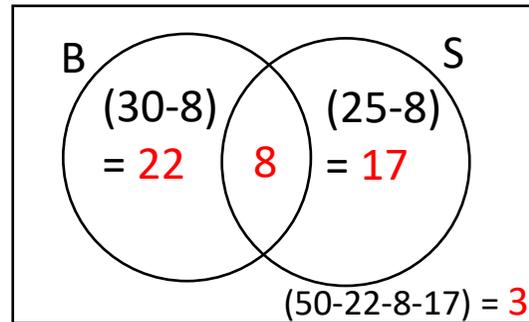
Example

Out of 50 people surveyed:

30 have a brother

25 have a sister

8 have both a brother and sister



a) Complete the Venn diagram

b) Calculate:

i) $P(A \cap B) = \frac{8}{50}$ ii) $P(A \cup B) = \frac{47}{50}$ iii) $P(B') = \frac{20}{50}$

iv) The probability that a person with a sister, does not have a brother.
 $= \frac{8}{25}$

40 students were surveyed:

20 have visited France

15 have visited Spain

10 have visited both France and Spain

a) Complete a Venn diagram to represent this information.

b) Calculate:

i) $P(F \cap S)$ ii) $P(F \cup S)$ iii) $P(S')$

iv) The probability someone who has visited France, has not gone to Spain.

ANSWERS: b) 10/40 !! 25/40 !! 25/40 !! 25/40 !! 20/40 !! 20/40 = 1/2

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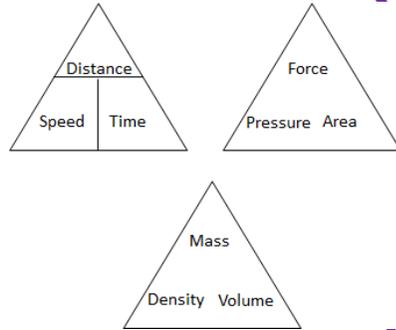
372-388, 391

Key Words
Venn diagram
Union
Intersection
Probability
Outcomes



Variables are **directly proportional** when the **ratio is constant** between the quantities.

Variables are **inversely proportional** when **one quantity increases in proportion to the other decreasing**.



Examples

Direct proportion:

Value of A	32	P	56	20	72
Value of B	20	30	35	R	45

Ratio constant: $20 \div 32 = \frac{5}{8}$

From A to B we will multiply by $\frac{5}{8}$.

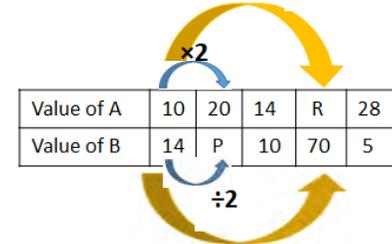
From B to A we will divide by $\frac{5}{8}$.

$P = 30 \div \frac{5}{8} = 48$

$R = 20 \times \frac{5}{8} = 12.5$

Inverse proportion:

$\div 5$



$P = 7$

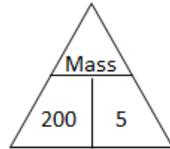
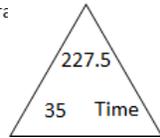
$\times 5$

$R = 2$

A car is travelling at a speed of 35mph and is scheduled to travel 227.5 miles. How long will this take in hours and minutes?

$Time = \frac{distance}{speed}$

$Time = \frac{227.5}{35} = 6.5 \text{ hours} = 6 \text{ hours } 30 \text{ minutes}$



A $5m^3$ box has a density of $200g/m^3$. What is the mass of the box?

$Mass = Density \times Volume$
 $Mass = 200 \times 5 = 1000g$

10N of force are applied to a block with area $4m^2$. Calculate the pressure.

$Pressure = \frac{force}{area}$
 $Pressure = \frac{10}{4} = 2.5N/m^2$

Questions:

- 1) A block exerts a force of 120 Newtons on the ground. The block has an area of $2m^2$. Work out the pressure on the ground.
- 2) A piece of gold has a mass of 760 grams and a volume of $40cm^3$. Work out the density of the piece of gold.
- 3) Dani leaves her house at 08:00. She drives 63 miles to work. She drives at an average speed of 27 miles per hour. At what time does Dani arrive at work?

Questions:

Complete each table:

1) Direct proportion

Value of A	5	P	22
Value of B	9	28.8	Q

2) Inverse proportion

Value of A	4	P	18
Value of B	9	3	Q

ANSWERS 1) $60N/m^2$ 2) $19g/cm^3$ 3) 10:20am

ANSWERS 1) $P = 16, Q = 39.6, 2) P = 12, Q = 2$



Similar Shapes and Congruent Triangles

Similar shapes are an enlargement of one another.

A **scale factor** is used, whereby all lengths are multiplied by the same number.

When finding a missing length on the larger shape we **multiply** by the scale factor.

When finding a missing length on the smaller shape we **divide** by the scale factor.

length, area and volume scale factors are all linked.

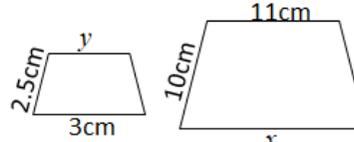
Example:

Length scale factor = 2

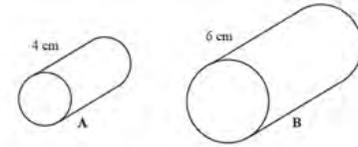
Area scale factor = 2^2

Volume scale factor = 2^3

Examples



$$\begin{aligned} \text{Scale factor} &= \frac{10}{2.5} \\ &= 4 \\ x &= 3 \times 4 \\ &= 12\text{cm} \\ y &= 11 \div 4 \\ &= 2.75\text{cm} \end{aligned}$$



The volume of cylinder A is 80 cm^3 . Calculate the volume of cylinder B.

$$\begin{aligned} \text{Length scale factor} &= \frac{6}{4} \\ &= 1.5 \end{aligned}$$

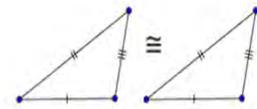
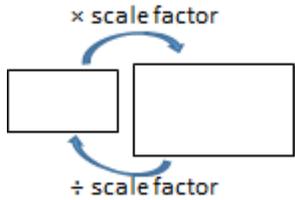
$$\begin{aligned} \text{Volume of B} &= 80 \times 1.5^3 \\ &= 270\text{cm}^3 \end{aligned}$$

Key Concept

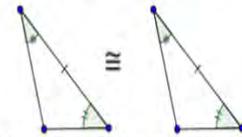
Congruent triangles are triangles that have the **same size and shape**.

This means that the corresponding sides are equal and the corresponding angles are equal.

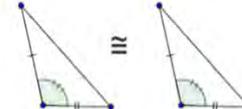
There are four rules of congruency that prove whether a triangle is congruent or not.



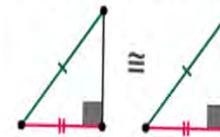
SSS = 3 sides on triangle A are equal to those on triangle B



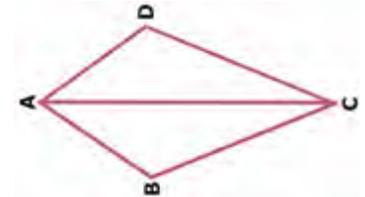
ASA = 2 angles with the included side on triangle A are equal to those on triangle B



SAS = 2 sides with the included angle on triangle A are equal to those on triangle B

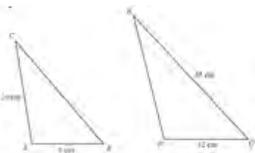


RHS = When the hypotenuse and another side on triangle A are equal to those on triangle B

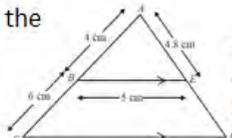


Prove that triangle ACD and ABC are congruent to one another.

Questions:



- 1) Calculate the length of:
- PR
 - BC



- 2) Calculate the length of:
- CD
 - ED

ANSWERS: AD = AB, CD = BC, AC is common to both triangles, therefore they are congruent proved by the SSS rule.

ANSWERS 1a) 39cm b) 30cm 2a) 12.5cm b) 7.2cm



Key Concepts

Sine rule

To calculate a missing side:

$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

To calculate a missing angle:

$$\frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}$$

Cosine rule

To calculate a missing side:

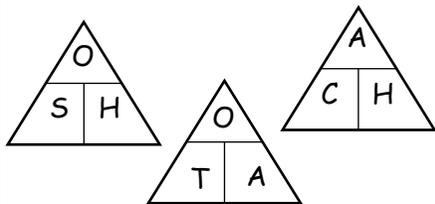
$$a^2 = b^2 + c^2 - 2bccosA$$

To calculate a missing angle:

$$cosA = \frac{b^2 + c^2 - a^2}{2bc}$$

Area of a triangle using sine

$$area = \frac{1}{2}absinC$$

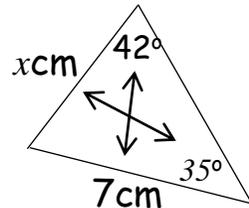


When finding the missing angle we must press **SHIFT** on our calculators first.



320-330, 516-519, 531-533

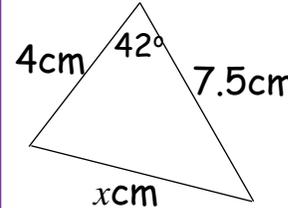
Examples



$$\frac{x}{\sin 35} = \frac{7}{\sin 42}$$

$$x = \frac{\sin 35 \times 7}{\sin 42}$$

$$x = 6.0cm$$

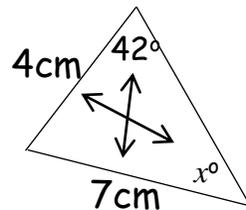


$$a^2 = b^2 + c^2 - 2bccosA$$

$$x^2 = 4^2 + 7.5^2 - 2 \times 4 \times 7.5 \times \cos 42$$

$$x^2 = 27.66$$

$$x = \sqrt{27.66} = 5.26cm$$

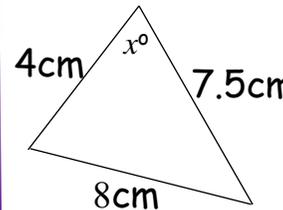


$$\frac{\sin x}{4} = \frac{\sin 42}{7}$$

$$\sin x = \frac{\sin 42 \times 4}{7}$$

$$x = \sin^{-1} \left(\frac{\sin 42 \times 4}{7} \right)$$

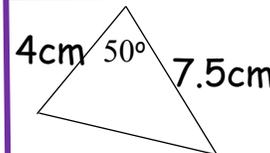
$$x = 22.5^\circ$$



$$\cos A = \frac{4^2 + 7.5^2 - 8^2}{2 \times 4 \times 7.5}$$

$$A = \cos^{-1} \left(\frac{4^2 + 7.5^2 - 8^2}{2 \times 4 \times 7.5} \right)$$

$$A = 82.1^\circ$$

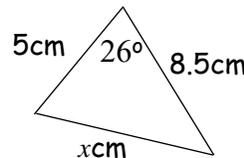


$$area = \frac{1}{2} \times 4 \times 7.5 \times \sin 50$$

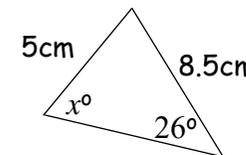
$$area = 11.49cm^2$$

Key Words

Sine
Cosine
Side
Angle
Inverse
2D



- 1a) Calculate x
b) Calculate the area of the triangle



- 2a) Calculate x
b) Calculate the area of the triangle

ANSWERS 1a) 4.57cm 2a) 9.32cm² 1b) 48.18° 2b) 20.45cm²



Analysing, displaying and comparing data using charts



Key Words

- Data
- Discrete
- Continuous
- Qualitative
- Quantitative
- Graph
- Mean
- Mode
- Median
- Range
- Spread

Tips

- Bar charts** are a visual representation of **categorical** data.
- Composite bar charts** are bar charts that display multiple data points stacked on top of one another.
- Pictograms** uses an image relating to a physical object to represent an amount. A **key** must be included to show the value of each picture.

Key Concept

There are three types of **average** that we use to analyse and compare data. We can calculate averages from a **discrete** data set.

Mode The most common value that appears in the list.

Median Once ordered, the middle value.

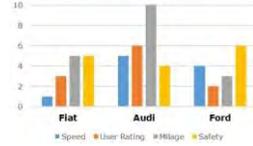
Mean
$$\frac{\text{Total of all data}}{\text{Number of pieces of data}}$$

The **range** is used to analyse the **spread** of a data set or how **consistent** the data is.

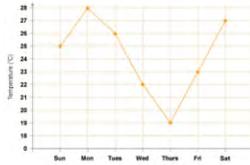
Range
$$\text{largest data value} - \text{smallest data value}$$

Examples

Comparison between various cars



Line graphs

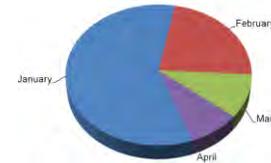


Tally charts

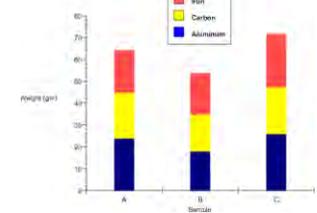
Colour	Tally	Frequency
Red		13
Blue		9
White		24
Black		12
Other		8

Pie charts

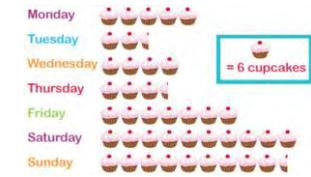
Sales split month wise



Composite bar charts



Pictograms



Here is a discrete data set, calculate the mean, mode, median and range for this data.

2 5 3 9 7 7

Mode: 7

Median: 2 3 5 7 7 9 $\frac{5+7}{2} = 6$

Mean: $\frac{2+3+5+7+7+9}{6} = 5.5$

Range: $9 - 2 = 7$

Reverse mean

A hockey team scored the following number of goals in 6 games:

2 3 4 1 0 1

The mean of the goals scored in seven games was 2.

How many goals were scored in the seventh game?

$$\frac{2+3+4+1+0+1+x}{7} = 2$$

$$\frac{11+x}{7} = 2 \rightarrow x = 3$$

Questions:

Cost	Frequency	Midpoint
$0 < c \leq 4$	2	
$4 < c \leq 8$	3	
$8 < c \leq 12$	5	
$12 < c \leq 16$	12	
$16 < c \leq 20$	3	

From the data:

- Identify the modal group
- Identify the group which holds the median
- Estimate the mean

ANSWERS: a) $12 < c \leq 16$ b) 13th value is in the group $12 < c \leq 16$ c) $\frac{25}{12} = 11.76$



Key Concepts

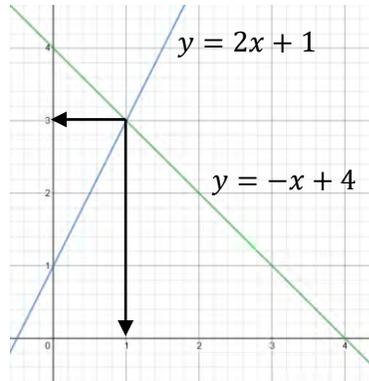
Simultaneous equations are when **more than one equation** are given which involve **more than one variable**. The variables have the **same value** in each equation.

Simultaneous equations can be solved **graphically** whereby the **intersection** of the graphs gives the x and y values.

When an quadratic inequality is solved it provides the **range of values** that are possible.

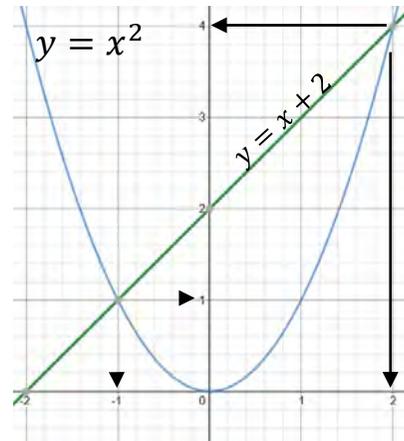
When an equation has **solutions greater than 0** then the solutions are taken from **above the x axis**.

Solve graphically: $y = 2x + 1$
 $y = -x + 4$



$x = 1$ and $y = 3$

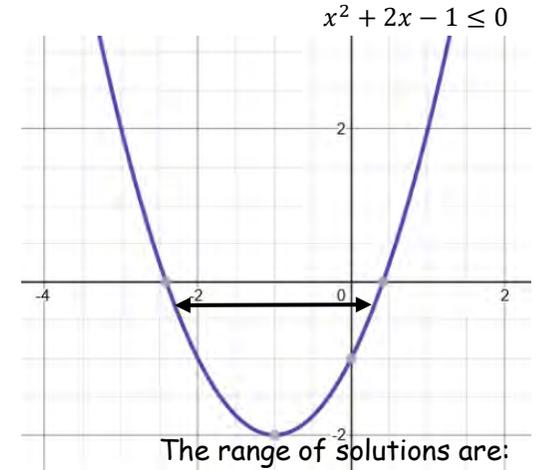
Solve graphically: $y = x^2$
 $y = x + 2$



$x = -1$ and $y = 1$

$x = 2$ and $y = 4$

Examples

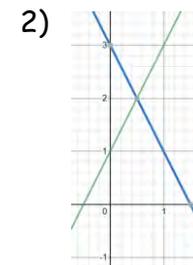
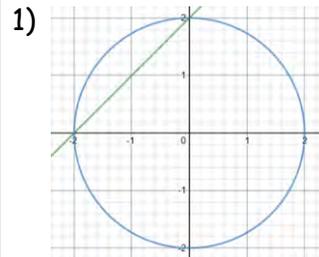


The range of solutions are:

$-2.5 \leq x \leq 0.5$

Key Words

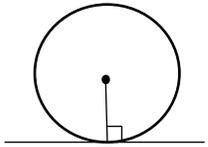
Simultaneous Equation
Intersection
Quadratic Inequality
Solutions



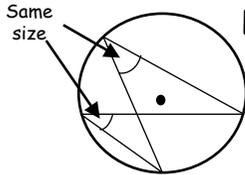
Solve each set of simultaneous equations graphically.



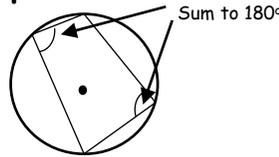
Key Concepts



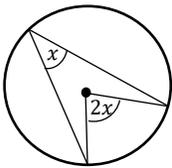
The angle between a radius and a tangent is 90°



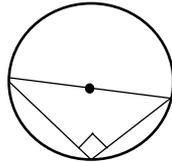
Angles at the circumference are equal



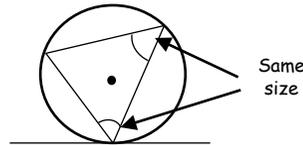
Opposite angles in a cyclical quadrilateral sum to 180°



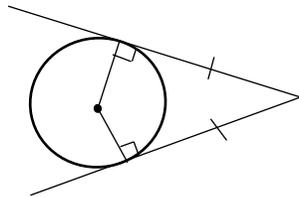
The angle at the centre is twice that at the circumference



The angle in a semi circle is 90°

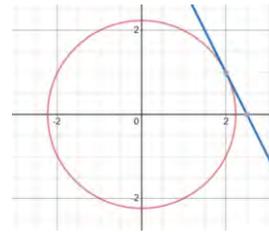


The alternate segment theorem



From any point you can only draw two tangents, and they are equal in length

Examples



Find the equation of the tangent to the circle with equation:

$$x^2 + y^2 = 5$$

which passes through the point (2,1).

- 1) Find the equation of the line which is the radius of the circle.

$$\text{gradient} = \frac{1}{2} \text{ therefore } y = \frac{1}{2}x$$

- 2) The tangent is perpendicular to the radius.

$$\begin{aligned} \text{gradient of tangent} &= \text{negative reciprocal of } \frac{1}{2} \\ &= -2 \end{aligned}$$

- 3) Substitute in the given coordinate (2,1) to $y = -2x + c$

$$\begin{aligned} y &= -2x + c \\ 1 &= (-2 \times 2) + c \\ 1 + 4 &= c \\ 5 &= c \\ y &= -2x + 5 \end{aligned}$$

hegartymaths

320,
593-606

Key Words

Radius
Centre
Tangent
Circumference
Right angle

Calculate the length of the radius for each of the following equations of circles:

1) $x^2 + y^2 = 25$

2) $x^2 + y^2 = 49$

3) $x^2 + y^2 = 256$

4) $x^2 + y^2 = 22$

ANSWER 1) 5 2) 7 3) 16 4) $\sqrt{22}$



St Joseph's College PE Department

Half term 1 - Football

Key concepts and skills required for football



Keywords:

- Pass** - Kicking ball to teammate
- Shoot** - Attempting to score a goal
- Attack** - Playing towards opponents goal
- Defence** - Protecting your goal
- Movement** - Creating space off the ball
- Heading** - Using head to shoot or pass
- Control** - Keeping ball close to body
- Penalty** - Awarded if foul committed in penalty area
- Free kick** - Awarded if foul committed outside of area
- Goal kick** - Awarded when ball goes over opposition goal line
- Throw in** - Awarded when ball goes out of play
- Corner kick** - Awarded to attackers if opposition kick ball over goal line

Key skills/abilities required:

- Short Passing** - Use inside of foot and place standing foot next to ball
- Long passing** - Use laces for more power if required, standing foot next to ball
- Shooting** - Head and knee over ball, use laces for power, inside of foot for control
- Heading** - Use forehead to make contact with ball
- Movement** - Move into space to receive the ball
- Teamwork** - Pass the ball to teammates to be successful against opposition
- Aerobic fitness** - Maintain personal fitness to be able to run around for a full game

Famous players:



Lionel Messi



Cristiano Ronaldo



Virgil Van Dijk

How can you improve?

Practice drills

- Pass with a partner** - Stand a short distance apart working on short passing, increase the distance to work on long passing
- Work on weak foot** - Stand in front of a wall kicking the ball repeatedly against the wall with your weaker foot
- Shooting practice** - Make a goal or use a goal, aim for the corners when practising. If you have a goalkeeper friend, put them in goal to add challenge
- Small sided games** - Play small sided games with your friends, 3v3, 4v4, 5v5. Focus on movement in small spaces

Questions:

- How many players are on each team in a game of football?
- How long does a professional football match last for?
- Which 3 skills are the most important for a footballer to become one of the best players in the world?
- How many times have England won the football world cup? Name the year(s) for a bonus point..





St Joseph's College PE Department

Half term 2 -Handball

Key concepts and skills required for Handball



Keywords:

Handling the ball-Dribbling, catching or passing the ball.

Passing the ball- Throwing the ball to another player from the team.

3 steps- A player holding the ball is only allowed to make three steps, afterwards he has to dribble or pass the ball.

Positions- The seven playing positions are: goalkeeper, left wing, left back, middle back, line player, right back and right wing.

Blocking the ball- Basic defensive element: stopping a shot by using hands.

Zone defence systems- Can be 6:0 (six players on the goal area line), 5:1 (5 players on the goal area line, one player in front of them)

Key skills/abilities required:

Sidestepping-A technical element of the attacker's basic movement executed by continually moving sideways mainly in width

Overarm shot- A shooting technique carried out with the arm moving above the shoulder level.

Underarm shot- A shooting technique carried out with the arm moving below shoulder level.

Jump shot- A shooting technique performed having the players feet off the floor.

Bounced shot- Shooting on goal with the ball hitting the floor on its way.

Teamwork - working together in attack and defence up and down the court

Aerobic fitness - Maintain personal fitness to be able to run around for a full game

Famous players:



Mikkel Hansen



Nikola Karabatić



Luc Abalo

How can you improve?

Pass with a partner - Stand a short distance apart working overhand short passing, increase the distance to work on long passing across the court.

Jump shot- take 3 steps up to the D and jump as far as you can into the D releasing the ball before touching the floor.

Getting into position- run from the players attacking into defensive position as quick as possible.

Small sided games - Play small sided games with your friends 3v3, 4v4 5v5. Focus on moving the ball and getting into space.

Questions:

How many players are on each team in a game of Handball?

How long does a professional handball match last for?

Which 3 skills are the most important for a handball to become one of the best players in the world?

Which country did handball come from?





St Joseph's College PE Department

Half term 2- Rugby

Key concepts and skills required for Rugby



Keywords:

- Forward pass**- A forward pass occurs when the ball fails to travel backwards in a pass
- Advantage line**- is an imaginary line drawn across the centre of the pitch when there is a breakdown in open play
- Advantage**- is the period of time after an infringement, in which the non-offending side has the opportunity to gain
- Breakdown**- The breakdown is a colloquial term for the period immediately after a tackle and the ensuing ruck.
- Tackle**- Takes place when one or more opposition players grasp onto the ball carrier and succeed in bringing him to ground
- Knock-on**- A knock-on is when a player loses possession of the ball and goes forward off the hands or arms
- Try**- It is scored when a player places the ball on the ground with downward pressure in the in-goal area.

Key skills/abilities required:

- Pop Passing** - Bring the hand across the body and pop the ball to a teammate
- Spin passing** - as the ball comes across the body bring the bottom hand over the top and spin the ball.
- Scoring a try**- use downward pressure on the ball and place it within the try area.
- Tackle**- stopping the opposition by taking them down to the ground.
- Side step**- passing off one foot quickly to change direction and get past the opposition
- Teamwork** - working together in attack and defence to support each other
- Aerobic fitness** - Maintain personal fitness to be able to run around for a full game

Famous players:



Kyle Sinckler



Manu Tuilagi



Owen Farrell

How can you improve?

Passing drills

- Pass with a partner** - Stand a short distance apart working on short passing, increase the distance to work on long passing always passing backwards
- Work on weak hand**- Stand in front of a wall which has a target on pass the kicking the ball repeatedly against the wall with your weaker hand.
- Tackling**- the partner will walk in a straight line the tackler will also walk until they meet and make a tackle
- Small sided touch games** - Play small sided games with your friends 5v5. Focus on attacking and defensive realignment

Questions:

- How many players are on each team in a game of rugby?
- How long does a professional rugby match last for?
- Which 3 skills are the most important for a rugby to become one of the best players in the world?
- How many times have England won the rugby world cup? Name the year(s) for a bonus point..





St Joseph's College PE Department

Half term 3 - Badminton

Key concepts and skills required for Badminton



Keywords:

Rally- a rally is a series of exchanged shots which begin with a serve. As a rule, rallies in badminton finish when the point is won.

Service- The service is the initial stroke which starts play when the receiver is stationary and begins a rally

Shuttlecock- It refers to the projectile of a feathered (14 to 16 feathers) cork object sent back and forth over the net in competitions.

Shot- CLEAR, DRIVE, DROP, SMASH' are four shot terms related to badminton.

Racket- The large stringed area with a frame is called the head which is connected to the handle by the shaft.

Fault- a foul shot is when a shot hits the net or lands outside the court

Key skills/abilities required:

Drop shot- a shot that just clears the net and then drops sharply

Clear Shot- a shot hit deep into the opponent's court

Drive Shot- a fast hard shot down into the court

Smash Shot- a powerful overhead shot

Home position- central position on court which is halfway between the baseline and net, and the two sidelines

Agility- ability to move quickly and easily around the court

Aerobic fitness - Maintain personal fitness to be able to run around for a full game

Famous players:



Lin Dan



Viktor Axelsen



Kento Momota

How can you improve?

Rally- Stand on the court opposite a partner and hit the shuttlecock back and forth keeping track of your score.

Clear shot- Set a target at the back of the court and try and hit the shuttlecock into the target.

Home position- place four cones around the court. Every time you touch a cone you have to return to the home position in the centre of the court.

Games - Play first to 5 points with your friends. Focus using a variation of shots

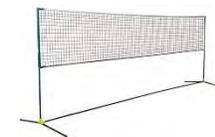
Questions:

How many point are there in a game of badminton?

Which lines do you play if you are playing singles?

Which 3 skills are the most important for a badminton to become one of the best players in the world?

Who Invented Badminton?





St Joseph's College PE Department

Half term 3 - Table Tennis

Key concepts and skills required for Table Tennis



Keywords:

- Backhand** - Shot played with back of hand facing opponent
- Backspin** - added to shot to change bounce direction
- Cross-court** Shot played diagonally across court
- Drop shot** - shot that bounces just after the net
- Footwork** - use of feet to get into correct position
- Forehand** - shot played with palm of hand facing opponent
- Game** - achieved after 1 player reaches 11 points or 2 points clear
- Racket** - used to hit ball with
- Rally** - players hitting ball back and forth consecutively
- Serve** - first shot of any point
- Smash** - Shot played to win point if ball bounces high towards you
- Topspin** - Causes ball to bounce higher and faster

Key skills/abilities required:

- Forehand Drive** - Ready position; Backswing to include arm and body movement; Forward movement to include the forward swing & contact; Follow through
- Backhand drive** •Crouched facing the direction you would like the ball to travel •Close to the table. Bat moves back towards the stomach with an open angle. •Produced from the elbow as bat moves forward and slightly downwards •Contact the ball underneath and early off the bounce. Follow Through.
- Backhand Serve** - Crouched with left foot slightly forward •Close to the table. ¼ rotation from the waist to the left •Arm rotates back and upwards to the chest. Arm moves forward and downwards as the body unwinds from the waist •Weight transfers from the left to the right foot •Contact in eye line. Follow through

Famous swimmers:



Ma Long



Xu Xin



Timo Bell

How can you improve?

- German service box game.** Start with ball on tennis cord and let it drop. 1 bounce only, play out point.
- Service box rally** Place hoop or piece of paper in service box. 2 points for hitting target. Make the game harder by folding the paper each time it is hit.
- Back Hand Slice** - in pairs; 1 to play simple forehand to partner, other to practice slice. Swap over roles
- Double fun game-** 2 touch tennis. Must take 2 touches before ball goes over. Highlight ball placement & outwitting opposition. ½ court rallies- place 2 hoops; 1 deep, 1 short. mix up shot selection.

Questions:

- How many points are there in a table tennis game?
- How many serves are you allowed in table tennis?
- Do you have to serve diagonally in table tennis?
- When was table tennis introduced as an Olympic sport?





St Joseph's College PE Department

Half term 3 - Basketball

Key concepts and skills required for basketball



Keywords:

- Ball** - Implement used in game of basketball
- Dribbling** - Repeated bounce of the ball whilst moving across the court
- Shooting** - Action taken when trying to score points
- Pass** - Action taken when trying to pass opponents and move up court
- Travel** - Foul play after taking too many steps
- Court** - Area basketball is played on
- Dunk** - Type of shot taken by jumping and placing the ball in the basket
- 3-pointer** - Type of score from shot taken outside the D
- Free throw** - Shot with no pressure from opposition after shooting foul
- Foul** - Obstructing player in illegal manner/gaining an unfair advantage
- Block** - Used when trying to prevent a player from shooting or passing
- Lay-up** - Type of shot used when close to basket

Key skills/abilities required:

- Dribbling** - Strong body position, eyes up, good on both sides, cross-over, good stance, dribble at speed.
- Passing** - Chest pass, bounce pass and overhead pass are important. Good power and speed are important.
- Shooting** - Balance and bent knees, eyes at basket, elbow at 45 degrees and other hand supporting, follow through with shooting hand and feet in strong position.
- Defence** - Strong base and stable stance. Good at reading tactical attacking play and get there first.
- Attack** - Fast and accurate with passes and shots. Knowledge of screening and tactical movement patterns. Jump height is important.
- Fitness** - Aerobic endurance, speed, power, strength, flexibility, agility and reaction time are all important.

Famous players:



Zion Williamson



Lebron James



Steph Curry

How can you improve?

1 on 1 practice

2 players, 1 ball and a basketball. Take it in turns to attack and defend. Really good for both attacking and defending. You can practice a range of shots: lay-ups, jump shots, set shots.

General Fitness

Plyometric training for power and jump height. Strength training to increase overall strength. Sprint training for overall court fitness.

Tactical Analysis

Watch live matches and analyse certain players, depending on how performance is to be increased. Specific game situations and body positions set are good to analyse.

Questions:

- How many players are on each team in a game of basketball?
- How long does a professional basketball match last for? What is the NBA?
- Which 3 skills are the most important for a basketballer to become one of the best players in the world?
- How many times have USA won the Olympics? Name the year(s) for a bonus point..





St Joseph's College PE Department

Half term 4 - Swimming

Key concepts and skills required for Swimming



Keywords:

- Pull, push, kick** - technique used to move when swimming
- Lie flat, streamlined** - helps to stay afloat
- Breathe** - breathing pattern key for correct technique
- Floating** - essential when swimming
- Turning** - occurs at end of pool when swimming lengths
- Sculling** - correct use of hands when swimming
- Slide entry** - a form of pool entry
- Surface diving** - entering the pool at speed into a swim
- Straddle entry** - stride into a pool

Key skills/abilities required:

- Front Crawl**- your thumb should always enter the water first with your hand at a 45 degree angle. Your arm will twist as you pull your hand back through the water. Pull the water back all the way to your hip before the arm exits the water
- Back Crawl**-legs close together and kick from the hips. Keep ankles relaxed and knee slightly bent. Kick as hard and as fast as you feel comfortable.
- Breast Stroke arms** - The arm action should be continuous from glide to glide; arm action should not start until the legs are together. Keep hands in front of shoulders. The arm action and leg action should remain narrow; Scull with the hands.
- Breast Stroke legs**- Drive the legs backwards, speed should increase during this phase; Drive heels back first; ; Feet should 'whip' together at the end of the kick - kick hands forward; Kick like a frog; Squeeze the legs together.

Famous swimmers:



Simone Manuel



Adam Peaty



Michael Phelps

How can you improve?

Swimming Practice

- Kicking** - Front Crawl leg kick; Long legs; Kick from the hips (not the knees) ; Floppy feet Small fast kicks (white water)
- Front Crawl Arms**- Fingers enter the water, push forwards (recovery); Hands pull back to the thighs (Catch); High Elbow out of the water (not flat over the surface); Face turns to one side to breath; Unilateral breathing
- Push and Glide** - Tuck Body into a spring position with hand ready to cut the water; Feet against the wall ready to push off; Extend arms with face in, head just under the water; Push off the wall extending arm and legs keeping the body stream lined

Questions:

- How long in metres is the school swimming pool?
- How long is a Olympic swimming pool?
- What does the word streamline mean? How can we use this in swimming??
- What procedures need to be followed before going into the pool?





St Joseph's College PE Department

Half term 5 - Health and Fitness

Key concepts and skills required for Health and Fitness



Keywords:

- Aerobic** - muscles working with oxygen
- Anaerobic** - muscles working without oxygen
- Sprinting** - running at full speed
- Continuous training** - training without rest at same intensity
- Circuit training** - working at different stations
- Weights** - equipment used to increase strength
- Plyometric** - bouncy movements to improve power
- Cardiovascular fitness** - how well heart and lungs work together
- Heart Rate** - heart beats per minute
- Interval Training** - training with rest intervals
- Intensity** - how hard you work

Key skills/abilities required:

- Interval Training** - This involves a series of high intensity workouts interspersed with rest or relief periods. This would be running or cycling at a high intensity/sprint for 30 seconds followed by 90 seconds of rest and repeated 5 times.
- Steady State Continuous Training** - running/cycling/rowing/ swimming at the same pace for at least minutes.
- Weight Training** - To improve strength and power , weights are used for resistance. By creating a stress to the muscles performed with free weights (barbell or dumbbells).

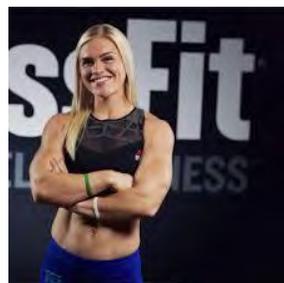
Famous cross fit athletes:



Matt Fraser



Rich Froning Jr



Katrín Davíðsdóttir

How can you improve?

- Frequency** - Increase the amount of times you train a week. 3-5 times a week of training is a good focus
- Intensity** - The amount of effort put into your training session. For running a long distance 70-80% is needed. For sprinting and power events, 100% effort is needed in training.
- Time** - The amount of time you train for. An effective workout should last between 30-60 minutes.
- Type** - Doing the type of exercise that improves your sporting performance.

Questions:

- How long should I run for to improve my aerobic endurance?
- What type of training should I use to build muscle size?
- How many times a week should I train be fit, healthy and improve my performance?
- What type of training would I need to do to improve my speed?





St Joseph's College PE Department

Half term 5 - Athletics (Field)

Key concepts and skills required for Athletics (field)



Keywords:

- Jump** - Action used when moving across the ground in the air
- Throw** - Action used when transferring an object through the air
- Sprint** - Covering distance as fast as possible when running
- Grip** - Hand position on an object
- Javelin** - Implement similar to a spear that is thrown to max distance
- Shot Putt** - Event when a shot is thrown to max distance
- Hammer Throw** - Event when a hammer is thrown to max distance
- Pole Vault** - Event when a pole is used to clear max certain height
- High Jump** - Event when athlete tries to jump max height
- Long Jump** - Event when athlete aims to jump max distance
- Triple Jump** - Similar to LJ but with different stride pattern
- Discus** - Implement similar to a plate that is thrown to max distance

Key skills/abilities required:

- Running** - Athletes need to be as fast as possible in all field events. This allows to perform well in all different events.
- Jumping** - Athletes need to be as powerful as possible so they are explosive and can jump high and far. Specifically applicable to HJ, LJ, TJ and PV.
- Throwing** - Athletes need to be as powerful as possible so they are explosive when releasing objects into the air. Specifically applicable to HT, SP, D and J.
- Fitness** - Flexibility, Core Strength, Power, Speed are important to all events. Athletes have to be very disciplined in training.
- Technique** - Athletes have excellent technique to enable them to perform at the highest level. If they have poor technique this can lead to an increased risk of injury.

Famous athletes:



Tomas Walsh



Christian Taylor



Greg Rutherford

How can you improve?

Specific Event Training

Specific technical training relating to each event is important as they are all so different from each other. Lots of drills available on YT.

General Fitness

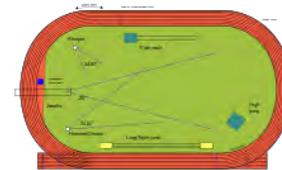
Plyometric training for power and jump height. Strength training to increase overall strength. Sprint training for overall speed fitness.

Tactical Analysis

Watch live events and analyse certain athletes, depending on how performance is to be increased. Specific situations and body positions are good to analyse.

Questions:

- How many events are there in the decathlon?
- How many attempts does a shot putt thrower get in competition? What is the Diamond League?
- Which 3 skills are the most important for a long jumper to become one of the best in the world?
- How many times have Russia won the Olympics? Name the year(s) for a bonus point..





St Joseph's College PE Department

Half term 5 -Athletics (Track events)

Key concepts and skills required for athletics track events



Keywords/events:

- Sprinting** - 100m/200m/400m races that require full or near to full speed running
- Middle-distance** - 800m/1500m races that require an athlete to pace themselves when running
- Long-distance** - Cross country runs longer distance runs
- Hurdles** - Races that require the jumping over of an obstacle
- Relay** - Races ran in teams of 4
- Baton** - Object passed round in relay
- Lanes** - Must stay in these when racing
- Start/Finish** - Beginning and end of a timed race

Key skills/abilities required:

- Running** - Correct use of body, alternate knee and arm used. Knee raised to right angle, arms used to keep speed
- Sprint start** - Knee down and opposite foot in blocks, hands shoulder width apart, head down looking at ground
- Drive phase** - Pump arms and legs and stay low for first 10 metres of sprint
- Hurdle jump** - Leading leg high and as straight as possible, trailing leg in line with leading leg, try and keep body facing forward
- Aerobic fitness** - vital for middle distance and long distance running
- Speed** - Needed for sprinting and can be improved through better technique

Famous track athletes:



Usain Bolt



Michael Johnson



Mo Farah

How can you improve?

- Training drills**
- Sprint training** - Focus on technique, knees high, pump arms, keep body straight
- Resistance training** - Use resistance to improve technique and power. Lean against wall and work on legs
- Sprint start** - Focus on driving up from starting position
- Team relay practice** - Passing of baton between team. Correct calls and holding arm out to receive
- Hurdling** - Use lower hurdles to help with technique. Increase height of hurdles to add challenge.

Questions:

- How many Olympic games host cities can you name?
- What is the world record time for the 100m, and who holds it?
- How many laps of an athletics track is the 1500m?
- Which organs in our body are used the most when running a long distance race?





St Joseph's College PE Department

Half term 6 - Cricket

Key concepts and skills required for cricket



Keywords:

- Bat** - Implement used to protect stumps and score runs
- Ball** - Implement used to: bowl a ball/hit when batting
- Stance** - How you stand when preparing to bat
- Shot** - A type of action made when attempting to score runs
- Over** - 6 balls make up one over
- Wide** - When the ball is bowled too far away for a batsman to hit
- No-ball** - When the ball is unfairly bowled e.g. too high or too close
- Wicket** - The strip where bowling and batting both occur
- Stumps** - What the batsman is trying to protect/bowler trying to hit
- Spin** - When a ball deviates from the straight after landing
- Seam** - The stitched lines on the ball running across the circumference
- Boundary** - The outer ring of play. Defines whether a 4/6 is scored

Key skills/abilities required:

- Bowling** - Either spin or seam bowling with the aim of trying to limit the batsman scoring runs and get them out. Accuracy, pace, consistency are all important for a successful bowler.
- Batting** - A range of front-foot and back-foot shots, patience, power and timing will allow a batsman to score lots of runs.
- Wicket-keeping** - Good at catching and fast movement behind the stumps.
- Catching** - Fast movement towards the ball, good hand position and watching the ball at all times.
- Fielding** - Fast reactions, high flexibility and speed will make a good fielder.
- Tactical Knowledge** - Good knowledge of fielding positions and overall game situation will allow a greater performance.
- Fitness** - Strength, speed, flexibility, aerobic endurance, strength and power.

Famous players:



Ben Stokes



Virat Kohli



Jofra Archer

How can you improve?

Net Practice

Involves a batter and bowler and is as realistic as can be when practicing a game situation. Can improve both skills, especially if the quality of both is good. Just simply involves a bowler bowling to a batter.

Fielding Practice

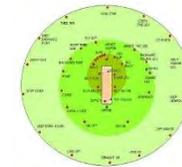
Various catching, stopping and throwing drills are available online. All are important when improving fielding.

Tactical Analysis

Watch live matches and analyse certain players, depending on how performance is to be increased. Specific situations and fielding positions set are good to analyse.

Questions:

- How many players are on each team in a game of cricket?
- How long does a professional cricket match last for? What are the different formats of cricket?
- Which 3 skills are the most important for a cricketer to become one of the best players in the world?
- How many times have England won the cricket world cup? Name the year(s) for a bonus point..





St Joseph's College PE Department

Half term 6 - Rounders

Key concepts and skills required for rounders



Keywords:

- Bat** - Used to hit the ball
- Backstop** - Player behind batter to catch ball
- Ball** - Used to throw, catch and hit
- Batting square** - Area to bat from
- Bowling square** - Area to bowl from
- Fielding** - Team not batting
- Half rounder** - Scored when player makes it round without hitting
- No ball** - Illegal delivery bowled
- Out** - Caught, run out, breaks rules
- Rounder** - Batter makes it round all posts and back to team

Key skills/abilities required:

- Batting technique** - Sideways on, feet shoulder width apart, elbow bent, one handed
- Bowling technique** - Underarm, aim between shoulder and knee of batter, use non throwing arm for direction
- Catching** - Use 2 hands where possible, cup shape of hands, keep eye on ball, move hands away to cushion
- Throwing** - Bend elbow at right angle, create power through shoulder, step into throw with opposite foot, follow through to target
- Running** - Run at high speed to posts, drop bat before running

Famous players:



Mr Atkins



Mr Pavli



Mr Rimmer

How can you improve?

Training drills

- Throw and catch with a partner** - Stand a short distance apart working on throwing and catching
- Throw against wall** - Work on bowling technique by aiming at target on wall
- Batting practice** - Focus on technique and work with a partner to practice batting
- Small sided games** - Small sided possession games focusing on throwing and catching, if ball dropped possession given to other team

Questions:

- How many players are on each team in a game of rounders?
- How far away is the bowling square from the batting square?
- Which 3 skills are the most important for a rounders player to become one of the best players in the world?
- How many posts do you have to run around in rounders?





During this half term you will have a solid understanding of important Christian beliefs and teachings

Keywords:

Apostle's creed - A statement of belief from the Early Church

Ascension - Jesus being taken up to heaven on the 40th day after Easter

Atonement - The action of making amends for wrong doing. Being at one with god

Baptism - Ceremony to welcome a person into the Christian religion

Believer's baptism - Ceremony to welcome young person/adult into Christian religion using full immersion

Catechism of Catholic Church - A document containing of Roman Catholic teaching

CAFOD - A charity, Catholic agency for Overseas development

Confirmation - Initiation ceremony carried out by a bishop bestowing the gift of the Holy Spirit

Crucifixion - Capital punishment used by Romans, nailing someone to a cross to kill them

Eucharist - Christian ceremony to recall the last supper, bread and wine consecrated and consumed

Evangelism - Preaching of the faith in order to convert people to that religion

Food banks - Charity groups collecting donated food to distribute to the poor in Britain

Fundamentalist - Christians who take the Bible literally e.g. word for word true

Keywords:

Grace - Unconditional love that God shows to people who do not deserve it

Gospel - Names of the books about the life of Jesus, Matthew, Mark, Luke and John

Incarnation - God in human form

Liturgical worship - Church service with a set structure of worship

Lord's prayer - The prayer Jesus taught his disciples to show them how to pray

Messiah - Anointed one who is seen as saviour by Christians

Mission - Organised effort to spread the Christian message.

Nicene Creed

Non-liturgical worship - Informal structure found in some Church services

Omnipotent - Idea that God is all powerful

Penitence - To feel regret for ones sins

Reconciliation The process of making people in conflict friendly again

Resurrection The physical return of Jesus on the third day after he died

Salvation - Saving of the soul from sin

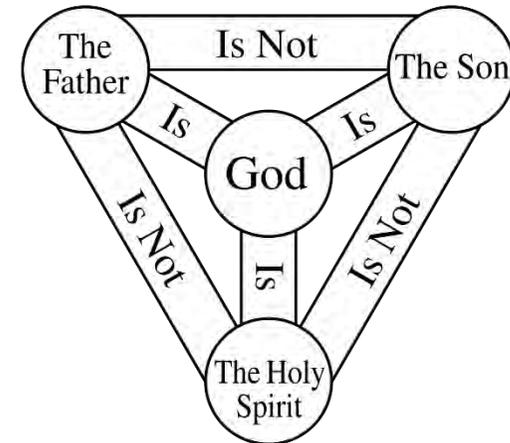
Street Pastors - Christian organisation of people working on the city streets at night caring for people who need help or involved in anti-social behaviour

Transubstantiation - Change in the bread and wine to become the body and blood of Christ

Trinity - Belief in God the father, God the son and God the holy spirit

God the Father is the creator of the Heavens and the Earth. He is the creator of all life.

God the Son - Jesus Christ - both fully human and fully God at the same time who came to Earth to save humans.



God the Holy Spirit - the unseen power of God at work in the World

Christians are **monotheists** and believe that God is omnipotent, omniscient, omnibenevolent and just.

This will influence Christians to:

- Pray for healings/miracles
- Love each other
- Do good deeds as God will judge them



During this half term you will have a solid understanding of Christian beliefs and teaching

Creation & The Word (John 1)

All Christians believe that God created the universe and all living things on the Earth.

In Genesis 1 details a story of how the Universe was made in 6 days. It describes the Holy Spirit 'hovering over the water'

Later on, in John 1, 'In the beginning was the Word, and the Word was with God'. The Word refers to Jesus.

The Crucifixion

Jesus was killed by being nailed to a large wooden cross and left to die. He was accused of blasphemy.

He dead bod was taken to a tomb and left.

The Bible says that the curtain in the Tempt tore in two symbolising humans could be reconciled with God through his death.

This shows grace and forgiveness. Jesus atoned for human sin so those who believe can enter heaven.

The Ascension

Over the next few weeks, Jesus appear to them several times.

After 40 days Christian believe Jesus then returned to heaven, leaving the earth physically (ascension).

Christians believe Jesus is alive today in Heaven.

Christians believe that after they die, there is a life after death.

The Incarnation

This is simply the birth of Jesus. God as human form.

Jesus was conceived by the power of the Holy Spirit. This shows that Jesus is the Son of God and part of the Trinity.

God should himself as a human being for around 30 years.

Jesus was fully human and fully God. Jesus' words are the words of God.. He had the power to heal and to forgive sins.

Some of Jesus' titles include: Son of God, Son of Man. The Christ, Messiah, 'The Word' etc.

The Resurrection

According to the Bible, Jesus rose from the Dead on the third day.

His followers went to the tom and found it empty/ An angel told them that Jesus had risen from the dead and they should pass the news on.

This proved good triumphed over evil.

Christians believe that like Jesus, they too will rise after death.

Heaven - either a physical or spiritual place of peace, joy and freedom.

Purgatory - a Catholic belief. An intermediate state where souls are cleansed in order to enter heaven.

Hell - the opposite of Heaven. A place of eternal torment

Questions:

- Which **one** of the following is the idea that God became human? [1]
(a) Atonement (b) Incarnation (c) Resurrection (d) Ascension
- Give **two** Christian beliefs about life after death. [2]
Explain **two** ways a belief in Jesus' crucifixion influences Christians today. [4]
- Explain **two** Christian teachings about God. [5]
- 'There is no such place as hell.' Evaluate this statement [12]

Timeline not to scale



During this half term you will gain a solid understanding of important Christian practices.

Keywords:

Agape - Describes selfless, sacrificial and unconditional love. Love your neighbour.

believers' baptism: initiation into the Church, by immersion in water, of people old enough to understand the ceremony / rite and willing to live a Christian life.

CAFOD - (The Catholic Agency for Overseas Development) .It is an

international aid agency working to alleviate poverty and suffering in developing countries.

Church -1. The holy people of God, also called the Body of Christ, among whom Christ is present and active. 2. A building in which Christians worship.

(The) Eucharist - another name for Holy Communion or the Lord's Last Supper.

Infant baptism - the ritual through which babies and young children become members of the Church, where promises taken on their behalf by adults; the infant is freed from sin and introduced to the saving love of God and support of the Christian community with one another.

Informal prayer:- prayer that is made up by an individual using his or her own words.

Liturgical worship - Worship that follow a set pattern each time.

(The) Lord's Prayer: the prayer taught to the disciples by Jesus; also known as the 'Our Father'.

Non liturgical worship - worship in which there doesn't need to be a set order or ritual

Keywords:

Persecution - Oppression, hostility and ill-treatment, especially because of race or political or religious beliefs.

Pilgrimage - A journey made for religious purposes, this could be alone or with other Christians. A believer makes a physical journey but it is also a spiritual journey towards God.:

Prayer: communicating with God, either silently or through words of praise, thanksgiving or confession, or requests for God's help or guidance.

Private worship -when individuals spend time with God, either alone or with close friends or family

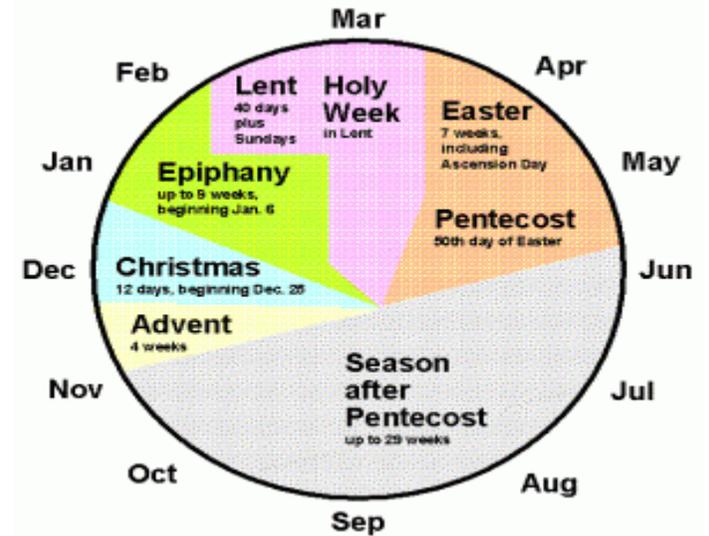
Reconciliation- The worldwide Church has a mission to heal people's relationship with God and with each other through bringing them together in peace.

sacraments: rites and rituals through which the believer receives a special gift of grace'.

Street pastors - a group of Christian volunteers who provide free help and support to people, especially those who are out on a Friday or Saturday night.

Set prayers- prayers that have been written down and said more than once by more than one person, for example the Lord's Prayer.

Worship - the way in which Christians show their deep love, reverence and respect for God.



The liturgical year as a pie diagram.

Christian Practices...

- Worship
- Sacraments
- Prayer
- The role and importance of pilgrimage and celebrations
- The role of the Church in the local community and living practices.
- Mission
- The role of the Church in the wider world.



During this half term you will have a solid understanding of Christian beliefs and teaching

Worship and Prayer

Christian worship involves praising God in music and speech, readings from scripture, prayers of various sorts, a sermon, and various holy ceremonies (often called sacraments) such as the Eucharist. Worship can be private or public and liturgical or non-liturgical.

Prayer is a spiritual communion with God. It can be a formula or sequence of words used in or appointed for praying e.g. the Lord's Prayers. Prayer types include adoration, confession, thanksgiving, petition and intercession.

Sacraments

Seven sacraments

The sacraments are rituals that teach, strengthen and express faith. They are relevant to all areas and stages of life, and Catholics believe that the love and gifts of God are given through seven sacraments, which are:

Baptism, Eucharist, Confirmation, Reconciliation, Anointing of the Sick, Marriage and the Holy orders

Catholics believe that Christians are made holy by carrying out these acts, and that the rites lead to a strengthening of humanity's connection with God.

The role of the Church in the wider world

Christians believe that they should work towards justice so everyone is treated equally. Pax Christi is an organisation that works internationally for human rights and peace. The Catholic Agency for Overseas Development (CAFOD) works in disaster areas and has more than 500 partners in less economically developed countries. Christian Aid has been working in Ethiopia since the 1970s, beginning by creating self-help groups in order to make the country sustainable.

Pilgrimage and Celebration

A pilgrimage is a journey that has religious or spiritual significance. The journey is usually taken to an important religious place. There are many sites of Christian pilgrimage, several of which are mentioned in Bible stories about the life of Jesus, including **Jerusalem**.

Key celebrations include:

Christmas which celebrates the birth of Jesus, as told in the **Gospel** of Matthew and the Gospel of Luke.

Easter is the most important celebration for Christians as it celebrates Jesus' victory over death. When he was crucified, died and was resurrected. The week leading up to Easter is called Holy Week and includes: Palm Sunday, Maundy Thursday, Good Friday and Easter Sunday.

The role of the Church in the local Community

Rites of passage are held in local churches so that the community can be involved. Churches also often run youth groups, giving local children a place to participate in activities. Many Christians and churches run **food banks** from their church halls. Some Christians volunteer as street pastors, going out onto the streets at night to care for those in need and those who are at risk of harm.

Mission

According to the **Gospel** of Matthew, Jesus told his disciples that they should spread his message throughout the world and should try to **convert** people to Christianity.

Missionaries spread the Christian message abroad, not necessarily only through **preaching**, but through their actions too - for example, helping with development projects.

Questions

- 1) What is the name of the Christian festival that celebrates the birth of Jesus? (1mk)
- 2) Give two examples of how Christians might show their commitment to church growth. (2mks)
- 3) Give two contrasting examples of Christian worship (4mks)
- 4) Explain two ways in which the world wide church works for reconciliation. Use sacred writings or other sources. (5mks)
- 5) Infant baptism is not as important as believer's baptism. (12)



To evaluate the religious and non-religious beliefs surrounding crime and punishment.

Keywords:

Community Service: Working in the community to pay back for a criminal act.

Corporal Punishment: Using physical pain as a punishment.

Crime: An action which is against the law and incurs a punishment.

Death Penalty: A form of punishment where the offender is killed for their crime.

Deterrence: An aim of punishment - preventing future criminals by harsh treatment of offenders.

Forgiveness: To show mercy and pardon someone for what they have done wrong.

Hate crime: A crime motivated by hatred e.g. racism

Poverty: Not having enough money to be able to live a comfortable life.

Prison: A place where criminals are sent to withdraw their freedom as punishment.

Reformation: An aim of punishment - to try and reform criminals.

Retribution: An aim of punishment - seeking a form of revenge on criminals.

Attitude to Law Breakers

Christianity

- Christians are against people breaking the laws of their country without just cause.
- All suspects are presumed to be innocent until they are proven guilty.
- Some believe punishment should be as severe as the crime.
- Others believe they should be reformed in order that they do not offend again - hate the crime not the criminal.
- God created everyone equal.
- No individual or group should be singled out for inferior treatment from others.
- Needy should be cared for so they have no need to commit crimes.

Islam

- Islam teaches that hope and faith can help believers to endure suffering.
- It would be wrong to blame God for actions such as those of Craig Hicks.
- God is aware of all types of suffering and allows suffering to happen.
- Ummah helps Muslims care and provide need for brothers and sisters.

Reasons for Crime:

People are tempted to commit crime for a wide range of reasons including **poverty** (not having enough money or food), **upbringing** (where people are not taught right from wrong), **addiction** (some people commit crimes to feed an addiction), **greed** (committing crimes out of a desire for things they cannot afford), **hatred** or out of **opposition to unjust law** (breaking the law to oppose hateful or unjust laws)

Questions:

- 1) Give **two** causes of crime (2 marks)
- 2) Explain two religious attitudes to crime (4 marks)
- 3) Explain two reasons for crime (4 marks)
- 4) "No Christian should support the death penalty" Evaluate this statement (12 marks)



To evaluate the religious and non-religious beliefs surrounding crime and punishment.

Corporal Punishment

Corporal Punishment: Punishment of an offender by causing them physical pain.

Some Christian views

- Most Christians in the UK are against corporal punishment as a form of punishment. **Most Christians believe in a positive form of punishment where they learn their lessons.**
- **Jesus treated people with respect and he was flogged as an innocent person. - informs Christian beliefs.**

Jesus said: "Why do you see the speck in your brother's eye but do not notice the log in your own eye"

Some Islamic views

- **Illegal in the UK but prevalent in countries that follow Shari'ah law. Common form of corporal punishment is canning.**
- **Whip or cane; clothed or unclothed; In public or private; on the back or buttock.**
- Public flogging used in many countries that follow Shari'ah law.
- Some regard it as a violation of Human Rights but others argue imprisonment also removes some Human Rights.
- Prisons are more harmful to the loved ones and takes their freedom for a long period of time.

"Cut off the hands of the thieves, whether they are men or women, as punishment for what they have done- a deterrent from God" - Qur'an.

Capital Punishment (The Death Penalty)

Arguments in favour of Capital Punishment

- Improved forensic science makes the execution of innocent people unlikely.
- Protection for society. When the offenders come out they still may be a danger to society.
- Deterrence - Since banning the capital punishment, the rate of murders have risen since 1970s.

Arguments against Capital Punishment

- Capital Punishment is not a deterrence, the murder rate in the USA is rising also
- Reformation is the best way of achieving true justice.
- The death penalty is totally negative and prevents repentance.
- Reduces the society to the level of the murderer and shows a lack of respect for life.

Some Christian views

- Some Christians are in favour of Capital Punishment as retributive justice. "an eye for an eye".
- Catechism of the Church accepts the death penalty for grave offences. Prefers a bloodless solutions if they will ensure the order and well being of the society.
- Many modern Roman Catholic leaders are totally against capital punishment.

Some Islamic View

- Death penalty is sanctioned in the Qur'an.
- Ensuring justice is done.
- Important for the victim's family to show mercy and take the option of so called blood money.
- Qur'an states that financial compensation may be substituted and that it should be a reasonable demand.



To evaluate the religious and non-religious beliefs surrounding crime and punishment.

Religious attitudes to forgiveness

Christian views

- Jesus taught that forgiveness is the central to the relationship between God and humans and between humans.
- We should forgive others because God has forgiven for our sins
- We have all sinned and if we want to be forgiven by God, we must forgive others.

Bible quotes

"Do not judge for you will be judged"

"If your brother sins rebuke him, and if he repents forgive him"

"If you do not forgive men their sins your Father will not forgive their sins"

Islamic views

- One of the 99 names of Allah - All-Merciful
- Muslims are taught if they believe they have done wrong and promise not to do the same again they will be forgiven by Allah.
- When you forgive, God forgives you.
- Allah will show mercy on those on the Day of Judgment to those who show mercy and forgiveness to their fellow humans.
- Muslims believe they are part of the Ummah and should support and have good relationship with each other.

Quranic quotes

" If a person forgives and makes reconciliation his reward is due from God"

"A kind word with forgiveness is better than charity followed by injury"

Views of Prisons

Advantages of prisons

- Protection for the society.
- Prisoners receive the right to education
- Provides a good health care

Disadvantages of prisons

- "University of crime" - learn more crimes.
- Money should be spent to look after these prisoners.
- Overcrowding
- Most of the prison's are old
- Reoffending rate 70%; Prisons are old and rise in young people in custody.

Questions:

- 1) Which one of the following is not an aim of punishment? (1 mark)
 - A. Forgiveness
 - B. Reformation
 - C. Retribution
 - D. Deterrence
- 2) Explain **two** similar religious beliefs about the use of capital punishment (4 marks)
- 3) Explain **two** religious beliefs which show that all hate crimes are wrong. Refer to sacred writings or another source of religious beliefs and teaching in your answer (5 marks)
- 4) "Corporal Punishment should never be used" Evaluate this statement (12 marks)



During this half term you will be able to explore the relationship between religion and human rights.

Keywords:

- 1. Prejudice-** Unfairly judging someone before the facts are known; holding biased opinions about an individual or a group.
- 2. Discrimination-** Actions or behaviour that result from prejudice.
- 3. Sexism-** Not treating men and women equally and not giving men and women equal opportunities.
- 4. Exploitation-** Misuse of power to get others to do things for little or unfair reward.
- 5. People trafficking-** The illegal movements of people, typically for the purpose of forced labour or commercial sexual exploitation.
- 6. Racism-** Prejudice, discrimination, or antagonism directed against someone of a different race based on the belief that one's own race is superior.
- 7. Disability-** A disabled person is someone with a physical or mental impairment. This has long term effects on their health and their ability to carry out day-to-day activities.
- 8. Zakah-** Is the Arabic word for 'purify' and 'cleanse'. Through observing Zakah Muslims give 2.5% of saving each year to the poor.
- 9. Sadaqah-** Voluntary charitable acts that it done out of love, compassion and kindness. E.g. Feeding the poor, helping the homeless and looking after widows.

Prejudice and discrimination

A Govt report (2002) described racism as 'prevalent', and mainly in the north of UK and among older, poorer and less educated people.

Christian views

1. Galatians 3:28

There is neither Jew nor Gentile, neither slave nor free, nor is there male and female, for you are all one in Christ Jesus.

2. Genesis 1:27

God created humans in his own image. He created them to be like himself.[c] He created them male and female.

3. Martin Luther King Jr

Dr King was a Baptist Minister and fought for civil rights through non-violent methods He commonly used the popular Christian teaching 'love thy neighbour as you love thy self.'

Muslim views

1. Qur'an 49:13

People, We created you all from a single man and a single woman, and made you into races and tribes so that you should get to know one another.

2. The Prophet Muhammed in his final sermon taught:

"An Arab is not better than a non-Arab and a non-Arab is not better than an Arab;"

Disability

Muslim beliefs

1. Humans are all equal; the only thing that makes one better than the other is the individual's consciousness of Allah (taqwa). And, in order to develop and maintain taqwa, Allah continuously tests us.
2. O mankind, indeed We have created you from male and female and made you peoples and tribes that you may know one another..." (49:13)

Christian beliefs

Christians believe that:

We are all made one in Christ

We are all made in the image and likeness of God (Genesis 1:27)

Religion and wealth

Muslim views

- Purification of wealth by giving 2.5% of savings each year to the poor. This is a duty for Muslims.

Christian views

- Jesus said: "No one can serve two masters... You cannot serve both God and money"
- Jesus and The Rich man
Mark 10:17-31- Jesus talks about the dangers associated with wealth, greed and selfishness.



During this half term you will be able to explore the relationship between religion and human rights.

Sexism

Muslim views

1. The Qur'an states that men and women are of equal value to God.
2. "Anyone, male or female, who does good works and is a believer, will enter paradise."
3. Within Islam men and women are equal but not the same. God has designed people differently, different purposes, different physical characteristics.

Christian views

1. 1 Timothy 2:12- "I don't allow a woman to teach a man or tell him what to do. She must listen quietly, because Adam was made first. Eve was made later."
2. Catholic and Orthodox Churches - Men and women are equal but different. Men cannot play the role of both mother and father. Women cannot be priests.

Exploitation of the poor

Muslim views

- 'Blessed is the Muslim, who gives to the poor and the orphan'
- 'The person who helps and takes care of the widow... is like the person who is working to please Allah'.
- Islam does not support people trafficking and considers it something which needs to be eradicated.
- 'liberate those in bondage'

Christian views

- The Church also teaches about the 'preferential option for the poor', that in order to improve life for the poor, we should speak for the voiceless and defend the defenseless.
- CAFOD - The official charity for the Catholic Church in England and Wales work to terminate poverty throughout the World through short-term aid and long-term aid.

Religion and homosexuality

Christian views

1. Adam and Eve were told in Genesis to be fruitful and increase in number'. 'That is why a man leaves his father and mother and is united to his wife, and they will become one flesh'.
2. The Bible portrays heterosexual relations as natural.
3. God destroys Sodom and Gomorrah because of their wickedness (and some say) homosexual activity.

Traditional Christians	Modern Christians
<ul style="list-style-type: none"> • Homosexual actions are sinful because it is not <i>natural</i>. • Homosexuals should not get married in a Christian Church 	<ul style="list-style-type: none"> • We should not condemn people for their sexual orientation • 'Love your neighbour as yourself' • Church of England priests may 'bless' a homosexual marriage.
<p>All Christians are completely against verbal and physical abuse against homosexuals.</p>	

Muslim views

Most Muslims

There are many Muslim's who believe that homosexuality is a grave sin, and that homosexuality is a product of an individual's environment, not as a result of their genetics. These Muslim's believe that humans have a choice and that they must choose not to be homosexual, just as an alcoholic must choose not to drink.

Liberal Muslims

More recently moderate Muslims have declared that Allah would not allow Muslims to treat homosexuals as sinner and that as Allah created everyone all people are acceptable to him. They also state that those who condemn homosexuals base their views on narrow minded interpretations of Islamic teachings.

The Qur'an:

"If two men among you commit indecency punish them both. If they repent and mend their ways, let them be. Allah is forgiving and merciful."

Questions:

1. One what basis does racism discriminate against human-beings? [1]
(a) Race (b) Class (c) Gender (d) Sexuality
2. Give **two** ways in which religious people can help the poor. [2]
3. Explain **two** contrasting religious beliefs about homosexuality [4]
4. Explain **two** religious beliefs about disability. [5]
5. 'Men and women are the same in the eyes of God [12]



During this half term you will be able to identify and explain key Islamic beliefs and teachings

Keywords:

- ❖ **Islam**- The religion followed by Muslims who surrender to will of Allah
- ❖ **Muslim**- A person who follows the religion of Islam
- ❖ **Tawhid**- The oneness of Allah
- ❖ **Allah** is simply the Arabic word for God
- ❖ Tawhid is the belief that there is only one God and that God has no parts. This belief is repeated daily in the Shahadah.
- ❖ **Transcendent**-Beyond human understanding
- ❖ **Immanent**: Interacts within the world
- ❖ **Omnipotent**: All powerful Eternal
- ❖ **Angels**- Spiritual beings believed to act as messengers of God
- ❖ **Akhirah**- Everlasting life in the hereafter
- ❖ **Barzakh**- The state of waiting on the day of judgement
- ❖ **Jannah**- 'Heaven' in Arabic
- ❖ **Juhannam**- 'Hell' in Arabic
- ❖ **Qur'an** literally means 'the Recital'
- ❖ **Prophet**: a person who proclaims the message of God
- ❖ **Risalah**: The belief that prophets are an important channel of communication between God and humans
- ❖ **Iblis (Satan)** - created from fire, who was thrown out of paradise for refusing to bow to Adam

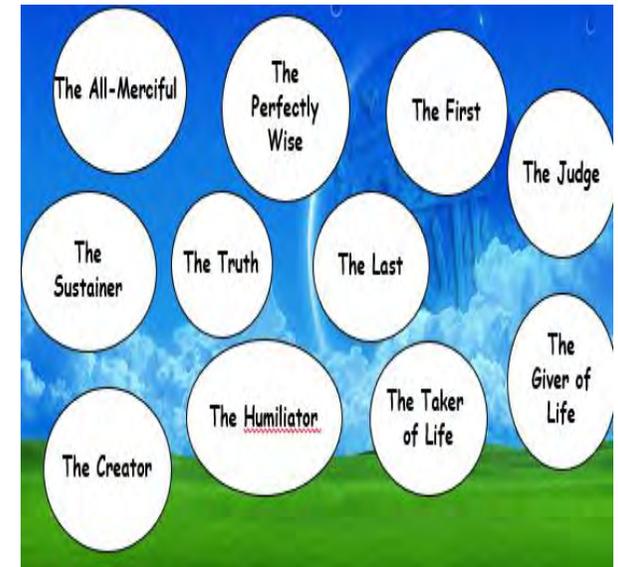
Articles of faith

1. **Belief in one God (Tawhid)**- This means having absolute faith in the oneness of God. Muslims believe that no being is like Allah.
2. **Belief in angels (malaikah)**- Muslims believe that God does not communicate directly with humans. Instead, God passed messages to his prophets via the angels.
3. **Belief in holy books (kutub)**- The holy books of Islam should be respected. This is especially true of the Qur'an, which is the unchanged word of Allah, revealed to Prophet Muhammad.
4. **Belief in the prophets (nubuwwah)**- Allah is believed to have communicated with the prophets. Muslims believe the prophets should be respected but never worshipped.
5. **Belief in the Day of Judgement and the afterlife (Akhirah)**- Muslims believe that life on Earth is a test and that, after they die, they will be judged by God and sent to either Paradise or Hell.
6. **Belief in predestination (Al-Qadr)**- This means that everything in the universe follows Allah's masterplan - Muslims believe that Allah has decided everything that happens. This shows the importance of God's will.

Tawhid and the nature of Allah

Tawhid is the belief that there is only one God and that God has no parts. This belief is repeated daily in the Shahadah.

Muslims believe that Allah has 99 names and that each of these names tell us something about who Allah is





Angels

Jibril

The Arabic name for Gabriel. Bringing God's message to the prophets, i.e., Prophet Muhammad

Jibril is an archangel which means a special angel with higher status than others.

He is the 'Angel of Revelation' which means his role is to relay the message of Allah to prophets. So, he brings spiritual nourishment to humans

Mika'il

Mika'il is an archangel known as the 'Angel of Mercy'. His role is to reward righteous people for the good that they do during their lives on earth.

He has the responsibility to bring nourishment for the earth and human life. For example, he brings rain, thunder and lightning. This makes the plants grow and brings essential life to the planet.

Qur'anic verses on angels

1. Anyone who is an enemy of God angels, Mika'il and Jibril is an enemy of Allah- Quran 2:98
2. Praise be to God, Creator of the heavens and earth, who made angels messengers. Some angels have two, three or four wings- Quran 35:1

Akirah

- Angel Israfil (the angel of death) blows a trumpet to signify end of the world
- He blows the trumpet a 2nd time and the world becomes a new one - the Akhirah
- All will be resurrected (brought back to life) to be judged by Allah
- Angels will present a written record of your deeds to Allah
- Allah separates good souls (for reward) and bad (for punishment). All will cross the Sirat Bridge, which is as thin as a hair but as sharp as a sword. (Hadith)
- Final destination: Jannah (heaven or paradise) or Jahannam (hell)
- The disbeliever will wear clothes made from fire. Hot water will be poured onto their heads.
- Whenever they try to leave, they taste the fire of hell- Quran 13:11

Prophet Muhammad and Prophethood

Muslims believe that God has chosen many prophets to bring the message of Islam to the people.

Prophets provide a method of communication between God and human beings:
 How to live in the way God desires
 To hear instructions
 To remind people of God - when humans forgot

Every community is sent a messenger, and when their messenger comes, they will be judged justly; they will not be wronged.- Quran 10:47

Holy books

Muslims believe that the Qur'an is the word of God, revealed to Muhammad through the angel Jibril during a period of 22 years.

Infallible source of authority for all matters of doctrine, practice and law.

This is the Scripture in which there is no doubt, containing guidance for those who are mindful of God- Quran 2:2

Other holy books within Islam include

1. The Tawrat (Torah)- Torah given to Musa. Mentioned 18 times in the Qur'an - essentially the first five books of the Bible
2. The Zabur (Psalm)- Psalms revealed to David and are mentioned on three occasions in the Qur'an
3. The Injil (Gospel)- Gospel is mentioned in the Qur'an and it is believed to have been revealed to Isa (Jesus).
4. The Scrolls of Ibrahim- These are lost and no longer exist. Earliest scripture in Islam.

Questions:

1. Which **one** of the following is not a holy book within Islam?[1]
(a) The Pslam (b) The Qur'an (c) The Tawrat (d) The Guru Grant Sahib
2. Give **two** religious beliefs about angels. [2]
3. Explain **two** contrasting religious beliefs about the nature of Allah. [4]
4. Explain **two** religious beliefs about the six articles of faith. [5]
5. 'Belief in the holy books is the most important belief in Islam.' Evaluate this statement [12]



During this half term you will be able to understand the importance of relationships and families and the issues surrounding them.

Keywords:

- Human sexuality** - Refers to how people express themselves as sexual beings.
- Heterosexual relationships** - Between members of the opposite sex.
- Homosexual relationships** - Between members of the same sex.
- Sex before marriage** - Sex between two single unmarried people.
- Sex outside marriage** - (or adultery) voluntary sexual intercourse between a married person and someone who is not their husband or wife.
- Contraception** - Methods used to prevent pregnancy.
- Family planning** - Controlling how many children a couple has and when they have them.
- Marriage** - A legal union between a man and a woman (and in the UK two people of the same sex).
- Civil partnership** - A legal union of same-sex partners (2014).
- Same-sex marriage** - Marriage between partners of the same sex (2014).
- Cohabitation** - A couple living together and having sexual relationship without being married to one another.
- Divorce** - Legal ending of a marriage.
- Annulment** - Catholic Church ruling - marriage was never valid.
- Nuclear family** - A couple and their children.
- Procreation** - Bringing babies into the world.

Contraception

- Artificial** - man made e.g. condom.
- Natural** - a type of practice or behaviour aimed at preventing pregnancy e.g. NFP (natural family planning).

Christianity teaches that sex should be open to the possibility of **procreation**. Therefore, by using contraception, you are preventing procreation from happening. **The Roman Catholic Church** teaches that the use of contraception is a sin. **The Church of England** teaches that sex should open to procreation, however, it accepts that sex is also an **expression of love** and promotes **responsible parenthood**. Therefore, the use of contraception is encouraged if you cannot properly look after and raise a child. You should wait until you're ready.

Islam teaches that children are a blessing from God, if a couple wishes to have them. Muhammad taught that parents should only have as many children as they can properly look after - **responsible parenthood**. So, Muslims can and should use contraception.

Sexual relationships

Roman Catholics believe that sex should have 2 purposes: to **UNITE** a couple in married love and to **CREATE** new life. **Pre-marital** sex is a sin, as is masturbation (as it cannot lead to procreation). Some other Christians accept sex before marriage in a committed and loving relationship, as it is an **expression of love**. The Bible says "Do not commit **adultery**", so having sex with someone other than your marriage partner is committing a **sin**

Islam teaches that it is a religious duty to marry & have children. Every person should be a virgin before marriage and observe **chastity** before and during marriage.

Families

- Nuclear** - mum & dad + children
- Extended** - Nuclear family + other relatives
- Single-parent** - mum or dad + children
- Polygamy** - illegal in the UK. Man + more than 1 wife

Many people would argue that the best place for raising children is within a family environment. Religious families also provide a basis for a religious upbringing, enabling parents to educate their child in a faith.



During this half term you will be able to understand the importance of relationships and families and the issues surrounding them.

Christianity Marriage and Divorce

Marriage is a sacrament in some Christian traditions; it brings a blessing from God. In marriage, a couple promise to each other through **vows**/promises, to be good to each other, to be faithful, to love and cherish each other, until the marriage is ended by death. The rings represent the eternal bond the couple are entering into, in front of God.

For **Roman Catholic** Christians, divorce is always wrong. Marriage is a sacrament which cannot be broken. The vows state, *"until death do us part"* and these promises are binding.

It is possible to have an **annulment**, which is where the marriage is set aside, as if it were never real.

For most other Christians, divorce is discouraged but acceptable as a last resort. It is sometimes the *lesser of two evils*, and also a *necessary* evil.

Christianity teaches:

- God hates divorce (OT)
- "Whoever divorces... then marries another; it as if he committed adultery" (Jesus)
- We should forgive those who wrong us and show love to all (Jesus)

Homosexual relationships

For some Christians, **homosexual** sex is thought to be unnatural and cannot lead to pregnancy, so it is a sin and it is wrong. In places, the Bible also says it is wrong for a man to sleep with another man, which has also been used to show that homosexuality is wrong.

The **Qur'an** sets out specific punishments for those who have homosexual relationships. It calls these people fornicators, and **punishment** is severe e.g. flogging or execution.

Islam Marriage and Divorce

In the UK, Islamic wedding will take place in a mosque and these will need to be officially registered.

Divorce is allowed in Islam because:

- The Qur'an explains the way a divorce can be given.
- The couple should not be in a marriage that is making them unhappy.
- Certain situations mean the marriage is not working, for example adultery.

Divorce is discouraged in Islam because:

- It splits up the family unit & Muslim community.
- Prophet Muhammad said 'it is the hated of all things that Allah permitted.'
- Muhammad, the perfect example, did not divorce.
- A husband and wife should be able to solve any problems they have.

Gender Equality

Traditionally, men have held positions of authority in most religions. However, there is a debate about what the role of women should be. In the **RC Church** women cannot become priests. Many argue this because: Jesus had male disciples; Jesus chose a man to lead his Church after his ascension (Peter); A woman cannot completely represent Christ during the Eucharist.

In the **C of E** women can become both vicars and bishops. Some of the earliest converts to Christianity were women, for example Priscilla at Ephesus.

"There is neither Jew nor gentile, neither slave nor free, nor is there male and females, for you are all one in Christ"
(Galatians 3:28)

"So God created mankind in His own image, in the image of God he created them; male and female he created them"
(Genesis 1:27)

Muslim beliefs

God created all people equal, from a single soul and with the same spiritual human nature (Qur'an 49:13). Men and women have the same religion responsibilities and will be rewarded by God for their good deed.

Questions:

1. Which **one** of the following is not a reason why some marriages fail? [1]
(a) Violence (b) Adultery (c) Addiction (d) Stability
2. Give **two** religious beliefs about cohabitation. [2]
3. Explain **two** contrasting religious beliefs about divorce. [4]
4. Explain **two** religious beliefs about the nature of God. [5]
5. 'Marriage is the proper place to enjoy a sexual relationship.' Evaluate this statement [12]



Understand the types of cells, the differences between them and how to examine cells using microscopes. Understand the types of transport.

Keywords:

- Cell:** Building block of all living things
- Chloroplast:** Green disk in a plant cell where photosynthesis occurs
- Cell Membrane:** Controls what enters and leaves the cell
- Nucleus:** Contains DNA, controls all processes in the cell
- Cytoplasm:** Jelly like substance where chemical reactions happen
- Mitochondria:** Site of respiration, release of energy
- Ribosome:** Protein synthesis
- Cell Wall:** Provides structure and support
- Chloroplast:** Contains chlorophyll, site of photosynthesis
- Vacuole:** Filled with cell sap to keep the cell turgid

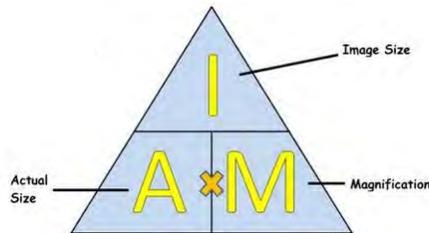
Using a Microscope:

Setting up a microscope:

1. Set the objective lens to the lowest magnification
2. Set the stage at the lowest point to provide the biggest field of view
3. Turn on the light and set appropriate brightness
4. Focus using the coarse focusing knob then the fine focusing knob



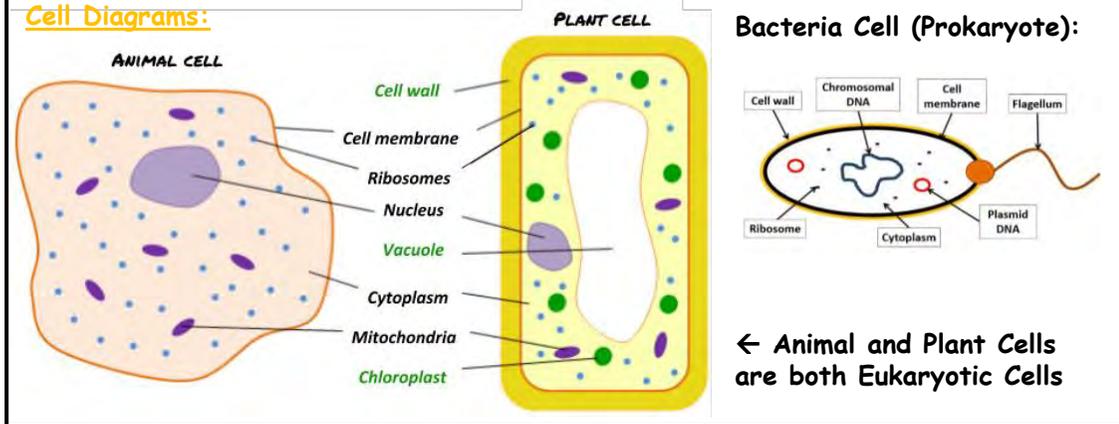
Magnification Equation Triangle:



To work out total magnification in a microscope:

The eyepiece x the objective lens you are using.
 Eg: work you the magnification $10 \times 4 = 40$
 Answer: the magnification is x40

Cell Diagrams:



Required Practical 3 Osmosis:

Independent Variable:

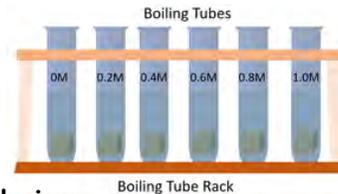
The concentration of each solution

Dependent Variable:

The % change in mass

Control Variable:

Temperature, Time, Surface area of potato, Type of potato used, etc.



Conclusion:

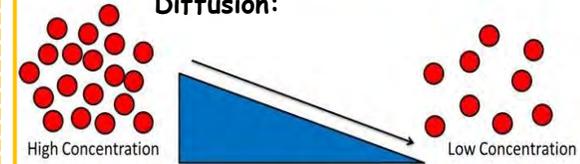
Potatoes in more concentrated solutions will lose mass due to osmosis.
 Potatoes in less concentrated solutions will gain mass due to osmosis.
 If no change in mass, potato and solution have the same concentration.

Transport:

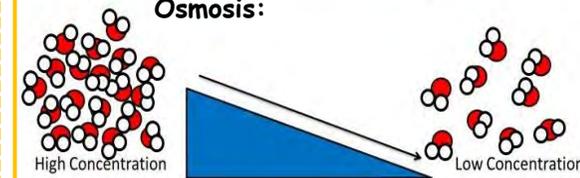
Active Transport:



Diffusion:



Osmosis:





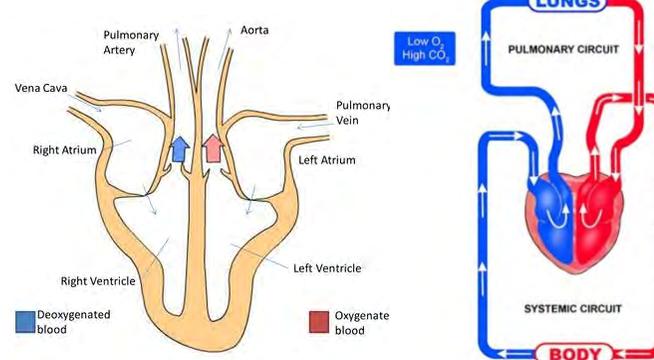
Understand how human and plant systems are organised.



Keywords:

- Cell:** Building block of all living things
- Tissue:** A group of cells with a similar structure and function
- Organs:** Aggregations of tissues performing specific functions
- Organ Systems:** Organs working together to perform a specific function.
- Non-Communicable Disease:** Disease that is not caused by a pathogen and is not transferable
- Cancer:** Uncontrollable cell division
- Malignant Tumour:** Tumour that can break and form secondary tumours
- Benign Tumour:** Less serious do not spread

The Heart:

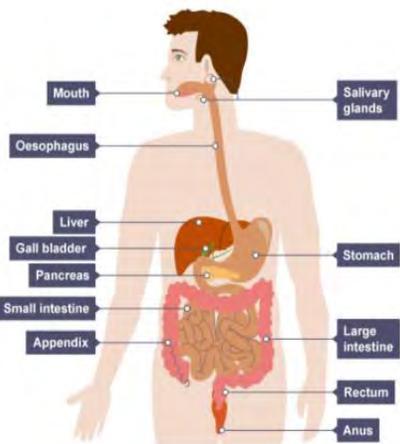


Blood Vessels:

Artery	thick, elastic wall small lumen
Vein	thin wall large lumen valve
Capillary	single cell wall

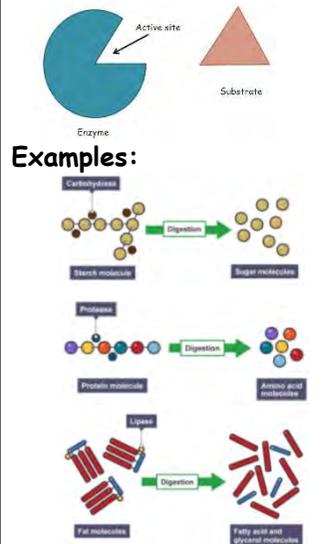
Digestive System:

The food we eat has to be broken down into other substances that our bodies can use.



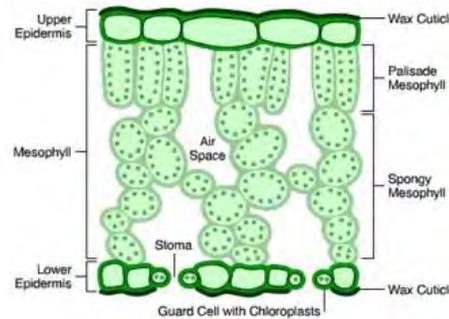
Enzymes:

Enzymes are biological catalysts that break down substances.



Plant Organisation:

Leaf Cross Section:



- Waxy layer:** Covers the surface with waterproof wax to protect the leaf from water loss.
- Palisade mesophyll:** Contains chloroplasts which carry out photosynthesis.
- Spongy Mesophyll:** Have a large surface and spaces between each cell to allow gas to move around easily.
- Phloem:** Carries glucose
- Xylem:** Carries water, minerals and ions from the root to the leaf

Non-Communicable Disease:

Risk Factor	Effects	Disease
Obesity	Blood sugar levels cannot be regulated properly	Type 2 Diabetes
Alcohol	Scar tissue is formed in the liver which stops it removing toxins	Liver Cirrhosis
Smoking	Smoking causes lung cancer and also the underdevelopment of unborn babies	Lung Cancer



Understand how the body responds to infection.



Keywords:

Communicable Disease: Disease caused by a pathogen, that can be transferred from one organism to another.

Non-Communicable Disease: Disease that is not transferred between organisms and not caused by a pathogen.

Pathogen: Microorganisms that cause infectious disease.

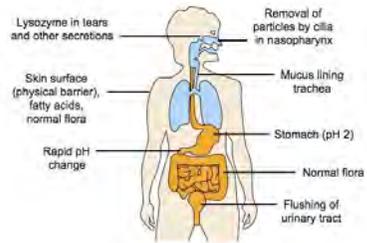
Placebo: A substance that is like the drug but doesn't do anything

Placebo effect: When the patient thinks the treatment will work even when it isn't doing anything

Blind Trial: When a patient doesn't know if they are getting the drug or the placebo.

Double-blind trial: When the doctor and the patient don't know who is receiving the drug or the placebo.

Human Body's Defences:



White blood cells detect pathogens. There are 2 key types of white blood cell; phagocytes and lymphocytes.

Phagocytes; engulf and digest pathogens with enzymes contained in a lysosome.

Lymphocytes; produce antibodies that fight against a specific pathogen.

Preventing Transmission:

Being hygienic - washing hands thoroughly.

Destroying vectors - killing vectors that carry pathogens, for example using insecticide to kill mosquitos.

Isolation - Isolating an infected person

Vaccination - people who are vaccinated cannot develop the infection and so cant pass it on

Type of Pathogen	Description	Disease Examples
Bacteria	A single celled organism without a nucleus.	TB, Cholera
Virus	A non living particle that reproduces within a living cell.	HIV, Common Cold
Protist	A single celled organism with a nucleus.	Malaria, Sleeping Sickness
Fungi	Simple organisms including mushrooms and yeast.	Athlete's foot, Ringworm.

Developing Drugs:

There are 3 main stages in drug testing:

Pre clinical testing:

1. Drugs are tested on human cells and tissues
2. Testing is carried out on living animals

Clinical testing:

3. Tested on healthy human volunteers in clinical trials. Starts with a small dose on healthy people. Then tested on people with the illness to find the optimum dose.

Type of Drug:

Pain killers relieve the pain and symptoms but do not tackle the cause

Antibiotics kill the bacteria causing the problem but do not work on viruses. Viruses are difficult to kill because they live inside the body cells.

Vaccinations:

Vaccinations have been developed to protect us from future infections. A vaccination is an injection of a dead or weakened version of a pathogen. They carry antigens which cause your body to produce antibodies which will attack the pathogen. If you are infected again, the white blood cells can produce these antibodies rapidly.

Pros	Cons
Helps to control diseases that used to be prevalent	They don't always work
Epidemics can be prevented	Some people have bad reactions



Understand the process of photosynthesis and the factors involved.

Keywords:

Xylem: The vascular tissue in plants that transports water and dissolved nutrients up from the roots.

Phloem: vascular tissue in plants that transports sugars from the leaves to the rest of the plant.

Stomata: Small openings on leaves to allow gas exchange.

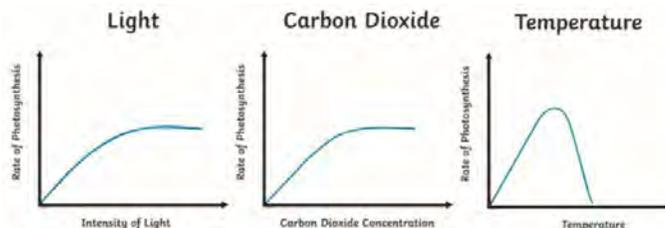
Chlorophyll: Green pigment found in chloroplasts, responsible for absorbing light for photosynthesis.

Limiting Factor: A factor that when in short supply limits the rate of a reaction, i.e. photosynthesis.

Light Intensity:

$$\text{light intensity} \propto \frac{1}{\text{distance}^2}$$

Limiting factors:

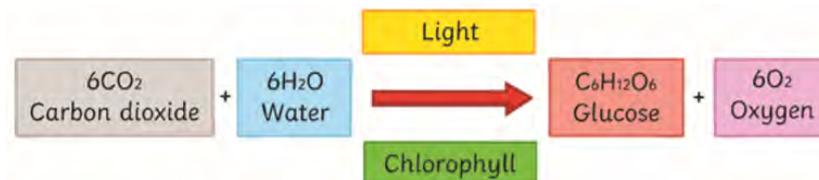


Increasing the light intensity will increase the rate of reaction because there is more energy to carry out the reaction.

Increasing the Carbon Dioxide concentration will increase the rate of reaction because there are more reactants available. However as shown on the graph as you increase both of them eventually the graph will plateau as something else becomes the limiting factor.

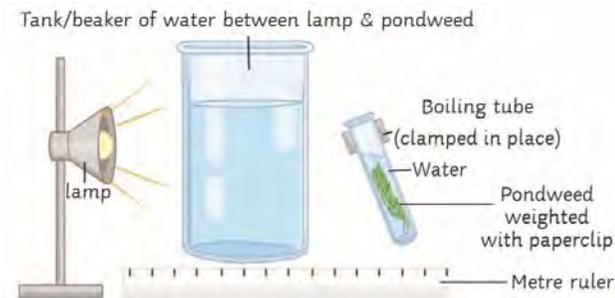
Increasing the temperature will increase the rate of reaction but only up to around 45°C. At around this temperature the enzymes that catalyse the reaction will denature and the rate of photosynthesis will fall.

Photosynthesis Equation:



The effect of light intensity on the rate of photosynthesis:

The amount of light a plant receives affects the rate of Photosynthesis.



IV: Light intensity

DV: Rate of photosynthesis (amount of oxygen produced)

CVs: Time, Volume of Water, temperature, Carbon Dioxide Concentration, Species of Pondweed, Mass/Length of Pondweed.

Method:

1. Measure 20cm³ of sodium hydrogen carbonate solution and pour into a boiling tube.
2. Collect a 10cm piece of pondweed and attach a paperclip to one end.
3. Clamp the boiling tube, ensuring you will be able to shine light onto the pondweed.
4. Place a meter rule next to the clamp stand.
5. Place the lamp 10cm away from the pondweed
6. Using a stopwatch time 1 minute and count the number of bubbled produced.
7. Repeat steps 6 and 7 moving the lamp 10cm further each time
8. Repeat the whole experiment twice more to give you 3 readings for each distance



Understand the process of respiration and the factors involved.

Keywords:

Aerobic: With Oxygen

Anaerobic: Without Oxygen

Respiration: The chemical breakdown of nutrient molecules to release energy for the body

Alveoli: Tiny air sacs at the end of bronchioles where gas exchange takes place

De-oxygenated: Blood which contains a low level of oxygen

Oxygenated: Blood which contains a high level of oxygen

Cardiovascular System: A system which comprises of the heart and blood vessels

Oxygen Debt: The amount of oxygen needed to at the end of anaerobic exercise to break down the lactic acid produced

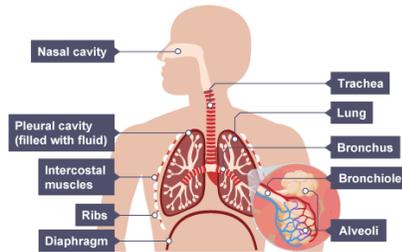
Metabolism:

Energy released during respiration is used during metabolic process to synthesis new molecules;

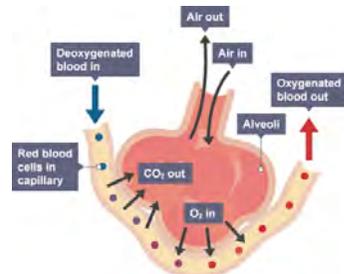
- Glucose is converted to starch, glycogen and cellulose
- Glycerol and 3 fatty acid molecules join to form a lipid
- Glucose and nitrate ions are joined to make amino acids
- Amino acids bond to form proteins
- Excess proteins are broken down and released as urea during excretion

Respiration itself is also a metabolic process.

Gas Exchange System:



Alveoli:



Respiration Equations:

Aerobic Respiration:



Anaerobic Respiration: (In Animals)



Anaerobic Respiration: (In Plants and Yeast)



Effect of Exercise:

When a person exercises their body, specifically their muscles need much more energy. To release more energy, the amount of respiration reactions occurring has to increase.

The heart pumps faster and their breathing rate increases to supply more oxygen to the muscles via the bloodstream.

If the muscles are not receiving enough oxygen to keep up the demand needed by the respiration reactions, then anaerobic respiration begins to occur. This produces lactic acid which can build up in the muscles and results in oxygen debt.

After long periods of exercise the muscles can become fatigued and stop contracting, commonly called a stitch.



Understand how the body regulates itself and responds to stimuli as well as the hormonal control of reproduction.

Keywords:

Homeostasis: The regulation of a constant internal environment

Stimulus: A change in environment

Reflex Arc: A fast and automatic response to a certain stimulus that may be harmful to the organism. They are involuntary responses.

Hormones: Chemical messengers that are transported in the bloodstream to an effector where they activate a response.

Synapse: The gap where the ends of 2 neurons meet.

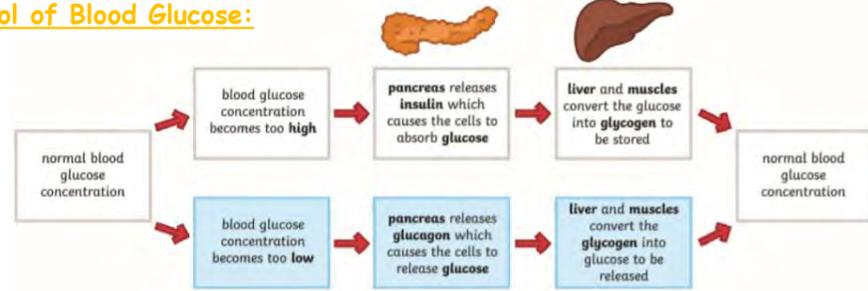
Glucose: Sugar in a soluble form.

Glycogen: Storage molecule of sugar.

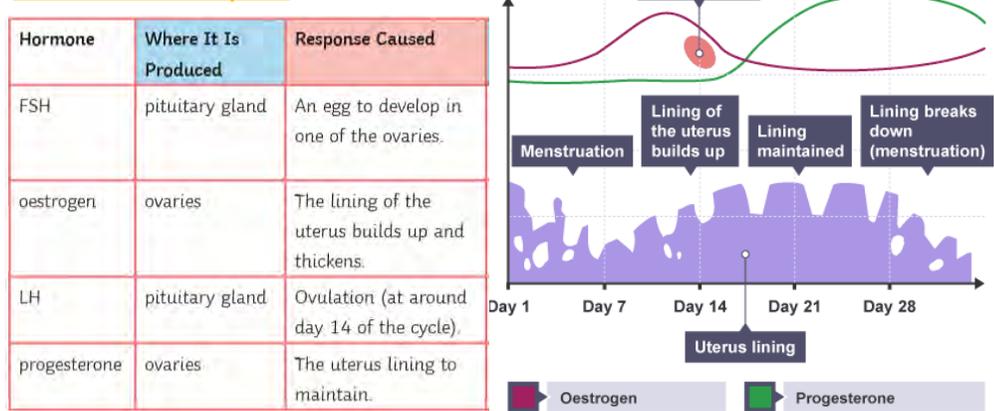
Insulin: Hormone that causes the blood glucose concentration to decrease.

Contraception: Methods to prevent pregnancy (hormonal/non-hormonal)

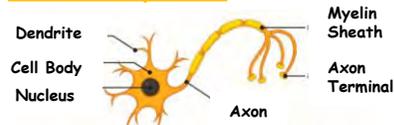
Control of Blood Glucose:



The Menstrual Cycle:



Nervous System:

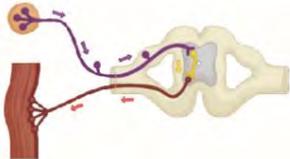


Typical Neuron.

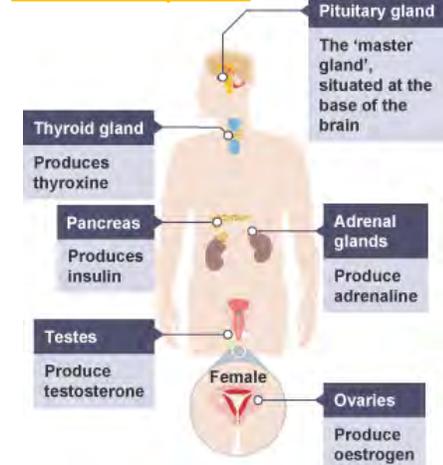
There are 3 types of neuron;

- Sensory Neuron
- Relay Neuron
- Motor Neuron

Reflex Arc:



Endocrine System:



Nervous Pathway:

[stimulus] → receptor → sensory neuron → CNS → motor neuron → effector → [response]

Diabetes:

There are 2 types of diabetes, type 1 and type 2.

Type 1 diabetes is a disorder affecting the pancreas. In type 1 the pancreas doesn't produce enough insulin to control blood glucose levels.

Treated by insulin injections.

Type 2 diabetes is a disorder where the effector cells no longer respond to the hormone released by the pancreas.

Treated by diet and exercise.



Describe the structure of atoms that make up elements, including how the model has been developed as new information was discovered.

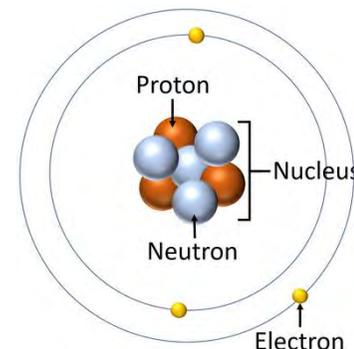
Keywords:

- Element:** a substance made up of only one type of atom
- Compound:** a substance with two or more elements chemically combined
- Atom:** the smallest part of an element that can exist
- Nucleus:** the central part of an atom containing protons and neutrons
- Electron shell/energy level:** the part of an atom where electrons are
- Proton:** a subatomic particle which has positive charge
- Neutron:** a subatomic particle which has no charge
- Electron:** a subatomic particle which has negative charge
- Isotope:** atoms of an element with the same number of protons and electrons, but a different number of neutrons
- Ions:** a charged particle, it has lost or gained electrons

Structure of the atom:

Atoms have no overall charge - the number of protons and electrons are the same, so the charges cancel out.

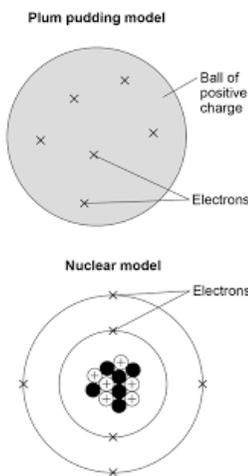
Subatomic particle	Relative mass	Relative charge
Proton	1	+1
Neutron	1	0
Electron	Very small	-1



History of the atom:

When new experimental evidence is discovered it can lead to scientific models being changed or replaced.

Scientist	Discovery
John Dalton (early 1800)	Atoms were solid spheres.
JJ Thomson (1897)	Discovered electrons and so suggested the plum pudding model - atom is a ball of charge with scattered electrons.
Ernest Rutherford (1909)	Alpha scattering experiment showed mass was concentrated at the centre of atoms, and the nucleus is charged. This was called the nuclear model.
Niels Bohr (1911)	Adapted the nuclear model to suggest electrons orbit at specific distances.
James Chadwick (1940)	After positive charge was shown to be divided into protons, Chadwick provided evidence to show neutrons also existed in the nucleus.



Isotopes:

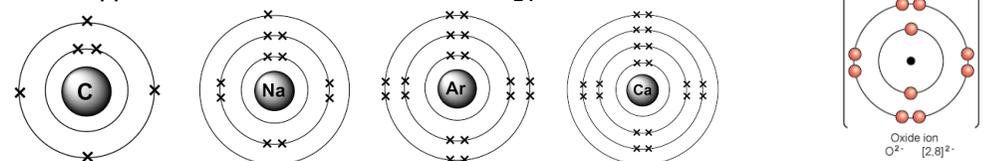
Atomic mass is the number of protons and neutrons an atom has. Atomic number or proton number is the number of protons (or electrons) an element has. Different elements have a different number of protons. You can use the symbol on the Periodic Table to find the number of protons, neutrons and electrons an element has. Isotopes are atoms of the same element, so have the same number of protons, however the number of neutrons are different so they have a different atomic mass.

Key
 relative atomic mass
atomic symbol
 name
 atomic (proton) number



Electronic structure:

Electrons are always filled from the energy level closest to the nucleus, and then outwards. Each cross or dot represents an electron. The first energy level can fit 2 electrons, every other energy level fits 8 electrons e.g. potassium has 19 electrons so is 2,8,8,1. Ions have lost or gained electrons, and so have a charge shown by their formula. This happens in order for the outer energy level to be full.





Describe how the Periodic Table has been developed over time and explain how it can be used to give information about elements.

Keywords:

Periodic table: a list of all the elements that have been discovered

Group: vertical columns on the Periodic table, elements in these have the same number of electrons on their outer shell and similar physical properties

Period: horizontal rows on the Periodic table, elements have the same number of energy levels

Atomic number: number of protons an element has

Atomic mass: the relative mass of an atom (number of protons and neutrons together)

Alkali metals: highly reactive metals found in Group 1

Halogens: elements found in group 7

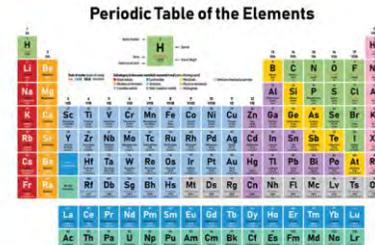
Noble gases: very unreactive elements found in Group 0

Development of the Periodic table:

Initially elements were classified by arranging them in order of **atomic mass**. The Periodic table was incomplete and some elements were in the wrong group when comparing properties.



Mendeleev put the elements in order of **atomic mass** but left gaps as he believed there were some undiscovered elements. Elements with the properties Mendeleev predicted were found and filled the gaps.



The discovery of isotopes made it possible to explain why ordering by atomic mass was not always correct. We now order by **atomic number**.

Metals vs. Non-metals: Metals

Found on the left of the Periodic table, form positive ions. Strong, malleable, good conductors of heat and electricity.

Non-metals

Found on the right of the Periodic table, form negative ions. Dull, brittle, generally not solids at room temperature

Alkali metals (Group 1):

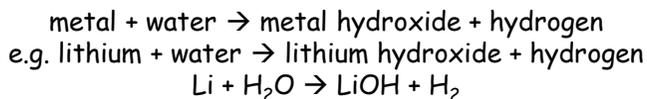
Soft, very reactive metals.

All have 1 electron on their outer energy level.

React with chlorine to form metal chlorides.

As you go down the group they get more reactive - because the atoms are bigger and so it's easier to lose the outer electron as its further from the nucleus.

React with water producing hydrogen and oxygen to make metal oxides.



Halogens (Group 7):

Non-metal molecules with 2 atoms (diatomic molecules).

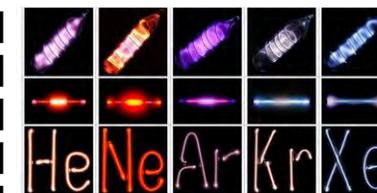
All have 7 electrons in their outer energy level. Reactivity decreases as you go down the group and it is harder for atoms to attract an electron when the outer energy level is so far from the nucleus.

Halide	Halogen added		
	Chlorine	Bromine	Iodine
lithium chloride	not done	no reaction	no reaction
sodium bromide	orange solution	not done	no reaction
potassium iodide	brown solution	brown solution	not done

More reactive halogens will displace less reactive halogens from an aqueous solution of its salt (a colour change is seen). Boiling points increase as you go down the group because the molecules get larger.

Nobel Gases (Group 0):

Elements in Group 0 have stable electron arrangements (due to full outer energy levels). Helium has 2 electrons on its outer shell, the rest have 8. They are unreactive and do not easily form molecules. Boiling points increase as you go down the group because the atoms get larger.





Explain how the three types of chemical bonds form: metallic, ionic and covalent.

Keywords:

Chemical bond: holds two atoms together

Metallic bonding: bonds between metal atoms

Ionic bonding: bonds between metal and non-metal ions

Covalent bonding: bonds between non-metal atoms

Delocalised electrons: electrons that are able to move through a structure

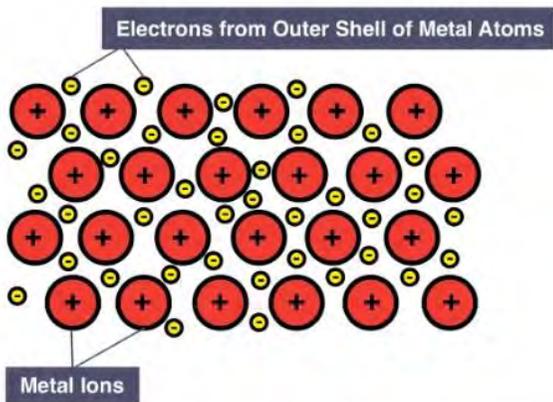
Ion: a charged particle, it has lost or gained electrons

Electrostatic attraction: attraction between oppositely charged particles

Covalent bond: a shared pair of electrons between two atoms

Metallic bonding:

Metal atoms lose electrons to form positive ions. The positive metal ions are surrounded by a sea of delocalised electrons, which can move through the whole structure.

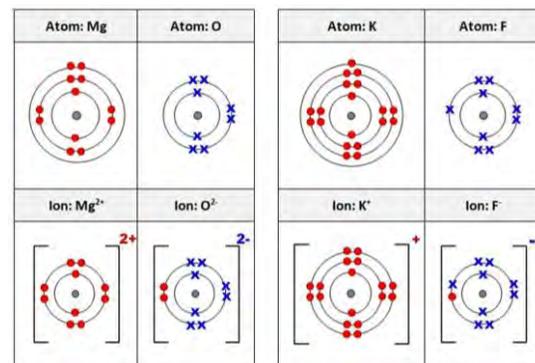


The ions are tightly packed and in neat rows

Ionic bonding:

Metal atoms donate electrons to non-metal atoms to form oppositely charged ions. These are held together by electrostatic attraction.

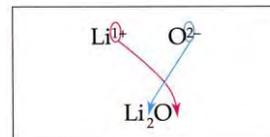
The number of electrons that move and the charges on the ions depends on the group of the atom.



The charge of the ion goes outside the brackets. If an ion loses 1 electron it becomes +, if it loses 2 electrons it becomes 2+. Ions will have a full outer electron energy level.

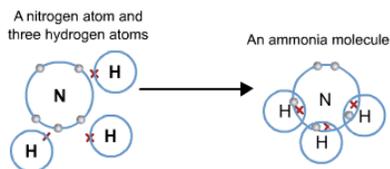
Writing ionic formula:

You can use the charges to write ionic formula as seen here:



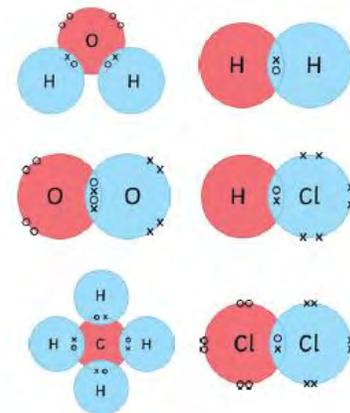
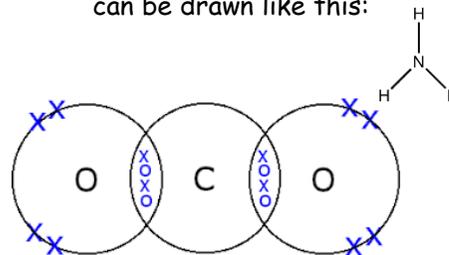
Covalent bonding:

Non-metal atoms share a pair of electrons, the energy levels overlap and the shared electrons mean that both atoms have a full outer electron energy level. Common examples are shown below:



Each hydrogen atom shares a pair of electrons with the nitrogen atom. It has single covalent bonds and the formula is NH₃. It can be drawn like this:

Each oxygen atom shares 4 electrons (or 2 pairs) with the carbon atom. These are double bonds. You may see the molecule drawn as O=C=O. The formula is CO₂.





Explain the key properties of metallic, ionic and covalent substances.

Keywords:

Metallic bond: attraction between positive metal ions and delocalised electrons

Malleable: the ability to be bent into shape

Ductile: the ability to be drawn into wires

Alloy: a mixture containing at least one metal

Delocalised electrons: electrons free to move through a structure

Ionic bond: electrostatic attraction between oppositely charged ions

Ionic lattice: regular structure of ions in a repeating pattern

Covalent bond: a shared pair of electrons between two non-metal atoms

Covalent molecule: a small number of atoms bonded together

Giant covalent structure: a large number of atoms arranged in a regular pattern (can be referred to as a lattice)

Intermolecular force: a weak attraction between two molecules

Conductor: the ability to allow heat or electricity to pass through

Melting point: the temperature at which a substance melts from a solid to a liquid (or freezes from liquid to solid)

Boiling point: the temperature at which a substance boils from a liquid to a gas (or condenses from a gas to a liquid)

State symbols

(s) = solid

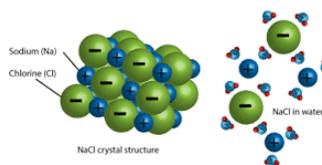
(l) = liquid

(g) = gas

(aq) = aqueous/solution

Ionic Structures:

Ionic substances form giant lattices where there is strong electrostatic attraction in all directions, however when added to water they dissolve meaning ions become free.



In the lattice:

- Very high melting point because lots of energy is needed to break bonds
- Do not conduct electricity as ions are fixed

When molten or dissolved:

- Conduct electricity as ions are free and can carry charge

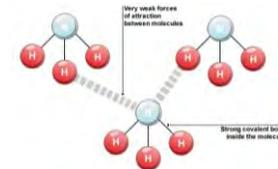
Simple Covalent Molecules:

Simple covalent molecules include H_2O , CO_2 , O_2 , NH_3 , Cl_2 .

They do not conduct electricity as there are no free electrons.

They have low melting and boiling points, meaning they are mainly gases and liquids at room temperature.

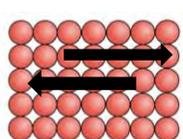
To boil covalent molecules you only need to break the weak intermolecular forces, which doesn't need much energy.



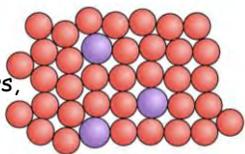
Metals and Alloys:

Metals conduct electricity because they have delocalised electrons.

Metals are malleable and ductile because the ions are in neat rows so can easily slide over each other.



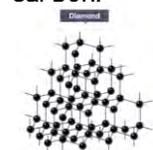
Because of this metals are too soft for many uses, so are mixed with other metals to make alloys.



The different sized atoms disrupt the layers, stopping them from sliding over each other.

Giant Covalent structures

Both diamond and graphite are made from carbon.

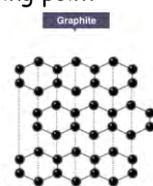


In diamond each carbon atom is bonded 4 times.

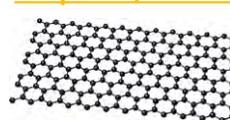
- It is very hard
- It does not conduct electricity as has no free electrons
- Has a very high melting point

In graphite each carbon atom is bonded 3 times

- It is soft and slippery because forces of attraction between the layers are weak
- It conducts electricity as it has delocalised electrons



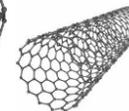
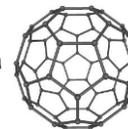
Graphene, Fullerenes and Nanotubes:



Graphene is a single layer of graphite. It is very hard and conducts electricity.

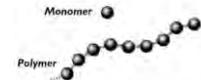
Fullerenes are molecules of carbon atoms with hollow shapes.

The first one to be discovered was the Buckminsterfullerene (C_{60})



Nanotubes are cylindrical fullerenes used in nanotechnology and electronics. .

Polymers:



Polymers are long chains of molecules made up of monomers. They are bonded covalently and the chains are held together by intermolecular forces. The longer the chain, the stronger the force.



Define acids and alkalis, describe common reactions of acids and be able to plan the stages required to make crystals of a soluble salt.

Keywords:

Acid: substance that releases hydrogen ions (H⁺)

Alkali: a soluble base that releases hydroxide ions (OH⁻)

Base: a substance that can neutralise an acid, often metal oxides

pH scale: a measure of the concentration of H⁺, how acidic or alkaline a substance is

Salt: ionic compound produced in reactions with acids

Soluble salt: a salt that dissolves in water

Neutralisation: $H^+_{(aq)} + OH^-_{(aq)} \rightarrow H_2O(l)$

Acid used	Salt produced
hydrochloric	metal chloride
nitric	metal chloride
sulfuric	metal sulfate

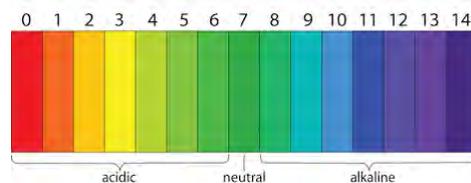
Making a soluble salt:

1. React an acid with an excess of metal, metal oxide, hydroxide or carbonate until no more reacts.
2. Filter the mixture to get a solution of the salt with the excess solid left behind.
3. Heat the solution to start evaporating the water from the solution.
4. Turn off the heat and leave until all of the water has evaporated, leaving the solid salt behind.

The pH Scale:

HT Only: As the pH decreases by one unit, the hydrogen ion concentration increases by a factor of 10.

So you go from pH 1 to pH 2, you need to dilute 10cm³ in 90cm³

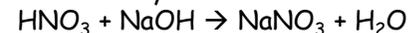


Reactions of acids:

With alkalis:

acid + alkali → salt + water

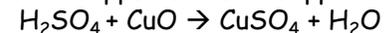
e.g. nitric acid + sodium hydroxide → sodium nitrate + water



With bases:

acid + metal oxide → salt + water

e.g. sulfuric acid + copper oxide → copper sulfate + water



With carbonates:

acid + carbonate → salt + water + carbon dioxide

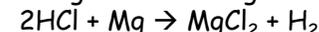
e.g. hydrochloric acid + calcium carbonate → calcium chloride + water + carbon dioxide



With metals:

acid + metal → salt + hydrogen

e.g. hydrochloric acid + magnesium → magnesium chloride + hydrogen



HT Only:

Metal + acid is a redox reaction because oxidation (loss of electrons) and reduction (gain of electrons) happens at the same time.

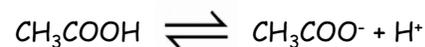


HT Only Strong and Weak acids:

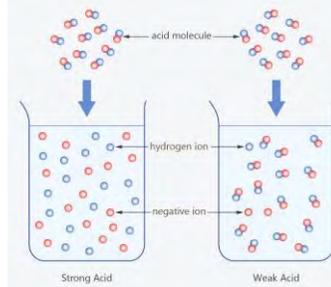
A strong acid completely dissociates in a solution.

Strong acids include hydrochloric acid, nitric acid and sulfuric acid.

Weak acids only partially dissociate, shown by a reversible reaction equation:



Strong acids will react more quickly and have lower pH.





Describe how to extract metals that are more reactive than carbon through electrolysis, giving aluminium as an example.

Keywords:

Electrolysis: splitting up ionic compounds using electricity

Electrodes: conducting rods, usually made from graphite or platinum

Cathode: negative electrode

Anode: positive electrode

Ion: a charged particle, it has lost or gained electrons

Electrolyte: a solution containing an ionic compound

Bauxite: the name for aluminium ore (aluminium oxide)

Cryolite: added to aluminium oxide to lower the melting point

Electrolysis:

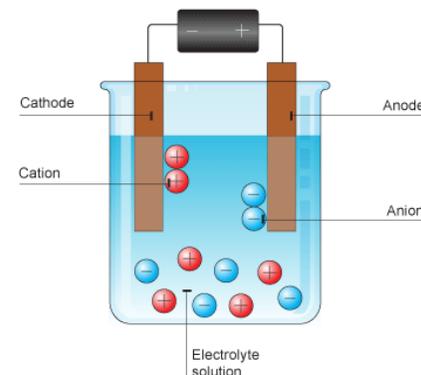
A current is passed through the solution. Ionic compounds need to be either molten or dissolved so their ions can move.

Opposite charges attract:

Cations (positive) are attracted to the cathode (negative).

Anions (negative) are attracted to the anode (positive).

The products at each electrode depend on the substance being electrolysed and the state it is in.



Predicting products of electrolysis:

If compound is molten (shown by a (l) after the formula):

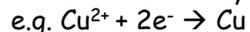
- positive metal ions will move to the cathode and form solid metal
- negative non-metal ions will move to the anode and form, normally a halogens

If a compound is dissolved/in solution (shown by a (aq) after the formula):

Cathode (negative electrode)	Anode (positive electrode)
Attracts positive ions If metal is below hydrogen in the reactivity series, it will make the metal - normally copper If metal is above hydrogen in the reactivity series, it will make hydrogen gas	Attracts negative ions If halide ions are present it will attract these and form the halogen molecule If no halide ion present, it attracts OH ⁻ ion from water and forms oxygen gas

HT Only Writing half equations (OILRIG):

Metal ions are reduced at the cathode as they gain electrons:



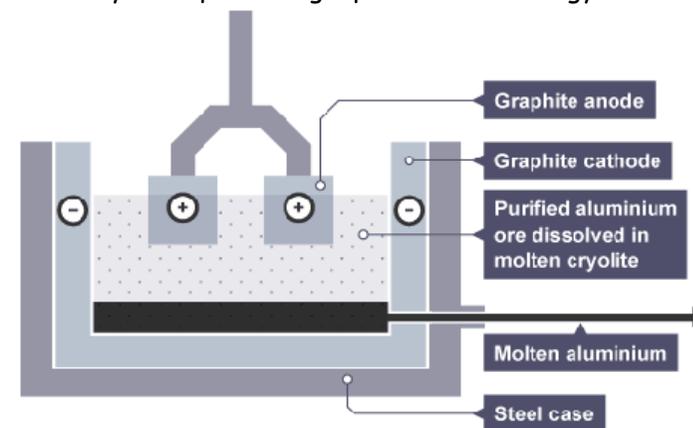
Non-metal ions are oxidised at the anode as they lose electrons:



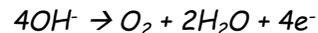
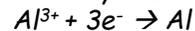
Extracting Aluminium:

Metals are extracted by electrolysis if a metal is too reactive to be extracted by reduction with carbon.

Electrolysis requires large quantities of energy to melt the compounds.



HT Only: Relevant half equations



Aluminium is extracted from aluminium oxide, more commonly known as bauxite.

Cryolite is added to the compound to lower the melting point and save energy.

The graphite anodes must be replaced regularly as the carbon reacts with the oxygen produced, releasing carbon dioxide and eroding the electrode.



Using chemical calculations to show how quantities of chemicals in reactions can change, while overall mass in chemical reactions is conserved.

Keywords:

Conservation of mass: mass of reactants = mass of products

Relative atomic mass (A_r): an average mass of all the isotopes naturally present of an element

Relative formula mass (M_r): sum of all relative atomic masses in the formula of a compound

Concentration: the amount of a substance in a specific volume of solution

Calculating A_r :

$$A_r = \frac{(\% \text{ abundance} \times \text{mass}) + (\% \text{ abundance} \times \text{mass})}{100}$$

e.g.

Mass of isotope	% Abundance
${}^6\text{Li}$	7.5
${}^7\text{Li}$	92.5

$\frac{(7.5 \times 6) + (92.5 \times 7)}{100} = 6.9$

Calculating M_r :

Use the formula to multiply the A_r of each element by the number of atoms present.

e.g. H_2SO_4

A_r of H = 1 $(2 \times 1) + 32 + (4 \times 16)$
 A_r of S = 32 = 2 + 32 + 64
 A_r of O = 16 = 98

Calculating percentage mass of an element in a compound:

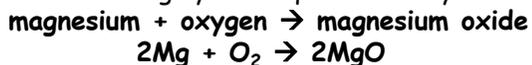
Percentage mass of an element in a compound =

$$A_r \times \frac{\text{number of atoms of that element}}{M_r \text{ of the compound}}$$

Conservation of mass:

No atoms can be created or made during a chemical reaction, so the mass of the reactants will equal the mass of the products.

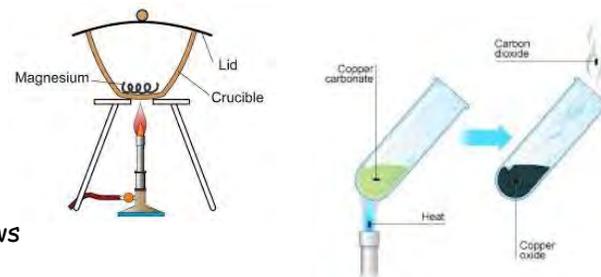
When writing symbol equations they must be balanced to represent this:



When reactions involve gases, the mass can seem to increase/decrease because we cannot measure the mass of the gas.

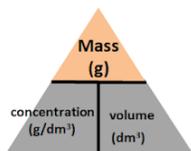
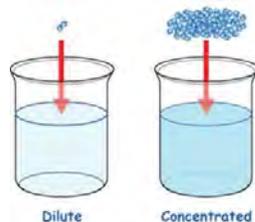
e.g. adding oxygen to magnesium shows an increase, while thermal decomposition of copper carbonate shows a decrease.

But mass has still been conserved, just not the measured mass.



Concentration of solutions:

The more substance that is dissolved, the more concentrated the solution is.



Volumes in Chemistry need to be in dm³

$$1000\text{cm}^3 = 1\text{dm}^3$$

So to get dm³, take the volume in cm³ and \div by 1000

The Mole

The mole is a unit used to measure the amount of substance in Chemistry.

1 mole = mass in grams of 6.022×10^{23} particles

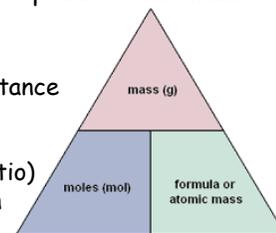
It allows you to compare the amount of a substance taking into account the mass of the atoms that make it up.

1 mole of any substance is its A_r or M_r in grams.

So 1 mole of $\text{CO}_2 = 44\text{g}$

You can use the number moles to predict the mass of another substance in a balanced equation.

1. Calculate moles of known substance
2. Used balanced equation to calculate number of moles of unknown substance (look at ratio)
3. Calculate the mass of unknown substance



Limiting Reactants:

If one reactant gets used up in a reaction before the other, then the reaction will stop.

This is limiting reactant.

You can use the number of moles available to calculate which reactant is the limiting one.

HT only

HT only



Using the energy change of a reaction to define it as exothermic or endothermic, explaining how to measure this energy change accurately.

Keywords:

Exothermic reactions: involve transfer of energy from the reaction to the surroundings, so temperature increases

Endothermic reactions: involve transfer of energy from the surroundings to the reaction, so temperature decreases

Energy level diagram: shows the energy change occurring in a reaction

Activation energy: the minimum amount of energy required for a chemical reaction to take place

Catalyst: a substance that speeds up a chemical reaction by offering an alternative pathway with a lower activation energy, it is not used up

Exothermic Reactions:

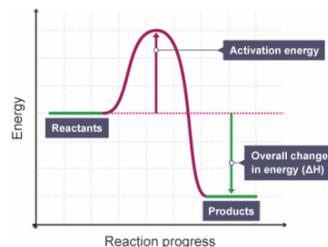
Energy is transferred from the reacting chemicals to the surroundings, Temperature increases as the reaction takes place.

Examples:

- Combustion
- Neutralisation
- Respiration
- Oxidation

Uses:

- Hand warmers
- Self heating cans



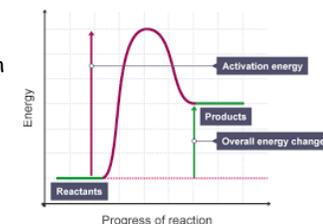
Endothermic Reactions:

Energy is transferred from the surroundings to the reacting chemicals Temperature decreases as the reaction takes place.

Example:

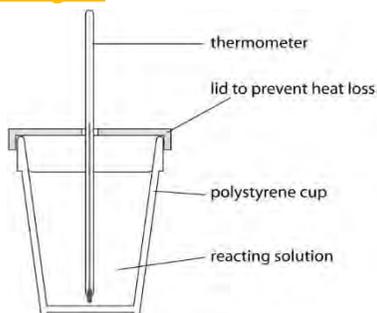
- Thermal decomposition
- Instant ice packs

The direction of arrows on energy profile diagrams is really important!



RP Measuring Energy Changes:

Aim: to investigate variables that affect temperature changes in reacting solutions e.g. reactions of acids, neutralisation, displacement reactions of metals



Improving accuracy:

- Use a polystyrene cup as this is an insulator and prevents heat loss
- Use a lid to prevent heat loss
- Stir the solution to make sure energy is distributed evenly in the solution
- Repeat 3 times, remove anomalous result and calculate the mean

Bond making and breaking:

Breaking a bond is an endothermic process - it requires energy to be put in so the value is positive. Making a bond is an exothermic process - it releases energy so the value is negative.

Whether a reaction is exothermic or endothermic depends on the bonds that need to be made and the bonds that need to be broken.

The energy change can be shown as ΔH

Calculations using bond energies:

Bond energies are used to calculate the change in energy of a chemical reaction.

Step 1: Write a balanced symbol equation for the reaction



Step 2: Work out the bonds being broken and the bonds being made



Step 3: Calculate energy for bonds being broken

$$4 \times 464 + 2 \times 146 = 2148$$

Step 4: Calculate energy for bonds being made

$$2 \times 464 + 498 = 2354$$

Step 5: Energy change = bonds broken - bond made

$$2148 - 2354 = -206 \text{ kJ/mol} \quad (\text{because } \Delta H \text{ is negative, reaction is exothermic})$$

HT only

Bond	Bond Energy kJ/mol
H-O	464
O-O	146
O=O	498



Describe how to test substances, including the four common gases produced in chemical reactions throughout your GCSE course.

Keywords:

Pure substance: contains one type of element or one type of compound

Element: substances made up of one type of atom

Compound: two or more elements chemically joined together

Mixture: two or more elements or compounds that are not chemically joined together

Soluble: a substance that dissolves in a solvent

Solvent: a liquid a solute will dissolve in

Paper chromatography: a separation technique used to separate a mixture of soluble substances

R_f value: helps identify unknown compounds

Formulation: a mixture of compounds or substances that produces a useful product

$$R_f = \frac{\text{distance travelled by substance}}{\text{distance travelled by solvent}}$$

Pure substances:

In everyday language "pure" can mean a substance that has had nothing else added to it (e.g. pure orange juice only contains orange juice).

In Chemistry pure substances contain only one type of element or compound (now orange juice is not pure - it contains lots of compounds like glucose and water)

Pure substances have a sharp melting point.

Impure substances will melt over a range of temperatures.

Formulations:

Common products that are formulations are: medicines, cleaning products, deodorants, cosmetics, paint and sun cream.

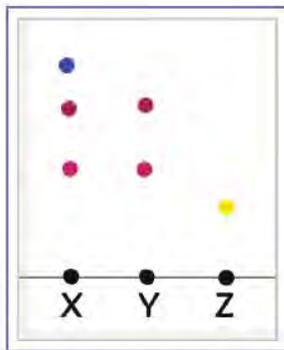
The proportion of each part of the mixture is specific to the use of the formulation and the properties of the substance.

Paper Chromatography:

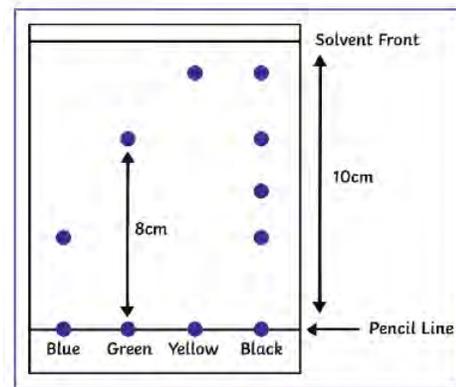
There are two phases:
The **mobile phase** (the solvent) moves through the paper carrying different substances with it.

The **stationary phase** is the paper.

How soluble a substance is determines how far it will travel.



Chromatography helps us identify pure substances. Pure substances will have one spot. Impure substances will produce two or more spots. So Z is pure, X and Y are impure.



The R_f value helps to identify unknown compounds.

$$R_f \text{ of green} = \frac{8}{10} = 0.8$$

Important parts of the method:

- Use a pencil to draw the line so it doesn't dissolve in the solvent
- Make sure the solvent is below the pencil line otherwise ink will move downwards
- Do not let the solvent run to the top of the paper

Identifying common gases:

Testing for H₂:

- Insert lit splint
- Will make a squeaky pop sound



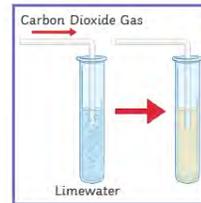
Testing for O₂:

- Insert a glowing splint
- Splint will relight



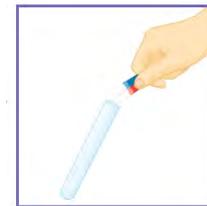
Testing for CO₂:

- Bubble through limewater
- Limewater turns cloudy



Testing for Cl₂:

- Use damp litmus paper
- Litmus paper bleaches/turns white





In this topic you will learn about electricity in the home, a range of electrical components and circuits

Keywords:

Current: Rate of flow of charge
Potential difference: A measure of how much energy is transferred between two points in a circuit
Series circuit: A circuit with one loop
Parallel circuit: A circuit with two or more loops
Resistance: Slows down the flow of current

Equations:

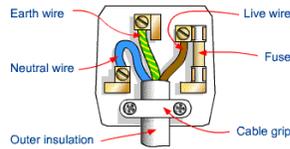
$$Q=It \quad P=IV$$

$$V=IR \quad P=I R^2$$

$$E=Pt$$

$$E=QV$$

Electricity in the home:

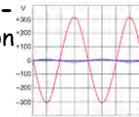


Live - Brown	Carries p.d from mains supply.	p.d between live and earth = 230V
Neutral - Blue	Completes the circuit.	p.d. = 0V
Earth - Green and Yellow stripes	Only carries current if there is a fault.	p.d. = 0V
Fuse	Melts when current is too high	Always choose correct fuse for current flowing

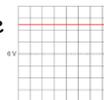
Earthing' a safety device; Earth wire joins the metal case of appliance

National Grid: distributes electricity generated in power stations around UK. Mains electricity is 230 V and 50 Hz

Alternating current - p.d. switches direction many times a second, current switches direction eg mains electricity



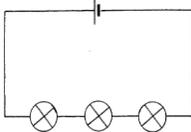
Direct current - p.d. remains in one direction, current flows the same direction Eg cells and batteries



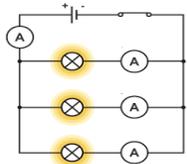
Series and parallel Circuits:

Series circuit	Current is the same in all components.	Total p.d. from battery is shared between all the components.	Total resistance is the sum of each component's resistance.
Parallel circuit	Total current is the sum of each component's current.	p.d. across all components is the same.	Total resistance is less than the resistance value of the smallest individual resistor.

Series



Parallel



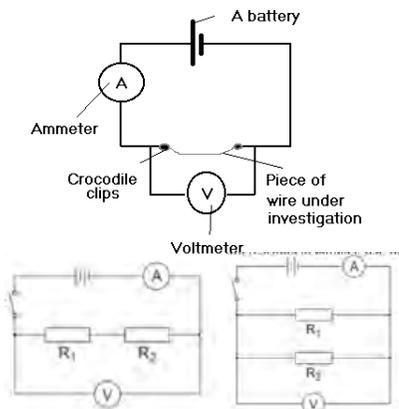
Required practicals:

Investigating the resistance of a wire

Independent variable - Length of wire
 Dependent variable - Resistance
 Control Variable - Type of metal and diameter of wire
 Conclusion - As the length of the wire increases the resistance increase

Investigating Series and Parallel circuits with resistors

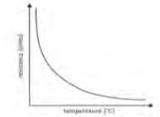
Independent Variable - Circuit type (Series or Parallel)
 Dependent variable - Resistance
 Control Variable - Number of resistors
 Conclusion - Adding resistors in series increases total Resistance. In Parallel the more resistors you add the smaller the resistance



Resistors and IV graphs:

Thermistor

Resistance low at high temperature



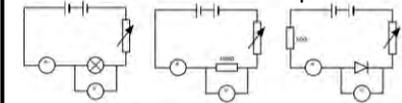
LDR

Resistance low in bright light



Required practical

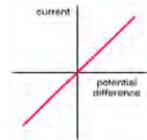
Independent variable - Pd
 Dependent variable - Current
 Control - number of components



Ohmic

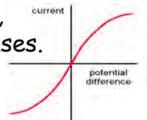
Ohmic Conductor

At a constant temperature, current is directly proportional to the p.d. across the resistor



Filament lamp

As current increases, the resistance increases. The temperature increases as current flows.

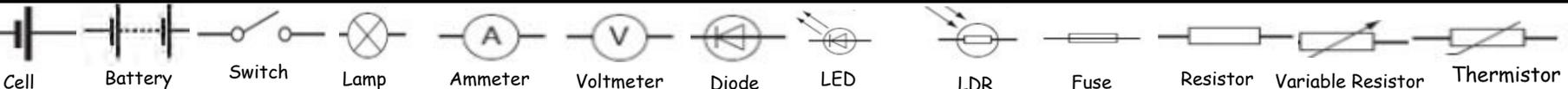


Diode

Current flows when p.d. flows forward. Very high resistance in reverse.



Circuit Symbols





Study the different energy stores and how energy can be transferred through the specific heat capacity required practical

Keywords and equations:

Specific heat capacity: The energy required to raise the temperature of a mass of 1kg by 1 Degree Celsius

Power: Is the rate of transfer of energy/ work done in a given time.

$$P(W) = E(J) / t(s)$$

Kinetic energy: Energy store if an object is moving

$$E_k (J) = \frac{1}{2} \times \text{mass (kg)} \times (\text{velocity})^2$$

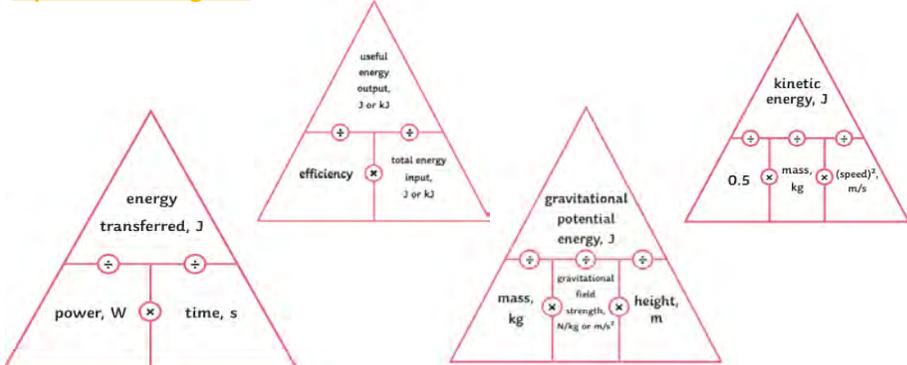
Gravitational Energy: Energy store if an object is above the ground.

$$E_p (J) = m \text{ (kg)} \times g \text{ (N/kg)} \times h \text{ (m)}$$

Efficiency = Useful output / total input

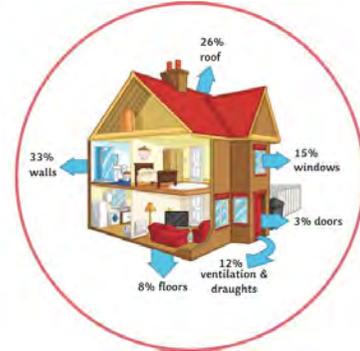
(either energy or power and left as a decimal or $\times 100$ to get a percentage)

Equation triangles:



Energy store and % energy loss in the home:

Energy Stores	
kinetic	Moving objects have kinetic energy.
thermal	All objects have thermal energy.
chemical	Anything that can release energy during a chemical reaction.
elastic potential	Things that are stretched.
gravitational potential	Anything that is raised.
electrostatic	Charges that attract or repel.
magnetic	Magnets that attract or repel.
nuclear	The nucleus of an atom releases energy.

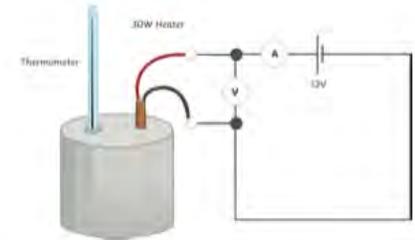


RP Specific Heat capacity:

Independent variable: material

Dependent variable: specific heat capacity

Control variables: insulating layer, initial temperature, time taken



$$\Delta E = m \times c \times \Delta \theta$$

(J) (kg) (J/kg °C) (°C)

change in thermal energy = mass \times specific heat capacity \times temperature change

- Record the mass of the copper block in kg (using a balance).
- Set up the equipment as shown above.
- Put the thermometer into the small hole and measure the temperature.
- Switch the power pack to 12V and turn it on.
- Read and record the voltmeter and ammeter readings 3 times during the experiment.
- Turn on the stop clock and record the temperature every minute for 10 minutes.
- Record the results in the table.
- Calculate work done and plot a line graph of work done against temperature.



In this topic you will learn about the behaviour of particles and learn to find the density of objects

Keywords:

Density: A measure of how much mass is in a given Volume

Internal energy: the sum of kinetic and potential energies in a closed system.

Specific latent heat: Energy needed to change 1kg of a substance's state at a constant temperature.

Specific latent heat of fusion: Energy needed to change 1kg of solid into 1 kg of liquid at the same temperature

Specific latent heat of vaporisation: Energy needed to change 1kg of liquid into 1 kg of gas at the same temperature

Equations:

$$\text{Density} = \frac{\text{mass}}{\text{volume}} \quad P = m \div V$$

$\frac{\text{kg/m}^3}{\text{kg}} \quad \frac{\text{m}^3}{\text{m}^3}$

$$\text{Energy needed} = \frac{\text{mass}}{\text{kg}} \times \text{specific latent heat} \quad \Delta E = m \times L$$

$\text{J} \quad \text{J/kg}$

Particle motion and Pressure:

Gas particles can move around freely and will collide with other particles and the walls of the container. This is the pressure of the gas. If the temperature of the gas increases then the pressure will also increase. The hotter the temperature the more kinetic energy the gas particles have. They move faster colliding with the sides of the container

State	Particle arrangement	Properties
Solid	<i>Packed in a regular structure. Strong forces hold in place so cannot move.</i>	Difficult to change shape.
Liquid	<i>Close together, forces keep contact but can move about.</i>	Can change shape but difficult to compress.
Gas	<i>Separated by large distances. Weak forces so constantly randomly moving.</i>	Can expand to fill a space, easy to compress.

Required Practical:

Finding the density of a regular object:

1. Measure the mass using a balance
2. Measure length, width height using a ruler and calculate volume
3. Use Density = mass ÷ volume



Finding the density of an irregular object:

1. Measure mass using a balance
2. Fill Eureka can with water
3. Place object in water
4. The water displaced into the measuring cylinder is the volume of the object
5. Use Density = mass ÷ volume



Density useful fact

A more dense material will have more particles in the same volume when compared to a less dense material

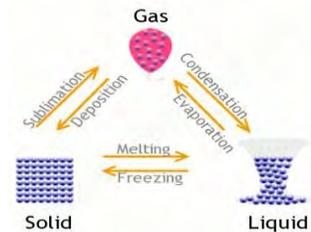
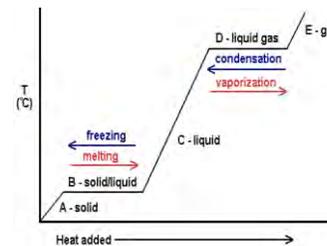
Internal energy: Particles within a system have kinetic energy when they vibrate or move around. The particles also have a potential energy store. The total internal energy of a system is the sum of kinetic and potential energy stores. If the system is heated the particles will gain more kinetic energy, so increasing the internal energy.

Latent heat and changes of state:

Energy is being put in during melting and boiling. This increases the amount of internal energy. The energy is being used to break bonds so the temperature does not increase. This is shown by the parts of the graph that are flat. The energy needed to change the state of a substance is called the **latent heat**.

Solid $\xrightarrow{\hspace{2cm}}$ Liquid **Specific latent heat of fusion**
Liquid $\xrightarrow{\hspace{2cm}}$ Gas **Specific latent heat of vaporisation**

Latent heat is the amount of energy needed /released when a substance changes state
Energy needed = mass X specific latent heat



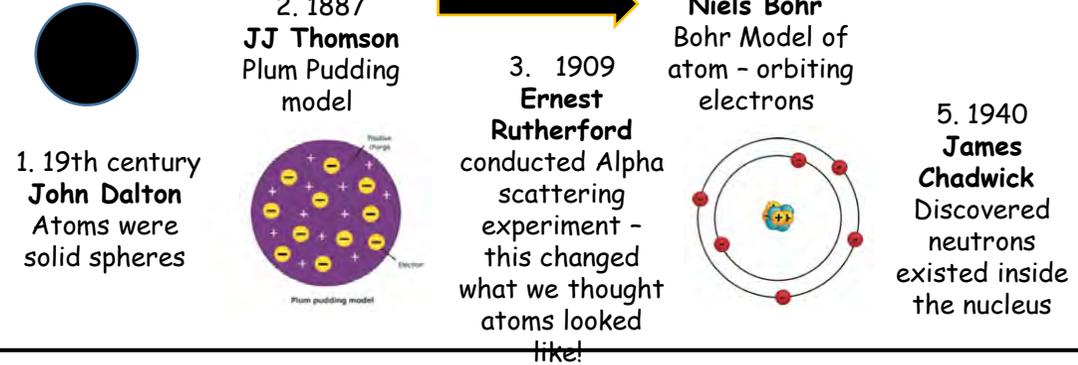


In this topic you will explore how the model of the atom has changed since the 19th century and discover nuclear decay!

Keywords:

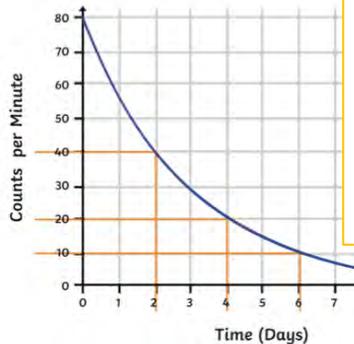
- Nuclear radiation:** The emission of Alpha, Beta or Gamma from the nucleus of an unstable atom.
- Alpha:** Helium nucleus - Two protons and two neutrons.
- Beta:** Fast moving electron emitted from the nucleus
- Gamma:** High frequency electromagnetic wave.
- Penetration power:** Measure of how far an object can pass through a substance without being absorbed.
- Ionisation Power:** Measure of an objects ability to mutate cells.
- Contamination:** When a radioactive source is in direct contact/inside an object -> making the object radioactive.
- Irradiation:** Shining gamma radiation on an object. This process kills bacteria and does not make the object radioactive.
- Half life:** The time taken for the number of radioactive nuclei in a sample to decrease by half.
- Isotope:** An element with the same number of protons and electrons but a different number of neutrons.

Development of the Model of the atom:



Calculating Half Lives:

- Step 1:** Read off where the curve hits the Y-axis
- Step 2:** Half that number
- Step 3:** Draw a line across from that number to the curve.
- Step 4:** Draw a straight line down from where line in step 3 met the curve.
- Step 5:** read off the number of x-axis and add the unit.
- THIS IS THE HALF LIFE!**



Model Example

- Step 1:** 80
- Step 2:** $80/2 = 40$
- Step 3:** draw a line across from that number to the curve.
- Step 4:** draw a straight line down from where line in step 3 met the curve.
- Step 5:** Half life = 2 days!

Radioactive Decay:

Decay Type	Radiation Emitted	Generic Equation	Model
Alpha decay	${}^4_2\alpha$	${}^A_ZX \longrightarrow {}^{A-4}_{Z-2}X' + {}^4_2\alpha$	
Beta decay	${}^0_{-1}\beta$	${}^A_ZX \longrightarrow {}^{A}_{Z+1}X' + {}^0_{-1}\beta$	
Gamma emission	${}^0_0\gamma$	${}^A_ZX^* \xrightarrow{\text{Relaxation}} {}^A_ZX + {}^0_0\gamma$	

Note: There is no change to the nucleus when a radioactive source emits gamma radiation. It is the nucleus getting rid of excess energy.



Explore different types of forces, how to calculate them and their effect on extension and acceleration



Keywords:

Contact forces: force can only occur when objects are touching e.g. friction, air resistance, tension and contact force.

Non-contact forces: the objects do not need to touch for the force to act e.g. gravitational, electrostatic and magnetic forces.

A resultant force: is a single force which replaces several other forces. It has the same effect acting on the object as the combination of the other forces it has replaced.

Equations:

Weight (N) = mass (kg) × gravitational field strength (N/kg)

Work done [energy transferred] (J) = force (N) × distance moved (in the direction of the force) (m)

Resultant force (N) = mass (kg) × acceleration (m/s²)

Acceleration (m/s²) = change in velocity (m/s) time taken (s)

Stopping distance = thinking distance + braking distance

HT-only: Momentum (N) = mass (kg) × velocity (m/s)

RP Hooke's Law $F=kxe$

1. Set up the equipment as show



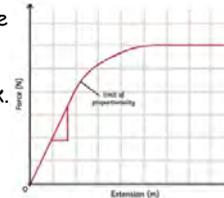
2. Measure the original length of the elastic object, e.g. a spring, and record this.

3. Attach a mass hanger (remember the hanger itself has a weight). Record the new length of the spring.

4. Continue to add masses to the hanger in regular intervals and record the length each time.

5. Once you have your results, you can find the extension for each mass using this formula: spring length - original length

6. Gradient of the linear section will equal the spring constant k .



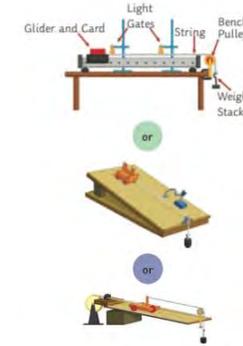
RP Force Vs Acceleration:

The independent variable was force.

The dependent variable was acceleration.

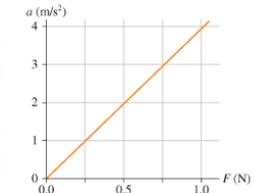
The control variables were:

- same total mass
- same surface/glider/string/pulley (friction)
- same gradient if you used a ramp



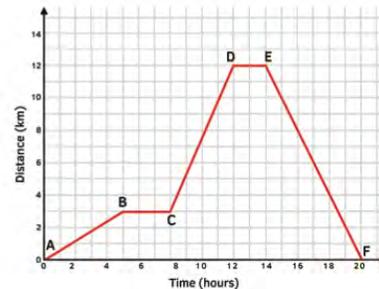
Results:

Expect a directly proportional relationship - Graph with a straight line through the origin.



Distance/time and Velocity/Time graphs:

Graph Feature	Distance-Time Graph	Velocity-Time Graph
x-axis	time	time
y-axis	distance	velocity
gradient	speed	acceleration (or deceleration)
plateau	stationary (stopped)	constant speed
uphill straight line	steady speed moving away from start point	acceleration
downhill straight line	steady speed returning to the start point	deceleration
uphill curve	acceleration	increasing acceleration
downhill curve	deceleration	increasing deceleration
area below graph		distance travelled



Vector and Scalar:

A scalar quantity has magnitude only. E.g. include temperature and mass.

A vector quantity has both magnitude and direction. E.g. include velocity and force.

Activity	Typical Value
walking	1.5m/s
running	3m/s
cycling	6m/s
driving a car	25mph (40km/h)
train travel	60mph (95km/h)
aeroplane travel	550mph (885km/h)
speed of sound	330m/s



St Joseph's College Spanish Department

Autumn Term 1: Mi familia, mis amigos y yo (F) Year 10 Half Term 1



We will familiarise ourselves with Spanish customs and discuss and describe family and friends

Keywords:

1.1.G ¿Cómo es tu familia?

- La abuela - the grandmother
- El abuelo - the grandfather
- Los abuelos - the grandparents
- El hermano - the brother
- La hermana - the sister
- La hija - the daughter
- El hijo - the son
- La madrastra - the stepmother
- El padrastro - the stepfather
- La tía - the aunt
- El tío - the uncle
- El pelo - the hair
- La barba - the beard
- Las pecas - the freckles
- Los ojos - the eyes
- Las gafas - the glasses
- Amable - kind
- Alto/a - tall
- Alegre - happy
- Anciano/a - old
- Calvo/a - bald
- Castaña/a - brown hair colour
- Corto/a - short
- Delgado/a - thin
- Gracioso/a - funny
- Guapo/a - handsome, good looking
- Joven - young
- Largo/a - long
- Liso/a - straight
- Rizado/a - curly
- Viejo/a - old

1.2.G Hablando de parejas

- El beso - the kiss
- Los familiares - relatives
- La gente - the people
- El invitado/a - the guest
- El marido - the husband
- La mujer - the wife, woman

- La novia - the girlfriend
- El novio - the boyfriend
- La pareja - the partner
- Los parientes - the relatives
- El piso - the flat, apartment
- Las vacaciones - holidays
- Enamorado/a - in love
- Feliz - happy
- Maleducado/a - rude
- Serio/a - serious, responsible
- Cocinar - to cook
- Comprar - to buy
- Echar de menos - to miss someone
- Parecer - to seem
- Pelear(se) - to fight
- Sonreír - to smile

1.1.F Hablando de los amigos

- El verano - summer
- La vida - life
- El sentido del humor - sense of humour
- El equipo - the team
- La disputa - the argument
- La cosa - the thing
- El consejo - the advice
- Triste - sad
- Travieso/a - naughty
- Seguro/a - certain, sure
- Peligroso/a - dangerous
- Mismo/a - same
- Maduro/a - mature
- Honrado/a - honest
- Hablador/a - talkative
- Fuerte - strong
- Egoísta - selfish
- Divertido/a - fun
- Comprensivo/a - understanding
- Reírse - to laugh
- Fastidiar - to bother, annoy
- Escribir - write

- Cuidar - to look after
- Conocer - to know a person or place
- Alegrarse de - to be happy about

1.2. F Planes para el futuro

- La boda - the wedding
- El casamiento - wedding
- El compañero/a - the colleague, friend
- La felicidad - happiness
- La fiesta - party, festival
- El sitio - the place
- Decepcionado/a - disappointed/a
- Próximo/a - next
- Solo/a - lonely, only
- Soltero/a - single
- Buscar - to look for
- Cambiar - to change
- Casarse - to get married
- Encontrar - to find
- Tener suerte - to be lucky

	PRESENT TENSE (regular verbs)		
	AR	ER	IR
Yo (I)	-o	-o	-o
Tú (you)	-as	-es	-es
El/ella/Ud (he/she)	-a	-e	-e
Nosotros (we)	-amos	-emos	-imos
Vosotros (you)	-áis	-éis	-ís
Ellos/as (they)	-an	-en	-en

TIME PHRASES PRESENT	Hoy - today	Generalmente - usually	A veces - sometimes
	Siempre - always	Normalmente - usually	Muchas veces - many times
Never - nunca	A menudo - often	Todos los días - every day	
Casi nunca - almost never	Todos los días - every day	Varias veces - several times	
FUTURE	Mañana - tomorrow	Más tarde - later	El mes próximo - next month

CONNECTIVES			
Y/e - and	Pero - but	Sin embargo - however	O/u - or
Porque - because	Ya que - because	También - also, too	Además - besides
Como - as, such as	Cuando - when	Así que - so, therefore	Por eso - therefore

OPINIONS	
Me encanta - I love	Pienso que - I think that
Me gusta mucho - I like a lot	Creo que - I believe that
Me gusta - I like	Opino que - I am of the opinion that
No me gusta - I don't like	Me parece que - It seems to me that
Odio/Detesta - I hate/I detest	Es esencial - It's essential

PRESENT TENSE (verbs to describe someone)	
SER (To be)	TENER (To have)
Soy (I am)	Tengo (I have)
Eres (You are)	Tienes (You have)
Es (He/she is)	Tiene (He/she has)
Somos (We are)	Tenemos (We have)
Sois (You are)	Tenéis (You have)
Son (They are)	Tienen (They have)

POSSESSIVES	
Mi(s) -my	Tu(s) -your
Su(s) -his/her	Nuestro/a/os/as - our
Vuestro/a/os/as - your	Su(s) -their

ADJECTIVE ENDINGS			
m.s	f.s	m.pl	f.pl
guapo	guapa	guapos	guapas
amable	amable	amables	amables
formal	formal	formales	formales

Mi novia es guapa
Mis padres son amables
Mis amigos son formales

IMMEDIATE FUTURE	
Present Verb IR	
to go + a + infinitive	
I am going + to + play	
Voy + a + jugar	
Voy	Jugar
Vas + a +	Escribir
Va	Hablar
Vamos	Comer
Váis	Leer
Van	Tener

GCSE Questions:

¿Te llevas bien con tu familia? - Sí, me llevo bien con mi familia porque ... / No, no me llevo bien con mi familia porque... / En mi familia me llevo bien con ... pero no me llevo bien con ...

Describe a un miembro de tu familia / Describe a tu mejor amigo / Describe a tu novia. - Mi novio/a es... / Mi novio/a tiene ... / Creo que mi novia es/tiene...

¿Cómo sería tu novia/mujer/marido ideal? ¿Cómo sería un amigo perfecto? Mi novia/o ideal/perfecto sería/tendría/jugaría ... ¿Qué te gusta hacer con tu familia? - Con mi familia me gusta hacer

¿Te vas a casar? - Creo que voy a casarme porque ... / Creo que no voy a casarme porque... / En mi opinión, el matrimonio es así que voy a casarme / no voy a casarme...



St Joseph's College Spanish Department

Autumn Term 1: Mi familia, mis amigos y yo (H) Year 10 Half Term 1



This half term we will familiarise ourselves with Spanish customs and discuss and describe family and friends

Keywords:

1.1. H Relaciones con la familia

La barrera generacional - the generation gap

El cariño - affection

La culpa - blame, fault

Los demás - others

El hogar - home

La libertad - freedom

Manera - way

La pelea - fight

El sobrino - the nephew

La sobrina - the niece

Abierto/a - open

Celoso/a - jealous

Harto/a de - fed up with

Orgullosa/a - proud

Parecido/a - similar

Perezoso/a - lazy

Juntos - together

Aconsejar - to advise

Aguantar - to bear, to put up with

Arreglar - to tidy

Molestar - to bother

Oír hablar de - to hear about

Olvidar - to forget

Provocar - to cause

Tender a - to tend to

Tratar - to treat

Incluso - even

Injustamente - unfairly

Todavía - still

1.2. H Las relaciones de hoy en día

La edad - the age

El/la jubilado/a - retired person, pensioner

La pareja - the partner

La piel - the skin

El/la usuario/a - the user

El /la viudo/a - the widower, the widow

Alguien - someone

Sensible - sensitive

Distinto/a - different

Cara a cara- face to face

En contra - against

Estar de acuerdo - to agree

Pagar - to pay

TIME PHRASES FUTURE	El año que viene - next year	El fin de semana próximo - next weekend	Esta tarde - this afternoon
	Mañana por la mañana- tomorrow morning	Mañana por la tarde - tomorrow afternoon	Mañana por la noche - tomorrow night
	La semana que viene - next week	Esta tarde - this afternoon	Esta noche - tonight

CONNECTIVES

Por un lado - on one hand

Por otro lado - on the other hand

En primer lugar - in the first place, firstly

Dado que - given that, since

OPINIONS

Me importa + infinitive/noun - it's important to me ...

No me importa + infinitive/noun - it's not important to me ...

(no) estoy de acuerdo (con) - I (don't) agree (with)...

Discrepo con - I disagree with...



Verbs SER and ESTAR (both verbs mean "to be").

SER	ESTAR
Soy	Estoy
Eres	Estás
Es	Está
Somos	Estamos
Sois	Estáis
Son	Están

Uses of SER:

- Descriptions (Mi amigo es tonto)
- Nationality, where someone is from (Soy inglés/Soy de Londres)
- Time and date (Son las dos/Hoy es el cuatro de julio)
- Profession, job (Soy profesora)
- Relationship (Esa mujer es mi hermana)

Uses of ESTAR:

- Location (El libro está en la clase/Estoy en Londres)
- Physical or emotional feelings (estoy feliz/estoy cansado)
- Continuous actions: Estoy bailando (I am dancing)

RECOGNISING FALSE FRIENDS

An "amigo falso" is a word which is spelt the same or is very similar to an English word, but which has a different meaning:
Actualmente - nowadays
Sensible - sensitive
Largo - long
Formal - polite

Use of "que" to extend sentences

Make your sentences longer by using connecting words, such as "que" (that, who)
Voy al cine que está al lado de mi casa: I go to the cinema that is near my house

IRREGULAR ADJECTIVES/ADJECTIVES OF NATIONALITY

Adjectives that end in a consonant usually have only two forms (azul/azules), but adjectives of nationality and adjectives that in the masc. singular form end in -dor and -ón have different forms for masc. and fem. too.
E.g. Español/a/es/as
Hablador/a/es/as

REFLEXIVE VERBS

The infinitive ends in -se (-arse, -erse, -irse). They have the ending to the verb and a reflexive pronoun in front of the verb.
Me llamo Nos llamamos
Te llamas Os llamáis
Se llama Se llaman

DIRECT and INDIRECT OBJECT PRONOUNS

Object pronouns replace something that has already been mentioned. The difference between direct and indirect pronouns is that, in English, the indirect object can have a preposition before it. DIRECT INDIRECT

Me	Me	Me
You (sing)	Te	Te
Him/her	Lo/La	Le
It	Lo/la	Le
Us	Nos	Nos
You (pl)	Os	Os
Them	Los/Las	Les

Lo veo en el parque - I see him in the park.
Le estoy hablando - I am talking to him.

GCSE Questions:

¿Quiénes son los miembros de tu familia? - En mi familia somos ...4/5/6... personas: mi padre, mi madre, etc. y yo.

¿Crees que tu familia es una familia típica? ¿Por qué (no)? - Mi familia (no) es una familia típica porque ...

Dime algo sobre las discusiones que hay en tu familia. - En mi familia discutimos mucho/a menudo/nunca/a veces porque Por un lado discuto mucho con mi hermano/hermana.... Por otro lado nunca discuto con...

En tu opinión, ¿la barrera generacional es un problema grave? - Sí, es un problema grave porque .../ No, no es un problema grave porque... / La barrera generacional es menos grave ahora porque...

¿Qué opinas del matrimonio? - Opino que el matrimonio es ... ¿Pienzas tener hijos en el futuro? - Sí, creo que voy a tener hijos porque.../No, creo que no voy a tener hijos porque...

Respect for FAITH

Respect for LEARNING

Respect for OTHERS

Respect for COMMUNITY

Respect for SELF



St Joseph's College Spanish Department

Autumn Term 1: La tecnología en la vida diaria (F) Year 10 Half Term 2



We will be talking about the uses of technology in our daily life

Keywords:

2.1 G Comunicarse por Internet

- El correo electrónico - the email
- El país - the country
- La razón - the reason
- La red - Internet
- La red social - social network
- La sala de chat - chat room
- La salida - outing
- La vez - the time
- Increíble - incredible
- Justo/a - fair, reasonable
- Propio/a - own
- Chatear - to chat online
- Colgar fotos - to post photos
- Hablar - to speak, to talk
- Usar - to use
- Utilizar - to use
- Ahí - there
- Demasiado/a - too much
- Demasiados/as - too many
- Un poco - a little, a bit

2.2 G ¡El móvil para todo!

- El juego - the game
- El mensaje de texto - text message
- El móvil - mobile phone
- La norma - the rule
- El regalo - the present, gift
- La regla - the rule
- Lento/a - slow
- Prohibido - forbidden
- Ridículo/a - ridiculous
- Roto/a - broken
- Único/a - only, unique
- Dar - to give
- Dar las gracias - to thank
- Enviar - to send
- Aunque - although

2.1 F ¿Cómo prefieres mantenerte en contacto?

- El hecho - the fact
- El inconveniente - drawback, disadvantage
- La ventaja - the advantage
- El jefe/la jefa - the boss
- La letra - letter of the alphabet
- Los medios sociales - social media
- Las redes sociales - social media
- El móvil - mobile/smartphone
- El ordenador - computer
- La pantalla - the screen
- La revista (digital) - the (digital) magazine
- Genial - brilliant, great
- Gratis - free of charge
- Interactivo/a - interactive
- Sencilla/a - simple
- Comunicarse - to communicate
- Empezar - to start, to begin
- Escoger - to choose
- Mandar - to send
- Ofrecer - to offer
- Poder - to be able to
- Desafortunadamente - unfortunately
- Por desgracia - unfortunately

2.2 F La tecnología portátil

- El archivo - the file
- La canción - The song
- El correo basura - spam, junk mail
- El disco duro - the hard drive
- El espacio - the space
- El portátil - the laptop
- La tableta - the tablet
- La tecnología - technology
- Andar - to walk
- Borrar - to delete, erase
- Cargar - to load
- Contestar - to answer

- Sacar fotos - to take photos
- Sentir - to feel
- Cualquier - any
- Igual - same
- Tampoco - neither, nor
- Por mi parte - As far as I'm concerned

QUESTION WORDS

- ¿Qué...? - What...?
- ¿Cuál(es)...? - Which...?
- ¿Dónde / Adónde...? - Where...?
- ¿Cómo...? - How...?
- ¿Cómo es...? - What is it like...?
- ¿Cuándo...? - When...?
- ¿Cuánto/a...? - How much...?
- ¿Cuántos/as...? - How many...?
- ¿Quién...? - Who...?
- ¿Por qué...? - Why...?

MAKING COMPARISONS with más que/menos que

You can use them to make comparisons in different contexts, using **nouns** or **adjectives** in between.

- Más que - more than
- Menos que - less than

- Más interactivo que - more interactive than
- Menos interesante que - less interesting than

- Más tiempo en FB que en Insta - more time on FB than on Insta.
- Menos horas en Insta que en FB - fewer hours on Insta than on FB.

- Uso Facebook **más** que Twitter
- Las salas de chat son **más** populares que los blogs
- Paso **menos** tiempo en la red los lunes que los sábados

TIME PHRASES PRESENT

Hoy - today	Generalmente - usually	A veces - sometimes
Siempre - always	Normalmente - usually	Muchas veces - many times
Never - nunca	A menudo - often	Todos los días - every day
Casi nunca - almost never	Todos los meses - every month	Varias veces - several times

CONNECTIVES

Y/e - and	Pero - but	Sin embargo - however	O/u - or
Porque - because	Ya que - because	También - also, too	Además - besides
Como - as, such as	Cuando - when	Tampoco - neither, nor	Así que - therefore

OPINIONS

- Me encanta - I love
- Me gusta mucho - I like a lot
- Me gusta - I like
- No me gusta - I don't like
- Odio - I hate
- Detesto - I detest
- Pienso que - I think that
- Creo que - I believe that
- Opino que - I am of the opinion that
- Me parece que - It seems to me that
- Por mi parte - As far as I'm concerned

PERFECT TENSE (regular verbs)

Used to say what **HAS HAPPENED** or what someone **HAS DONE**. It has 2 parts:

Present tense of Verb **HABER** + Past participle of a verb removing **th-ar, -er, -ir** of the infinitive and adding

- He
- Has
- Ha
- Hemos
- Habéis
- Han

+

- ado (AR verbs)
- ido (ER, IR verbs)

- (PASAR, yo): He **pasado** demasiado tiempo en la red - I have spent too much time on the Internet.
- (COMER, él): Ha **comido** paella - He has eaten paella

STATEMENTS OF POSSIBILITY: To say

- if something is or isn't possible, you can use:
- (no) **es posible** - it is (not) possible
- (no) **se puede** - you can(not)
- (no) **se permite** - it's (not) allowed
- + infinitive

PRESENT CONTINUOUS

The verb "estar" is used to talk about something that is happening right now. The present continuous has 2 parts: **PRESENT TENSE** of "estar" + **PRESENT PARTICIPLE**

(I) estoy	+	-ando (AR verbs) -iendo (ER, IR verbs)
(you) estás		
(he) está		
(we) estamos		
(you) estáis		
(they) están		

- Estoy buscando mi portátil - I am looking for my laptop
- Está viendo un vídeo - He/she is watching a video

POR and PARA: The words por and para can be translated as "for" but they can be used to mean other things, too. The more common uses are:

POR	-used to say "per"	-used with an infinitive to say "(in order) to"	PARA
	-used to say "in exchange"	-used to say "for" when something is meant for someone	

GCSE Questions:

- ¿Cuándo/Para qué usas Snapchat/...? - Uso Snapchat/... todos los días/dos horas al día/los fines de semana - Uso Snapchat /... para chatear/subir fotos/bajar música/ver vídeos/escuchar canciones.
- ¿Cuál es tu opinión sobre/Qué piensas de/Qué te parece Snapchat/...? - Opino que Snapchat/... es... - Pienso que Snapchat es... - Me parece que Snapchat es... - Me gusta Snapchat porque...
- ¿Pasas mucho tiempo en Internet? - Sí, paso mucho tiempo en Internet porque... / No, no paso mucho tiempo en Internet porque...
- ¿Te gusta usar la tecnología? - Sí, me gusta usar la tecnología porque... / No, no me gusta usar la tecnología porque...



St Joseph's College Spanish Department

Autumn Term 1: La tecnología en la vida diaria (H) Year 10 Half Term 2



This half term we will be talking about the uses of technology in our daily life

Keywords:

2.1 H Las redes sociales:

¿Buenas o malas?

El acoso - bullying

El comportamiento - behaviour

El desarrollo - development

La desventaja - disadvantage

El riesgo - risk

El seguidor - the follower (m)

La seguidora - the follower (f)

El/la usuario/a - the user

La ventaja - the advantage

Gratis/a - free of charge

Acosar - to bully

Apasionar - to excite

Compartir - to share

Divertirse - to have a good time

Mejorar - to improve

Aun - even

Bajo - low

A mi juicio - in my opinion

2.2 H ¿Podrías vivir sin el móvil y la tableta?

La conexión inalámbrica - wireless connection

Felicidades - best wishes, congratulations

La sala de chat - chat room

La señal - the signal

La tarjeta de crédito - credit card

Imprescindible - essential

Chatear - to chat

Correr - to run

Darse cuenta de - to realise

Felicitar - to send best wishes, to congratulate

Preocupar - to worry

En vez de - instead of

Hasta - until

Raras veces - rarely

Todo lo contrario - the exact opposite

USING VERBS WITH PREPOSITIONS

Certain verbs in Spanish must be followed by a certain preposition when followed by another verb (in infinitive form).

These are the most common ones:

Empezar a - to begin with

Ayudar a - to help to

Acosar - to bully

Atreverse a - to dare to

Acabar de - to have just (done something)

Tratar de - to try to

Dejar de - to stop doing something

Insistir en - to insist on

Consistir en - to consist of

Sñar con - to dream of

Example sentence:

Sueño con vivir en Costa Rica

I dream of living in Costa Rica

HABÍA and ERA

"Había" and "Era" are very common words used to describe how things were in the past, in a tense called the imperfect (we will learn later).

Había - there was/there were

No había - there wasn't/weren't

Era - it was/No era - it wasn't

Había mucho correo basura - there was a lot of junk mail.

Era un mensaje de texto - it was a text message

TIME PHRASES PAST

Ayer - yesterday

El mes pasado - last month

El año pasado - last year

Hace dos años - two years ago

Anteayer - the day before yesterday

Anoche - last night

Entonces - then

Ayer por la mañana - yesterday morning

La semana pasada - last week

El otro día - the other day

Hace dos días - two days ago

El verano pasado - last summer

CONNECTIVES

Por un lado - on one hand

Por otro lado - on the other hand

En primer lugar - in the first place, firstly

En segundo lugar - Secondly

No obstante - nevertheless / however

Dado que - given that, since

OPINIONS

Me importa + infinitive/noun - it's important to me ...

No me importa + infinitive/noun - it's not important to me ...

(no) estoy de acuerdo (con) - I (don't) agree (with)...

Discrepo con - I disagree with...

PERFECT TENSE IRREGULAR VERBS

Some common verbs have irregular past participle which do not follow the past participle formation rule (replacing -ar, -er and -ir for -ado or -ido). You still must use "to have" before the past participle.

VERB INFINITIVE

Poner (to put)

Ver (to see)

Hacer (to do/to make)

Decir (to say/to tell)

Abrir (to open)

Romper (to break)

Volver (to return)

Escribir (to write)

PAST PARTICIPLE

puesto

visto

hecho

dicho

abierto

roto

vuelto

escrito

He roto mi Iphone - I have broken my Iphone

FURTHER USES OF "POR" and "PARA"

POR is also used:

-in multiplication, meaning "times": tres por tres son nueve.

-to say "along" or "through".

-as a means of communication: hablo por teléfono - I speak on the phone.

-in certain expressions like: por allí (over there), por ahora (for now), por eso (therefore), por fin (finally).

PARA is also used:

-for destination: el avión ha salido para Valencia (the plain has left for Valencia).

-for/by a certain time: Lo voy a hacer para el miércoles (I'm going to do it by Wednesday).

-With "ser" to mean "possession": esto es para mi hermana (this is for my sister).

USING "CUYO/CUYA/CUYOS/CUYAS"

The word "cuyo" is the equivalent of the word "whose". It agrees with the word that follows it (masc, fem, sing or pl)

Mi hermano, cuyo móvil tiene muchos apps, usa su móvil a veces

- My brother, whose mobile has many apps, uses his mobile sometimes.

Es el periodista cuyos artículos sobre las redes sociales son geniales -

He is the journalist whose articles on social networks are great.



GCSE Questions:

¿Podrías vivir sin la tecnología? - Sí, podría vivir sin la tecnología porque ... /No, no podría vivir sin la tecnología porque...

¿Cómo vas a usar la tecnología este fin de semana/usas la tecnología normalmente/usaste la tecnología ayer? - Este fin de semana voy a .../Normalmente uso la tecnología para.../Ayer usé la tecnología para...

¿Cuántas horas pasaste en las redes sociales ayer? - Ayer pasé ____ horas en las redes sociales porque me encanta Snapchat/Whatsapp/...

¿Cuál es tu red social favorita y por qué? - Mi red social favorita es ... porque ... ¿Cuáles son las ventajas/inconvenientes de la tecnología? - Creo que las ventajas de la tecnología son que es divertida/muy práctica /es muy útil/es muy cómoda/es muy práctica, sin embargo los inconvenientes son que es muy adictiva/te quita tiempo/es impráctica/es aburrida...

Respect for FAITH

Respect for LEARNING

Respect for OTHERS

Respect for COMMUNITY

Respect for SELF



St Joseph's College Spanish Department

Spring Term 2: El tiempo libre (F) Year 10 Half Term 3



This half term we will be talking about what we do in our free time.

Keywords:

3.16 ¿Qué te gusta hacer?
 El cine - the cinema
 La película - the film
 La tarde - the afternoon, evening
 El teclado - the keyboard

Aburrido/a - boring
 Entretenido/a - entertaining
 Estimulante - stimulating, challenging
 Libre - free

Bailar - to dance
 Cantar - to sing
 Jugar - to play (game, sports)
 Leer - to read
 Odia - to hate
 Practicar - to practise
 Salir - to go out
 Tocar - to play (an instrument), to touch
 Ver - to see, watch

De vez en cuando - from time to time, occasionally

3.26 Comer y beber
 El agua (mineral) - (mineral) water
 El bocadillo - the sandwich
 La carne - the meat
 La cena - evening meal
 La comida - lunch, food, meal
 El desayuno - breakfast
 El helado - the ice cream
 El huevo - the egg
 El jamón - the ham
 La leche - the milk
 Las legumbres - the pulses
 La mantequilla - butter
 La manzana - the apple
 La mermelada - the jam, marmalade
 Las patatas fritas - chips, fries
 El perrito caliente - hot dog
 El pescado - the fish
 El pollo - the chicken
 El postre - the dessert, pudding
 El queso - the cheese
 La sopa - the soup
 El té - the tea

La tortilla - omelette
 La tostada - toast
 El vaso - the glass
 Las verduras - vegetables
 Merendar - to snack
 Beber - comer
 Cenar - to have supper / to have an evening meal
 Comer - to eat
 Desayunar - to have breakfast
 Tomar - to take, to have (food, drink)

3.36 ¿Haces deporte?

El baloncesto - basketball
 El campo - the field
 La cancha - the court
 Los deberes - homework
 La equitación - horse riding
 El estadio - the stadium
 La natación - swimming
 El polideportivo - sport centre
 El patinaje - skating
 La pista de hielo - ice rink
 Activo/a - active
 Tranquilo/a - peaceful, quiet

Ayudar - to help
 Pasar - to spend time
 Montar a caballo - to ride a horse
 Montar en bicicleta - to ride a bike

Al aire libre - in the open air, outdoors

3.1F ¿Qué haces en tu tiempo libre?

El coro - choir
 Los dibujos animados - cartoons
 El documental - documentary
 El fin de semana - the weekend
 Las noticias - news
 El teatro - theatre
 La telenovela - soap opera
 El tiempo - time
 La vez - time, occasion

Genial - great
 Ocupado/a - busy, occupied

Policia/o - police, detective (adj)
 Tonto/a - silly, stupid

Charlar - to chat
 Descansar - to rest
 Poner - to put
 Terminar - to finish

A veces - sometimes
 Bastante - quite
 Cada - each, every
 Por lo general - in general
 Siempre - always

Todo/a/os/as - all, every

3.2F Vamos a comer fuera

El atún - tuna
 El bacalao - cod
 La barra - loaf of bread
 El bistec - steak
 La cebolla - onion
 El cerdo - pork
 La cerveza - beer
 El chorizo - chorizo
 El cordero - lamb
 Los calamares - squid
 Los champiñones - mushrooms
 La chuleta - the chop
 El filete - the steak
 La fresa - the strawberry
 Las gambas - the prawns
 El gazpacho - chilled tomato soup
 Los guisantes - the peas
 El jamón serrano - cured ham
 Las judías verdes - green beans
 Los mariscos - seafood
 El melocotón - the peach
 La naranja - the orange
 La patata - the potato
 La piña - the pineapple
 El plátano - the banana
 El queso - cheese
 La ración - the portion, serving
 La salsa - sauce
 Las tapas - tapas, small bar snacks
 El vino blanco/tinto - white/red wine

3.3F ¿Qué deportes harás?
 El alpinismo - rock climbing
 La carrera - race
 El concurso - competition (contest)
 El ejercicio - exercise
 El entrenamiento - training
 El equipo - team
 El esquí - skiing
 El jugador - player
 El miembro - member
 El partido - match
 La salud - health
 El torneo - tournament
 La vela - sailing

Cansado/a - tired
 Seguro/a - sure

Contestar - to answer
 Entrenar - to train
 Ganar - to win
 Probar - to try to test
 relajarse - to relax
 Durante - during
 Este/esta - this
 Mañana - tomorrow

Using "gustar" and "encantar"

Gustar + verb:
 Me gusta... I like...
 Me gusta bailar
 I like to dance/dancing

Me encanta... I love...
 Me encanta ver
 I love to watch/watching

Gustar + singular noun
 Me gusta... I like...
 Me gusta la música
 I like music
 (Me gustan + plural noun)

TIME PHRASES

Por lo general - generally
 Muchas veces - often
 Todos los días/cada día - every day
 Generalmente - generally
 Dos veces al día - twice a day
 El fin de semana - at the weekend
 Por la tarde - in the afternoon/evening

Mañana - tomorrow
 Este fin de semana - this weekend
 Este viernes - this Friday
 La semana próxima - next week
 El año próximo - next year

CONNECTIVES

Y - and
 Pero - but
 Sin embargo - however
 También - also
 Además - besides
 Por un lado ... - on one side
 Por otro lado - On the other side

OPINIONS

Me encanta - I love
 Me gusta mucho - I like a lot
 Me gusta - I like
 No me gusta - I don't like
 Odio/Detesta - I hate/I detest
 Pienso que - I think that
 Creo que - I believe that
 Opino que - I am of the opinion that
 Me parece que - It seems to me that
 Es esencial - It's essential

Learning about radical changing verbs (e-ie): QUERER (to want)

Quiero	Quieres	Quiere	¿Qué quieres?
Queremos	Queréis	Quieren	Quiero un bocadillo de jamón

Revising the regular present tense

Remove the infinitive endings and add:

	AR	ER	IR
-o	-o	-o	
-as	-es	-es	
-a	-e	-e	
-amos	-emos	-imos	
-áis	-éis	-ís	
-an	-en	-en	

Using "hacer" & "jugar" in the present tense

JUGAR (ball, team sports)	HACER (rest of sports)
Juego	Hago
Juegas	Haces
Juega	Hace
Jugamos	Hacemos
Jugáis	Hacéis
Juegan	Hacen

Using the future tense

The future tense is used to express what WILL happen, such as "I will play tennis tomorrow".
 Take the infinitive off the verb and add these endings:
 Jugaré Veremos
 Comerás Iréis
 Será Vivirán
 HACER, SALIR and TENER, are irregular:
 Haré Saldré Tendré

GCSE Questions:

¿Qué desayunas/comes/meriendas/ cenas normalmente? - Normalmente desayuno/como/ meriendolo/ ceno/desayuno ... ¿Qué comiste el fin de semana pasado? - El fin de semana pasado comí ...
 ¿Qué te gusta hacer en tu tiempo libre/Qué haces en tu tiempo libre? - Normalmente juego al fútbol/a los videojuegos/veo la televisión con mis amigos/con mi hermano/con mis padres/...
 ¿Haces deporte? ¿Por qué? - Sí, hago deporte/No, no hago deporte ¿Qué deportes practicas? - Normalmente practico ... y a veces hago... pero nunca hago ...
 ¿Qué vas a hacer este fin de semana? - Este fin de semana voy a ... ¿Cuál es tu pasatiempo favorito? - Mi pasatiempo favorito es ...
 ¿Prefieres pasar el tiempo con tu familia o con tus amigos? - Prefiero pasar el tiempo con mi familia/mis amigos porque... ¿Escuchas música / ves la tele a la carta / ves la tele? - Me gusta escuchar/ ver...

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St Joseph's College Spanish Department

Spring Term 2: El tiempo libre (H) Year 10 Half Term 3

This half term we will be talking about what we do in our free time.



Keywords:

- 3.1H Hablando del tiempo libre y de los planes
- La batería - drums
- La canción - song
- La entrevista - the interview
- La letra - lyrics, words
- La rutina - routine
- La tarde - afternoon, evening
- El terror - horror
- Agradable - pleasant
- Desafiante - challenging
- Divertido/a - fun
- Emocionante - exciting
- Entretenido/a - entertaining
- Relajante - relaxing

- Dar un paseo - to go for a walk
- Estar en forma - to be fit, to be in shape
- Grabar - to record
- Al aire libre - in the open air, outdoors
- De vez en cuando - from time to time, occasionally

3.2H Una cena especial

- La aceituna - the olive
- El arroz - rice
- La basura - rubbish, junk
- El bocadillo - the sandwich
- El camarero - the waiter
- La camarera - the waitress
- La comida - lunch, food, meal

Los espaguetis - spaghetti

- El esposo - the husband
- La esposa - the wife
- El gusto - the taste
- El helado - the ice cream
- El huevo - the egg
- La lata - tin, can
- Las legumbres - pulses
- La mantequilla - butter
- El matrimonio - marriage
- El perrito caliente - hot dog
- El pescado - the fish
- La sopa - soup
- El té - tea
- La tortilla - the omelette
- La tostada - toast
- El vaso - the glass
- Las verduras - vegetables

Atento/a - attentive

- Chino/a - Chinese
- Indio/a - Indian
- Picante - spicy
- Rico/a - tasty, delicious
- Sabroso/a - tasty
- Salado/a - salty, savoury
- Simpático/a - nice

Dejar - to leave, to let/allow

- Escoger - to choose
- Optar por - to opt for
- Ponerse de acuerdo - to agree, reach an agreement
- Tomar - to take (food, drink)
- Traer - to bring

- Por eso - therefore, so
- Después - afterwards

3.3H EL deporte en el mundo

- El beneficio
- El campeón - the champion (masc)
- La campeona - the champion (fem)
- Los demás - the others
- La derrota - defeat
- El esfuerzo - the effort
- La pelota - the ball
- La pista - the slope
- La regla - the rule
- La selección - the team, squad
- La suerte - the luck
- La tentación - temptation
- Las zapatillas de deporte - trainers
- Caro/a - expensive
- Duro/a - hard
- Equilibrado/a - balanced
- Sano/a - healthy

- Bajar - to go down
- Contar con - to rely on
- Dejar de + infinitive - to stop ...ing, to quit ...ing
- Desarrollar - to develop
- Disfrutar - to enjoy
- Empezar - to start
- Fomentar - to promote, to encourage
- Jubilarse - to retire
- Llevar - to take, to carry, to wear
- Pasar - to spend (time)
- Pasarlo bien - to have a good time
- Romper - to break
- Seguir - to follow

Vale la pena - it is worthy, it is worthwhile

- Junto con - together with
- Tanto/a/os/as - so much, so many

TIME PHRASES

- Mañana - tomorrow
- Este viernes - this Friday
- Este fin de semana - this weekend
- La semana próxima - next week
- El año próximo - next year

CONNECTIVES

- Por un lado - on one hand
- Por otro lado - on the other hand
- En primer lugar - in the first place, firstly

OPINIONS

- Me gusta más que
- Me gusta mucho más que
- Me gusta menos que

Y becoming e , o becoming u

When the word "y" is followed by a word that begins with "i" or "hi", the "y" changes to "e". When the word "o" is followed by a word that begins with "o" or "ho", then o changes to u:

- Ramón e Isabel van a ir al cine
- Hay siete u ocho futbolistas

Forming regular adverbs

- Adverbs ending in -ly in English like normally and rarely are formed like this:
- Take the adjective, make it feminine, then add -mente.
- Desafortunada - desafortunadamente (unfortunately)
- Normal - normalmente (normally)
- Triste - tristemente (sadly)

Radical changing verbs

These verbs have an irregular pattern in the present tense in some forms and need to be learnt carefully.

QUERER	JUGAR	PEDIR
Quiero	Juego	Pido
Quieres	Juegas	Pides
Quiere	Juega	Pide
Queremos	Jugamos	Pedimos
Queréis	Jugáis	Pedís
Quieren	Juegan	Piden

Recognising irregular verbs in the future

The following verbs have irregular stems in the future, but the endings are regular.

- Decir - dir...
Diré la verdad - I will tell the truth
- Poder - podr...
Podré ir - I will be able to go
- Poner - pondr...
Pondré el libro aquí - I will put the book here
- Querer - querr...
Querré ir - I will want to go
- Saber - Sabr...
¿Sabrás qué hacer? - Will you know what to do?
- Venir - vendr...
Vendrá a verte mañana - I will come to see you tomorrow

Hacer, salir, tener and haber in the future

These verbs have an irregular stem but the endings are the same as for all verbs in the future.

- Hacer - har...
Haré una paella (I will make a paella)
- Salir - saldr...
Saldrá a las seis (He will go out at six)
- Tener - tendr...
Tendremos una fiesta (We will have a party)



GCSE Questions:

- ¿Qué sueles hacer el fin de semana? - Normalmente, el fin de semana suelo ir al cine/salir con mis amigos/jugar al fútbol/hacer ejercicio/escuchar música/jugar a los videojuegos/hacer deberes
- ¿Te gusta hacer deporte/ir de compras/comer en restaurantes/ir al cine/leer/escuchar música? - Sí, me gusta...porque... /No, no me gusta... porque... ¿Qué te gusta más? - Lo que más me gusta es porque....
- ¿Cuál es tu pasatiempo favorito?- Mi pasatiempo favorito es... porque...¿Cuándo fue la última vez que comiste en un restaurante? - La última vez que comí en un restaurante fue...
- ¿Qué hacías en tu tiempo libre cuando eras pequeño? - Cuando era pequeño solía + inf. ¿A qué restaurante llevarías a tu pareja para celebrar tu cumpleaños? - Le/la llevaría a...



This half term we will be talking about healthy lifestyle

Keywords:

6.2G ¿Comes bien?

- Las bebidas alcohólicas - alcoholic drinks
- Las bebidas azucaradas - sugary drinks
- El dolor - pain, ache
- La grasa - fat
- El ladrón/ La ladrona - thief, robber
- La ración - portion
- El borracho/La borracha - drunk
- El glotón/La glotona - greedy
- Grasiento/a - fatty, greasy
- Sano/a - healthy
- Poco sano/a - not too healthy
- Saludable - healthy
- Malsano/a - unhealthy
- Acostarse - to go to bed
- Emborracharse - to get drunk
- Evitar - to avoid
- Intentar (+ infinitive) - to try to

6.2F ¿Llevas una vida sana?

- El cigarrillo - cigarette
- El consejo - advice
- La droga (blanda / dura) - soft / hard drug
- El ejercicio físico - (physical) exercise
- El estrés - stress
- Con moderación - in moderation
- Estresado/Estresada - stressed
- Estresante - stressful, stressing
- Receta - recipe
- Apetecer (me apetece) - to fancy, to feel like (I fancy)
- Aprobar (un examen) - to pass (an exam)
- Conseguir (un trabajo) - to get (a job)
- Correr - to run
- Drogarse - to take drugs
- Estar a dieta - to be on a diet
- Fumar - to smoke
- Levantarse - to get up
- Mantenerse en forma - to keep fit
- Preocupar - to worry
- Probar - to try, to taste, to have a go
- Sentirse - to feel
- Superar - to overcome

Using "mejor que" and "peor que"

Note the expressions "mejor que" (better than) and "peor que" (worse than).

- When these expressions are used with a verb they do not change.
Es mejor tomar agua que bebidas azucaradas.
(It's better to drink water than sugary drinks).
- But when these expressions qualify a noun, "-es" is added to the noun.
Las bebidas azucaradas son peores que el zumo de fruta.
(Sugary drinks are worse than fruit juice).

Using negative words

To make a sentence negative, put the negative word before the verb.

No fumo - I don't smoke

You can also use these other negative words:

NADIE - none

NUNCA - never

NINGUNO - no, none, not...any

NI...NI - neither ... nor

TAMPOCO - neither, not...either

Exceptions: when using "NADA" (nothing) or if the words above come after the verb, **no** is needed before the verb:

No fumo nunca - I never smoke.

+NINGUNO agrees with the word it refers to.

Using "deber", "tener que" and "hay que"

All three of these verbs express the idea of "have to" or "must" and are followed by the infinitive.

- DEBER and TENER change to agree with the subject:
Los políticos deben prohibir los botellones.
The politicians must ban drinking in the street.
- HAY QUE means "It's necessary to...", "one has to...". It never changes its ending:
Hay que dormir 8 horas cada noche.
It's necessary to /you have to sleep for 8 hours every night.

Expressions with "tener"

Note these expressions where Spanish uses the verb "tener" (to have) whereas English use the verb "to be":

Tener (mucho) hambre - to be (very) hungry

Tener (mucho) sed - to be (very) thirsty

Tener (mucho) calor - to be (very) hot

Tener (mucho) frío - to be (very) cold

Tener (mucho) sueño - to be (very) sleepy

Tener (mucho) suerte - to be (very) lucky

Tener (mucho) miedo - to be (very) frightened

Tener (mucho) prisa - to be in a (great) hurry

Tener (muchas) cosquillas - to be (very) ticklish

Tener razón - to be right

Tener X años - to be X years old

GCSE Questions:

¿Llevas una vida sana? - Sí, llevo una vida sana porque como cinco porciones de fruta y verdura al día y bebo mucha agua / no, no llevo una vida sana porque siempre como comida basura y bebo alcohol.

¿Bebes muchas bebidas azucaradas? - Sí, suelo beber bebidas azucaradas porque me encantan. / no, no suelo beber bebidas azucaradas porque no es sano.

¿Haces ejercicio normalmente? - Sí, hago ejercicio tres veces a la semana. / No, nunca hago ejercicio ya que me aburre pero lo debería hacer.

¿Qué ejercicio hiciste la semana pasada? - La semana pasada jugué al baloncesto con mis amigos y nadé en la piscina del colegio. / No hice ejercicio la semana pasada pero lo hice ayer.

¿Qué cosas vas a hacer en el futuro para llevar una vida más sana? - Voy a comer menos comida grasienta e ir al gimnasio. / No quiero cambiar nada porque por lo general, llevo una vida muy sana.



This half term we will be talking about healthy lifestyle

Keywords:

6.2H ¿Qué opinas?

- El botellón - drinking party in the street / in public place
- El cerebro - brain
- El consumo - consumption
- El corazón - heart
- El/la drogadicto/a - drug addict
- La edad - age
- La encuesta - survey
- El hígado - liver
- Los primeros auxilios - first aid
- El pulmón - lung
- El sobrepeso - excess weight, obesity
- El tabaquismo - addiction to tobacco
- La venta - sale

- Asqueroso - disgusting
- Ataque cardíaco - heart attack
- Cada vez más - more and more
- Cuanto antes - as soon as possible
- Grave - serious
- Nocivo/a - harmful
- Síndrome de abstinencia - withdrawal symptoms

- Aguantar - to put up with, to bear
- Aumentar - to increase
- Enfrentar - to face
- Hacer daño a - to injure, to harm
- Participar - to take part
- Pedir - to ask (for), to ask (someone to do something)
- Prohibir - to prohibit, to forbid
- Provocar - to cause, to provoke
- Reducir - to reduce
- Subir - to go up

Expressing agreement and disagreement

The following expressions will help you agree or disagree with what people say:

- Estoy de acuerdo (con) - I agree (with)
- Estoy a favor (de) - I'm in favour of
- Estoy en contra (de) - I'm against
- Tienes razón - you're right
- Estás equivocado/a - you're wrong
- Es cierto - it's true/certain
- Es verdad - it's true

Using two verbs together

- Voy a + infinitive - I am going to...
- Voy a beber mucha agua
- Espero + infinitive - I hope to ...
- Espero dormir 8 horas al día
- Quiero + infinitive - I want to ...
- Quiero ir al gimnasio
- Tengo que + infinitive - I have to ...
- Tengo que seguir con mi dieta
- Pienso + infinitive - I'm thinking of ...
- Pienso hacer pesas todos los días
- Me gustaría + infinitive - I would like to ...
- Me gustaría ser boxeador

FUTURO

1 IMMEDIATE FUTURE:
(present of verb "ir" + a + infinitive of the action verb). To talk about actions or events that have been planned or are going to happen for sure or are close to the present.

I am going to speak/I am going to eat/I am going to live.

Voy	a	HABLAR
Vas		habl -ar
Va		COMER
Vamos		com -er
Váis		VIVIR
Van		viv -ir

2 SIMPLE FUTURE:
Used to talk about what you WILL do in the future but it's not an arranged plan yet. I will speak/I will eat/I will live.

hablar	-é
comer	-ás
vivir	-á
	-emos
	-éis
	-án

Learning about the present subjunctive

The subjunctive is a mood used to express doubt, uncertainty, wishes and emotions. To form the present subjunctive; take the "I" form of the present tense and replace the -o with the following endings: AR verbs: -e, -es, -e, -emos, -éis, -en

ER, IR verbs: -a, -as, -a, -amos-, -áis, -an

Verbs where the "I" form on the present tense does not end in -o have irregular stems for the present subjunctive, but the endings follow the same pattern as above.

- Ser (to be) - sea
- Estar (to be) - esté
- Ir (to go) - vaya
- Haber (there is/are) - haya
- Saber (to know) - sepa
- Dar (to give) - dé

-It's used after querer que (to want): Queremos que los jóvenes estén sanos (we want young people to be healthy)

-It's used after para que (so that): Te he traído la fruta para que la comas (I have brought you the fruit so that you can eat it)

-It's used after some expressions using es + adjective + que: (es posible que, es importante que, es necesario que).

Es importante que no fumes (it is important that you don't smoke)

GCSE Questions:

- ¿Qué opinas del botellón? - Opino que es irresponsable / es divertido.
- ¿Por qué se debería prohibir fumar? - Se debería prohibir porque es un vicio caro y es dañino para la salud.
- ¿Has fumado alguna vez? - Si, he fumado y no me gustó nada, olía y sabía malísimo / no porque es asqueroso.
- ¿Estás a favor o en contra de las drogas? - estoy a favor / en contra de las drogas porque ...





St Joseph's College Spanish Department

Summer Term 3: Mi casa y mi barrio (F) Year 10 Half Term 5



Objective: half term we will be talking about homes and where you live.

Keywords:

5.1G Mi casa

- La alfombra - carpet/rug
- El armario - cupboard/wardrobe
- El ascensor - lift
- La butaca - armchair
- La cocina - kitchen/cooker/cuisine
- El cuarto de baño - bathroom
- El dormitorio - bedroom
- Los electrodomésticos - (electrical) appliances
- La escalera - stairs
- El espejo - mirror
- La estantería - shelves/shelving unit
- El fregadero - kitchen sink
- La habitación - room
- El lavabo - washbasin
- La lavadora - washing machine
- El lavaplatos - dishwasher
- El microondas - microwave
- La nevera - fridge
- La pared - wall
- El salón - lounge/living room
- El sillón - armchair
- El suelo - ground/floor
- La terraza - terrace
- Compartir - to share
- Cómodo/a - comfortable/convenient/handy

5.1F ¿Cómo es tu casa?

- Las afueras - outskirts
- El árbol - tree
- El campo - countryside/field/sports ground
- El chalet/chalé - bungalow/detached house/villa
- La costa - coast
- El estante - shelf
- La granja - farm
- La librería - bookstore/bookshop
- La montaña - mountain

- El mueble - piece of furniture
- Los muebles - furniture
- El piso - flat/floor of a building
- Encontrar - to find
- Encontrarse - to be situated
- Encontrarse con - to meet up with
- Guardar - to keep/to put away/to save
- Antiguo/a - old
- Peor - worse/worst

5.2G ¿Qué se puede hacer donde vives?

- El barrio - neighbourhood/area
- La biblioteca - library
- La bolera - bowling alley
- El bolso - handbag
- La carnicería - the butcher's
- El césped - lawn
- El collar - necklace
- El dinero - money
- El estanco - tobacconist's (also sells stamps)
- Los grandes almacenes - department stores
- La joyería - jeweller's
- La juguetería - toy shop
- El mercado - market
- La muñeca - doll
- El museo - museum
- La panadería - baker's
- El parque infantil - park/playground
- La pastelería - the baker's
- Los pendientes - earrings
- La plaza de toros - bull ring
- La ropa (de marca) - (designer) clothes
- La tienda de comestibles - grocery store/food shop
- La zapatería - shoe shop
- Descansar - to rest

Divertirse - to enjoy oneself/to have a good time

5.2F Mi ciudad

- La avenida - avenue
- El ayuntamiento - town hall
- El centro comercial - shopping centre
- La ciudad - city/large town
- El club de jóvenes - youth club
- Los espacios verdes - open spaces
- La fábrica - factory
- El/la habitante - inhabitant
- La iglesia - church
- El país - country
- La plaza - square (in a town)
- El polideportivo - sports centre
- El pueblo - small town/village/people
- El puente - bridge
- El Puerto - port/harbour
- El siglo - century
- El teatro - theatre
- Correos - post office
- Construir - to build
- Convertirse en (+noun) - to become
- Fundar - to found
- Ir de compras - to go shopping

HAY, SER, ESTAR

SER for descriptions:
Mi dormitorio es grande.
Las paredes son blancas.

ESTAR for location:
La cama está en el dormitorio.
Los libros están en la mesa.

HAY for 'there is' or 'there are':
En la cocina hay un lavabo.
En la mesa hay muchos libros.

Remember: 'hay' does not change.

OPINIONS

Creo que/parece que/opino que/me parece que - I think that
 En mi opinión/A mi modo de ver - In my opinion
 Estoy de acuerdo - I agree
 Estoy a favor de - I'm in favour (of)
 Estoy en contra (de) - I'm against
 Me da igual/me da lo mismo - it's all the same to me/I don't mind

JUSTIFY OPINIONS

Porque - because
 A causa de - because of
 Como/puesto que/dado que/ya que - as/since
 Por eso - for that reason/therefore
 Por lo tanto - therefore

Example: Creo que es importante vivir cerca de la costa. Por eso suelo ir a la playa.

PREPOSITIONS



En - in/on
Example: en la ciudad, en el pueblo

Remember: de + el = del
Example:
Lejos de la ciudad
Lejos del pueblo

PUEDO VS. SE PUEDE

Puedo - I can
 Se puede - You can/one can.
 Example:
 Puedo cocinar - I can cook
 No se puede beber aquí - You can't drink here/One can't drink here.

AMOUNTS

todo/a/os/as - all
 cada - each/every
 demasiado/a/os/as - too many
 alguno/a/os/as - some

PAST, PRESENT, AND FUTURE

	PAST	PRESENT	FUTURE
SER	era	es	será
ESTAR	estaba	está	estará
HABER	había	hay	habrá

DEMONSTRATIVES

este/esta estos/estas este/esta	this these/these ones this one
ese/esa esos/esas eso/esa	that those/those ones that one
aquello/aquella aquellos/aquellas aquél/aquella	that over there those over there/ those ones over there that one over there

unos cuantos/unas cuantas - a few
 unos pocos/unas pocas - a few
 un poco - a bit
 poco - little/not much

GCSE Questions:

¿Cómo es tu casa/tu barrio? - Mi casa es (muy, bastante, un poco) grande/pequeña/cómoda/incómoda... Mi casa/mi piso tiene una terraza/un jardín/tres dormitorios, etc.

¿Qué hay en tu barrio/región? - En mi barrio/región hay un/una ... pero no hay un/una ...

¿Cómo era tu barrio/región antes? Mi barrio/región era (un poco/bastante/muy/más ..) antiguo/tranquilo/animado/limpio..... En mi barrio (no) había Mi barrio (no) tenía

¿Cómo crees que va a ser tu barrio/región en el futuro? Creo que mi barrio va a ser mejor/peor/más moderno/interesante, etc.. Creo que mi barrio va a tener más/menos/muchos/as ...

Respect for FAITH

Respect for LEARNING

Respect for OTHERS

Respect for COMMUNITY

Respect for SELF



Objective: This half term we will be talking about homes and where you live.

Keywords:

- 5.1H Mi casa y mi barrio
- El balcón - balcony
- La calefacción - heating
- El comedor - dining room
- El comercio - business/shop
- El jardín - garden
- La mascota - pet
- La piscina - swimming pool
- La planta - floor (of a building)/plant
- La planta baja - ground floor
- La tienda - shop
- La torre - tower/tower block
- La vista - view/sight
- Abajo - under/downstairs
- Arriba - above/upstairs/up
- Inferior - lower
- Superior - upper/higher
- Amplio/a - spacious/roomy
- Imprescindible - essential/indispensable
- Lujoso/a - luxurious

5.2H La ciudad y el campo

- El bosque - woods/forest
- La contaminación - pollution
- La finca - the estate/(large) farm
- La flor - flower
- La flora y fauna - wildlife
- La industria petroléa - oil industry

- El inconveniente - disadvantage/inconvenience
- El lago - lake
- El lugar - place/spot
- La miseria - poverty/hardship
- La pobreza - poverty
- La sala de fiestas - nightclub
- La sierra - mountain range
- El sitio - place/site

- Cuidar - to look after/to take care of
- Hacer (+expression of time) - (expression of time) ago
- Mudarse (de casa) - to move house

- Por lo tanto - therefore
- Perjudicial - damaging
- En paro - unemployed
- Aislado/a - isolated
- Amistoso/a - friendly
- Animado/a - lively

SAME IDEA, MORE VOCAB
 me gusta mucho = me encanta
 quiero un piso = busco un piso
 tranquilo = menos ruidoso
 es esencial = es imprescindible

COMPLEX QUESTIONS

- ¿Adónde vas? - Where are you going to?
- ¿A quien diste el dinero? - Who did you give the money to?
- ¿Con quién vas a la playa? - Who are you going to the beach with?
- ¿En qué habitación vas a ver You Tube? - In which room are you going to watch You Tube?
- ¿Cómo es tu casa? - What is your house like?

POSSESSIVE PRONOUNS

- Mío/mía/míos/mías - mine
- Tuyo/tuya/tuyos/tuyas - yours
- Suyo/suya/suyos/suyas - his/hers/its/yours (formal)
- Nuestro/nuestra/nuestros/nuestras - ours
- Vuestro/vuestra/vuestros/vuestras - yours (vosotros form)
- Suyo/suya/suyos/suyas - theirs/yours (formal)

Remember: the pronouns agree in gender and number with the possession, not the person.

Examples:

- Estas mesas no son mías, son tuyas.
- La casa es suya, no es nuestra.

CONNECTIVES

- Además - moreover/besides
- Así que - and so
- Dado que - given that
- Es decir - that is to say/in other words
- Por un lado... por otro lado - on one hand... on the other hand
- Por una parte... por otra parte - on one hand... on the other hand
- Por lo tanto - therefore
- Sin embargo - however



GCSE Questions:

¿Cuál sería tu casa ideal? - **Mi casa ideal sería una casa ... en la costa/el campo/la ciudad/el extranjero, etc. con ... / estaría en.... / tendría un / una...**

¿Qué problemas hay en tu barrio? **En mi barrio no hay problemas / En mi barrio hay crimen/pobreza/drogas/demasiado tráfico/poco que hacer, etc.**

¿Cuál sería la solución a los problemas de tu barrio? **La solución sería hacer más casas/poner más policía/tener un comedor social/un centro juvenil, etc.**

¿En qué ciudad vas a vivir en el futuro? **En el futuro voy a vivir en ... porque es (un poco, bastante, muy) cosmopolita/único/diferente/bonito/cultural, etc. En el futuro voy a vivir en ... porque hay**



St Joseph's College Spanish Department

Summer Term 3: Viajes y turismo (F) Year 10 Half Term 6



This half term we will be talking about travel and tourism and describing holiday destinations.

Keywords:

8.1.6 ¡Me voy de vacaciones!

- El aire acondicionado - air conditioning
- El andén - the platform
- El asiento - the seat
- El autocar - the coach
- El AVE (tren de alta velocidad) - high-speed train
- El avión - the plane
- El barco - the boat
- La bici(cleta) - bike, bicycle
- El coche - the car
- La consigna - left-luggage office
- El crucero - cruise
- El equipaje - luggage
- El ferrocarril - railway
- El invierno - winter
- La maleta - suitcase
- El metro - underground
- El otoño - autumn
- La primavera - the spring
- La sala de espera - waiting room
- El tranvía - the tram
- Las vacaciones - holidays
- El verano - summer
- El viaje - the journey
- Escocia - Scotland
- Sudamérica - South America
- Barato/a - cheap
- Estrecho/a - narrow
- No fumador - non smoking
- Echar de menos - to miss
- Viajar - to travel
- Desde luego - of course

- Muy poblado - crowded
- Nacer - to be born
- Nací - I was born
- Nació - he/she was born
- Pescar - to fish
- Tanto/a - so much
- Tantos/as - so many

8.1 F ¿Dónde te alojas?

- El abrebotellas - the bottle-opener
- El abrelatas - the tin-opener
- El aeropuerto - the airport
- El albergue juvenil - the youth hostel
- El bañador - swimming costume
- La cama de matrimonio - double bed
- El camping - campsite, camping
- La estación de servicio - petrol station
- La estrella - the star
- El folleto - the leaflet
- La gasolina (sin plomo) - (unleaded) petrol
- El guía/la guía - guide (person)
- La guía - guidebook
- La habitación (doble/individual) - (double/single) room
- La llave - the key
- La oficina de turismo - tourist office
- El papel higiénico - toilet paper
- El parador - state-owned hotel (in Spain)
- El pasaporte - passport
- La pensión - boarding house, B&B
- La recepción - reception
- La reserva - the reservation
- El saco de dormir - the sleeping bag
- Los servicios - the toilets
- La tarjeta de embarque - boarding card
- La tienda (de campaña) - the tent
- La taquilla - the ticket office

8.2.6 ¿En qué región vives?

- El desempleo - unemployment
- La diversión - entertainment
- El país - the country
- El río - the river
- La sierra - mountain range

- Alojarse - to stay (in a hotel)
- Mojarse - to get wet
- Ponerse en camino - to set off
- Fatal - awful, terrible
- A la derecha - on the right
- A la izquierda - on the left
- Por desgracia - unfortunately

8.2 F Un folleto turístico

- La cocina - cuisine, cooking
- El cultivo - crop
- La mina - mine
- El monasterio - monastery
- El monte - hill, mountain
- La oveja - sheep
- El recuerdo - memory, reminder, souvenir
- La refinera (de petróleo) - (oil) refinery
- La sombrilla - sunshade, parasol
- El taller - workshop
- La vaca - the cow
- El valle - the valley
- El/la visitante - the visitor
- Abierto/a - open
- Callado/a - quiet, reserved
- Gruñón/a - grumpy
- Entero/a - entire, whole
- Pintoresco - picturesque
- Tranquilo/a - peaceful
- Abrir - to open
- Cargar - to load
- Cerrar - to close, shut
- Conocer - to know (a person, a place)
- Ir de paseo - to go for a walk
- Recomendar - to recommend

TALKING ABOUT THE WEATHER

- Hace (mucho) calor/frío - it's (very) hot/cold
- Hace buen/mal tiempo - the weather is good/bad
- Hace (mucho) sol/viento - it's (very) sunny/windy

CONNECTIVES to give opposite views

- Pero - but
- Sin embargo - however
- Aunque - although
- Por un lado ... por otro lado ... - on one side ... on the other side ...
- Por una parte ... por otra parte ... - on one hand ... on the other hand ...
- No obstante - nevertheless
- En cambio - on the other hand

TIME PHRASES

- Siempre - always
- Casi siempre - almost always
- A menudo - often
- Normalmente - normally, usually
- Dos veces al día - twice a day
- A veces - sometimes
- Casi nunca - almost never
- Nunca - never
- Generalmente - generally
- De vez en cuando - now and again
- El verano pasado - last summer
- El año pasado - Last year
- Hace dos años - two years ago
- Ayer - Yesterday
- Mañana - tomorrow
- El próximo otoño - next autumn

OPINIONS

- Me encanta - I love
- Me gusta mucho - I like a lot
- Me gusta - I like
- No me gusta - I don't like
- Odio/Detesto - I hate/I detest
- Pienso que - I think that
- Creo que - I believe that
- Opino que - I am of the opinion that
- Me parece que - It seems to me that
- Es esencial - It's essential

EXCLAMATIONS using the subjunctive

- ¡Que tengas buen viaje! - (I hope you) have a good journey!
- ¡Que lo pases bien! - (I hope you) have a good time!
- ¡Que te diviertas! - (I hope you) enjoy yourself!
- ¡Que tengas mucha suerte! - (I wish you) good luck!
- ¡Que todo vaya bien! - I hope all goes well!
- ¡Que duermas bien! - (I hope you) sleep well!
- ¡Que aproveche! - (I hope you) enjoy your meal!

Weather expressions in the past: The weather expressions below can be also used in the past just by changing the verb to the imperfect tense.

PRESENT IMPERFECT

hace...	hacía...
ha...	había...
está	estaba
llueve	llovía
nieva	nevaba

Using estar + past participle

Past participles end in -ado(AR) or -ido (ER/IR). A few verbs like abrir (to open) have irregular past participles. They can be used with "estar" to describe a state or situation. They agree with the person or thing they describe. Andalucía está situada en el sur - Andalucía is situated in the south

ADVERBS OF PLACE

You have seen how Spanish has 3 different ways of saying "this" and "that". There are also 3 words for "here" and "there", following the same pattern:

NEAR ME: este (this one) aquí (here)

NEAR YOU: ese (that one) ahí (over there)

FAR AWAY FROM BOTH OF US: aquel (that one) allí (over there)

Llueve - it rains
Está lloviendo - it's raining
Nieva - it snows
Está nevando - it's snowing

Hay (mucho) niebla - It's (very) foggy
Hay tormentas/chubascos - it's stormy/showery
Está nublado - it's cloudy
Está despejado - it's clear

GCSE Questions:

¿Adónde vas de vacaciones normalmente? - Normalmente voy de vacaciones a ... porque ... ¿Cómo es el clima de tu región? - En mi región hace frío/calor y llueve (mucho)/el clima es (muy) seco

¿Con quién vas de vacaciones? - Normalmente voy de vacaciones con mi familia/con mis amigos/con mis primos/con mis abuelos/... ¿Cómo viajas? - Viajo en tren/en coche/ en avión/...

¿Qué tal lo pasaste en tus últimas vacaciones? - En mis últimas vacaciones fui a ... y lo pasé mal/bien/bomba/genial/fatal porque ... ¿Te gusta vivir en tu región? - Sí, porque.../No, porque...

¿Qué vas a hacer en tus próximas vacaciones? - En mis próximas vacaciones creo que voy a ir a la playa/montar en moto/ir de fiesta/comer comida típica/visitar monumentos/conocer chicas guapas

Respect for FAITH

Respect for LEARNING

Respect for OTHERS

Respect for COMMUNITY

Respect for SELF



This half term we will be talking about travel and tourism and describing holiday destinations.

Keywords:

8.1 H ¿Qué hiciste y qué te gustaría hacer durante las vacaciones?

- El crucero - the cruise
- El esquí acuático - water skiing
- El extranjero (en el __, al __) - abroad
- La insolación - sunstroke
- La isla - island
- Grecia - Greece
- Las Islas Canarias - the Canary Islands
- El Mediterráneo - the Mediterranean
- El oro - the gold
- La plata - silver
- La sombrilla - sunshade, parasol
- El vestuario - changing room, cloakroom
- La vida nocturna - night life
- El vuelo - the flight
- Extranjero/a - foreign
- Genial - brilliant, great
- Ocupado/a - busy
- Aburrirse - to get bored
- acabar de (+ infinitive) - to have just (done something)
- Broncearse - to get a tan
- Coger - to catch, to take
- Descansar - to rest
- Regresar - to return
- Relajarse - to relax
- Volver - to return

8.2 H Describiendo tu región

- La barca pesquera - fishing boat
- La cita amorosa - date (with someone)
- El clima - climate
- La empresa - company, firm
- La época - era, age, time

- El estilo de vida - way of life
- El negocio - business
- Las noticias - news
- El periódico - newspaper
- Acostumbrado/a - accustomed to, used (adj) to
- Casero/a - home-made
- Extraño/a - strange
- Francés - French
- Madrileño - from Madrid
- Sudamericano/a - South American
- Colocar - to place, to put
- Establecer - to establish
- Tocar - to touch, to play (an instrument)

USING EXPRESSIONS OF SEQUENCE

"Antes" (before) and "después" (after) can be used in several ways:

- As adverbs, standing on their own: Yo llegué a las 11 y mi hermano llegó una hora después (after, afterwards)
- As prepositions, followed by "de + noun or infinitive": Después del viaje (after the journey)
- Antes de salir (before leaving)
- Después de hacer las maletas (after packing the cases)

Note also the expression "al + infinitive", meaning "on doing something".

This expression can also sometimes be translated into English as "when...".

- Al llegar al hotel - on arriving at the hotel...
- Al subir al tren - on getting on the train...

TIME PHRASES

- Actualmente - nowadays
- Todavía - still, yet
- Ahora - now
- Hoy en día - nowadays
- En primer lugar - Firstly, in the first place
- En segundo lugar - Secondly, in the second place
- Con frecuencia - frequently
- Muchas veces - often
- Mucho - a lot
- Raramente, rara vez - rarely

CONNECTIVES

- Por un lado - on one hand
- Por otro lado - on the other hand
- No obstante - nevertheless
- En cambio - on the other hand
- Aunque - although

OPINIONS

- Me gusta más que A mi modo de ver - in my opinion
- Me gusta mucho más que Me preocupa que - It worries me that
- Me gusta menos que (E.g.: Me gusta más el campo que la ciudad)

Revising the use of PRETERITE and IMPERFECT tenses

If you are talking or writing about events in the past, it can sometimes be difficult to know whether to use the imperfect or the preterite tense. The following rules will help:

-IMPERFECT: used to talk about things that happened frequently in the past. Look out for time expressions which indicate frequency (siempre, a menudo, muchas veces): *Cuando era niño iba a la playa todos los días.*

-PRETERITE: used to talk about a single action in the past, so look out for time expressions which indicate a one-off event (un día, el jueves, hace dos horas): *ayer fuí a la playa.*

-Watch out for sentences that follow this pattern: *Juan estaba haciendo surf cuando se cayó al agua.* One action was going on when another action cut across it.

Using the PASSIVE and PASSIVE FORMS with SE

You have learnt the use of **estar + past participle** to describe a state. It is also possible to use **ser + past participle** to describe an action. Since the action is done to the subject of the verb rather than by it, this construction is often referred to as the "passive".

La ventana fue abierta por el chico - the window was opened by the boy

However, Spanish often tends to avoid using the passive. One way of doing this is to use the reflexive pronoun "se":

- Se vendía comida* - food was sold.
 - Se vendían periódicos* - newspapers were sold.
- (if the subject is plural, the verb must be too)

DESDE HACÍA + IMPERFECT

You know the use of **desde hace + present tense** to say that something has been happening for a certain length of time. If you are talking about an action in the past (saying that something had been happening), use **desde hacía + the imperfect tense**.

Pablo estudiaba inglés en el instituto desde hacía cinco años - Pablo had been studying English at school for five years.

EXPRESSIONS OF SEQUENCE

- Antes de + infinitive** (before doing something)
- Después de + infinitive** (after doing something)
- Mientras + imperfect tense** (while someone was doing something)



GCSE Questions:

¿Cómo serían tus vacaciones ideales? - Mis vacaciones ideales serían en el Caribe/Escandinavia/Sudamérica/Estados Unidos/en el campo/en la playa/en una ciudad grande/en la selva

¿Qué hacías en tus vacaciones cuando eras más pequeño? - Cuando era más pequeño, en mis vacaciones jugaba/nadaba/visitaba/corría/...

¿Cómo te gustaría que fuese tu región/ciudad? - Me gustaría que mi región/ciudad fuese más tranquila/industrial/moderna/segura/barata/interesante/... porque ...

¿Qué es lo que más te gusta/lo que prefieres de tu región? - Lo que más me gusta de mi región es que ... / Lo que prefiero de mi región es que...



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PASADO		PRESENTE		FUTURO	
ayer	yesterday	hoy	today	mañana	tomorrow
anteayer	the day before yesterday	normalmente	usually	más tarde	later
la semana pasada	last week	a veces	sometimes	la semana que viene	next week
el fin de semana pasado	last weekend	una vez a la semana	once a week	el próximo mes	next month
el lunes pasado	last Monday	dos veces a la semana	Two times a week	el año que viene	next year
el mes pasado	last month	muchas veces	many times	el próximo fin de semana	next weekend
anoche	last night	siempre	always	el próximo lunes	next Monday
el otro día	the other day	nunca	never	esta tarde	this afternoon
el año pasado	last year	varias veces	several times	esta noche	tonight
entonces	then	a menudo	often	mañana por la mañana	tomorrow morning
hace dos días	two days ago	todos los días	every day	mañana por la tarde	tomorrow afternoon
hace dos años	two years ago	de vez en cuando	from time to time	mañana por la noche	tomorrow night
ayer por la mañana	yesterday morning	casi nunca	almost never	dentro de dos años	in two years
		los lunes	on Mondays		

QUESTION WORDS

- ¿Qué ... ? - What/Which?
- ¿Cuándo ... ? - When?
- ¿Dónde ... ? - Where?
- ¿Cómo ... ? - How?
- ¿Por qué ... ? - Why?
- ¿Cuánto/a ... ? - How much?
- ¿Cuántos/cuántas ... ? - How many?
- ¿Para qué ... ? - What for ... ?
- ¿Para quién ... ? - Who for ... ?
- ¿Con quién ... ? - Who with ... ?

OPINIONS

- Pienso que - I think that
- Creo que - I believe that
- En mi opinión - in my opinion
- Opino que/A mi modo de ver - I am of the opinion that
- Me parece que - It seems to me that...
- Me gusta (mucho) - I like (a lot)
- No me gusta (nada) - I don't like (at all)
- Me encanta - I love
- Me chifla - I am crazy about
- Me mola - I like
- Odio - I hate
- Detesto - I detest

CONNECTIVES

- Y/e - and
- Sin embargo - however
- O/u - or
- Ya que/porque - because
- Por eso - therefore
- Por un lado - on the one hand
- Por otro lado - on the other hand
- Pero - but
- También - also, too
- Además - besides
- Cuando - when

Describing an image:



En la foto	In the photo
En la imagen	In the image

Se puede ver	You can see
Veo	I see
Hay	There is / there are

En primer plano	In the foreground
En segundo plano	In the background
A la izquierda	On the left
A la derecha	On the right





VERB TENSES

PASADO

1 **PRETERITE**: actions and events that are finished. I SPOKE / I ATE / I LIVED

HABLAR habl -é -aste -ó -amos -asteis -aron	COMER com -í -iste -ió -imos -isteis -ieron	VIVIR viv -í -iste -ió -imos -isteis -ieron
---------------------------------------------------------------	---------------------------------------------------------------	---------------------------------------------------------------

2 **IMPERFECT**: actions and events that "used to happen" (repeated actions, such "I used to go to school") or "were happening" during a period of time or when you are describing an event in the past. I used to speak or I was talking /I used to eat or I was eating/I used to live or I was living.

HABLAR habl -aba -abas -aba -ábamos -abáis -aban	COMER com -ía -ías -ía -íamos -íais -ían	VIVIR viv -ía -ías -ía -íamos -íais -ían
--------------------------------------------------------------------	------------------------------------------------------------	------------------------------------------------------------

3 **PRESENT PERFECT**: (present of "haber" + past participle). Actions or events in the past that are somehow related to the present, either because they are not over yet or because the effect of the action is still visible in the present. I have spoken / I have eaten / I have lived.

He Has Ha Hemos Habéis Han	+	HABLAR hablado COMER comido VIVIR vivido
-------------------------------------------	---	-----------------------------------------------------------------

PRESENTE

1 **PRESENT SIMPLE**: Used to describe what you usually do or to talk about universal facts. I SPEAK/I EAT/I LIVE

HABLAR habl -o -as -a -amos -áis -an	COMER com -o -es -e -emos -éis -en	VIVIR viv -o -es -e -imos -ís -en
--------------------------------------------------------	------------------------------------------------------	-----------------------------------------------------

2 **PRESENT CONTINUOUS**: To talk about what you are doing at the moment, EVENTS that are happening RIGHT NOW. I am speaking/I am eating/I am living

Estoy Estás Está Estamos Estáis Están	+	HABLAR habl -ando COMER com -iendo VIVIR viv -iendo
------------------------------------------------------	---	----------------------------------------------------------------------------

CONDICIONAL

CONDITIONAL: something that you "would" or "should" do, an action that may happen but it's not happening for sure. I would talk/I would eat/I would live

FUTURO

1 **IMMEDIATE FUTURE**: (present of verb "ir" + a + infinitive of the action verb). To talk about actions or events that have been planned or are going to happen for sure or are close to the present. I am going to speak/I am going to eat/I am going to live.

Voy Vas Va Vamos Váis Van	+	a	+	HABLAR habl -ar COMER com -er VIVIR viv -ir
------------------------------------------	---	---	---	--------------------------------------------------------------------

2 **SIMPLE FUTURE**: To talk about what you WILL do in the future but it's not an arranged plan yet. I will speak/I will eat/I will live

hablar comer vivir	+	-é -ás -á -emos -éis -án
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hablar comer vivir	+	-ía -ías -ía -íamos -íais -ían
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HIGHER TIER

PRESENT SUBJUNCTIVE AFTER TIME EXPRESSIONS

The present subjunctive is used after 'cuando' and 'tan pronto como' when the verb that follows has not yet happened.

Estaré contento cuando termine mis exámenes.
I will be glad when I finish my exams.

Tomaré la decisión tan pronto como tenga mis resultados.
I will make the decision as soon as I have my results.

To form the present subjunctive, take the first person singular (yo) of the present tense and replace the -o with these endings:

AR VERBS	ER, IR VERBS
-e	-a
-es	-as
-e	-a
-emos	-amos
-éis	-áis
-en	-an

hablar - hable comer - coma / vivir - viva

Some verbs are irregular but the endings follow the same pattern.

Here are some in the "I" (yo) form:

- Ser (to be) - sea
- Ir (to go) - vaya
- Tener (to have) - tenga
- Ponerse (to put on) - me ponga
- Haber (there is, there are) - haya





The Periodic Table of Elements

1	2											3	4	5	6	7	0		
		Key relative atomic mass atomic symbol name atomic (proton) number										1 H hydrogen 1							4 He helium 2
7 Li lithium 3	9 Be beryllium 4											11 B boron 5	12 C carbon 6	14 N nitrogen 7	16 O oxygen 8	19 F fluorine 9	20 Ne neon 10		
23 Na sodium 11	24 Mg magnesium 12											27 Al aluminium 13	28 Si silicon 14	31 P phosphorus 15	32 S sulfur 16	35.5 Cl chlorine 17	40 Ar argon 18		
39 K potassium 19	40 Ca calcium 20	45 Sc scandium 21	48 Ti titanium 22	51 V vanadium 23	52 Cr chromium 24	55 Mn manganese 25	56 Fe iron 26	59 Co cobalt 27	59 Ni nickel 28	63.5 Cu copper 29	65 Zn zinc 30	70 Ga gallium 31	73 Ge germanium 32	75 As arsenic 33	79 Se selenium 34	80 Br bromine 35	84 Kr krypton 36		
85 Rb rubidium 37	88 Sr strontium 38	89 Y yttrium 39	91 Zr zirconium 40	93 Nb niobium 41	96 Mo molybdenum 42	[98] Tc technetium 43	101 Ru ruthenium 44	103 Rh rhodium 45	106 Pd palladium 46	108 Ag silver 47	112 Cd cadmium 48	115 In indium 49	119 Sn tin 50	122 Sb antimony 51	128 Te tellurium 52	127 I iodine 53	131 Xe xenon 54		
133 Cs caesium 55	137 Ba barium 56	139 La* lanthanum 57	178 Hf hafnium 72	181 Ta tantalum 73	184 W tungsten 74	186 Re rhenium 75	190 Os osmium 76	192 Ir iridium 77	195 Pt platinum 78	197 Au gold 79	201 Hg mercury 80	204 Tl thallium 81	207 Pb lead 82	209 Bi bismuth 83	[209] Po polonium 84	[210] At astatine 85	[222] Rn radon 86		
[223] Fr francium 87	[226] Ra radium 88	[227] Ac* actinium 89	[261] Rf rutherfordium 104	[262] Db dubnium 105	[266] Sg seaborgium 106	[264] Bh bohrium 107	[277] Hs hassium 108	[268] Mt meitnerium 109	[271] Ds darmstadtium 110	[272] Rg roentgenium 111	[285] Cn copernicium 112	[286] Nh nihonium 113	[289] Fl flerovium 114	[289] Mc moscovium 115	[293] Lv livermorium 116	[294] Ts tennessine 117	[294] Og oganesson 118		

* The Lanthanides (atomic numbers 58 – 71) and the Actinides (atomic numbers 90 – 103) have been omitted.

Relative atomic masses for **Cu** and **Cl** have not been rounded to the nearest whole number.



Multiplication Grid & Formulae



My Multiplication Chart 1-12

x	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24	27	30	33	36
4	4	8	12	16	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
9	9	18	27	36	45	54	63	72	81	90	99	108
10	10	20	30	40	50	60	70	80	90	100	110	120
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144

Areas

Rectangle = $l \times w$

Parallelogram = $b \times h$

Triangle = $\frac{1}{2} b \times h$

Trapezium = $\frac{1}{2}(a+b)h$

Circles

Circumference = $\pi \times \text{diameter}$, $C = \pi d$

Circumference = $2 \times \pi \times \text{radius}$, $C = 2\pi r$

Area of a circle = πr^2 radius squared, $A = \pi r^2$

Pythagoras

Pythagoras' Theorem
For a right-angled triangle, $a^2 + b^2 = c^2$

Trigonometric ratios (new to F)
 $\sin x^\circ = \frac{\text{opp}}{\text{hyp}}$, $\cos x^\circ = \frac{\text{adj}}{\text{hyp}}$, $\tan x^\circ = \frac{\text{opp}}{\text{adj}}$

Quadratic equations

The Quadratic Equation
The solutions of $ax^2 + bx + c = 0$, _____
where $a \neq 0$, are given by $x = \frac{-b \pm \sqrt{(b^2 - 4ac)}}{2a}$

Volumes

Cuboid = $l \times w \times h$

Prism = area of cross section \times length

Cylinder = $\pi r^2 h$

Volume of pyramid = $\frac{1}{3} \times \text{area of base} \times h$

Compound measures

Speed
 $\text{speed} = \frac{\text{distance}}{\text{time}}$

Density
 $\text{density} = \frac{\text{mass}}{\text{volume}}$

Pressure
The formula for pressure does not need to be learnt, and will be given within the relevant examination questions.

Trigonometric formulae

Sine Rule $\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$

Cosine Rule $a^2 = b^2 + c^2 - 2bc \cos A$

Area of triangle = $\frac{1}{2} ab \sin C$

Foundation tier formulae

Higher tier formulae



At St Joseph's College we...



tandard English



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laborate



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ey words

Like a(n)...

- Scientist
- Mathematician
- Sports Scientist
- Engineer
- Artist
- Historian
- Linguist
- Inventor
- Geographer
- Theologian
- Manager
- Philologist
- Musician
- Scholar





At St Joseph's College we...

S

1

Standard English means formal English. No Slang. Speak like a scholar.

"I believe.../ I'd like to add.../ Please can I have help.../ Am I right in thinking...? / I disagree with...."

P

3

Pause. Think before you speak – is what you are about to say relevant?

Does this link to the question?

Does this develop your understanding of the subject?

E

1

Elaborate. Can you expand your answer? Consider using a connective, e.g. however, besides, therefore, consequently. Do you agree or disagree with a previous comment?

Can you link this to another topic or lesson? Can you give an example or evidence?

A

1

Articulate. Have you read through your work silently? Have you checked how to pronounce more complex words? What volume will you read this at? Are you confident in articulating yourself verbally?

K

5

Key words. Check your Knowledge Organiser – are there any relevant words that would help? Could you use a thesaurus to be more ambitious? Is the word you are using related to the topic you are discussing?



Equipment

This shows the expected list of daily equipment needed in school.

Please ensure that you have the appropriate equipment from the start of the Autumn Term, in September.

Items can be purchased on Parent Pay, if necessary.

Pencil case – preferably clear

Black/blue pens

Green pens

Pencils and sharpener

Ruler

Rubber

Glue stick

Highlighters

Math set

Calculator



SJC: The Basics Every lesson! Every day!



ESSENTIALS



IDEAL



- Essentials
- Pencil case
- Blue/Black pens
- Green pens
- Pencils
- Sharpener
- Rubber
- Ruler
- Calculator
- Compass
- Protractor
- Exercise Books
- Textbooks
- Coloured pencils
- Highlighters

- Ideal
- Document wallet
- Glue stick
- Scissors



2021-22 Homework Timetable Year 10



2021-22 Assessment Calendar Year 10



Be Safe

If you're concerned about anything at all

No worry is too big or too small

Our wish is that you're safe and well

So if you're worried, then please do tell

We're here to offer help to you

Be sure to send an email through

besafe@sjc.ac



Respect for Faith

We believe that we are a school community rooted in the Catholic Christian faith with respect for all faiths, religions and views. All students and staff have the right to express their faith in God and be treated with dignity.

Respect for Self

We believe we are all children of God and encourage each other to see this within themselves. We believe that our social, emotional and spiritual development, being healthy and happy are central to our wellbeing. We believe that we must protect these rights for all.

Respect for Others

We believe that everyone deserves respect and we will treat others as we would like to be treated.

Respect for Learning

We believe that students and staff must be prepared in order to make the best of every learning opportunity. We believe that everyone can improve, make progress and achieve success. We believe that developing independence and determination is key to life's journey.

Respect for the College and Wider Community

We seek to care for our College and serve our local community. We believe that the college environment should be respected and safe.

STUDENTS WILL:

1. Be proud of their faith and treat all faiths with respect.
2. Show respect, and courtesy to all, treating all members of the school and visitors as they would like to be treated themselves. They will make sure the school is a safe place for all to express their views and opinions.
3. Value the whole school treating every area with respect making sure that every part of the school is clean, tidy and litter free.
4. Move around the school calmly, sensibly and safely.
5. Have a 'positive can do' attitude to learning, take pride in their appearance by wearing a smart uniform, arriving on time to lessons with the right equipment.
6. Work to the best of their ability. They will not give up even when work is difficult and challenging. They will take responsibility for their actions and for achieving their potential.
7. Participate in at least one extra-curricular activity to support their social and emotional development.
8. Respect all school expectations and follow the rewards/sanctions procedures.

STAFF WILL:

1. Respect the views and opinions of all students, parents and colleagues. They will act as role models to students by demonstrating patience, respect and fairness.
2. Demonstrate their belief in a growth mindset: that all learners can improve, progress and achieve success.
3. Dress smartly for lessons, arrive on time, greet students at the door and ensure that learning can begin immediately.
4. Prepare for learning by knowing their students, having excellent subject knowledge and ensuring every student is challenged and stretched.
5. Create a positive and engaging learning environment and ensure that class displays are supportive, relevant, encourage resilience and are presentable.
6. Assess learning regularly, create different opportunities for students to access learning content and help students achieve their personal goals.
7. Promote the health, happiness and well-being of all students.
8. Apply the school expectations fairly to all students.





Traffic light:



Red



Traffic light:





Traffic light:





A, B, C, D Cards

A



A, B, C, D Cards

B



A, B, C, D Cards

C



A, B, C, D Cards

