



St Joseph's College Knowledge Organisers Year 11

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?

You should spend time at home learning information from your Knowledge Organiser. Teachers will test you once a week to make sure that you are able to recall the information on the Knowledge Organiser. Learning the information will also help you in completing the daily 5 a Day in lessons.

How will my teachers use them?

Teachers may ask you to spend time using them in lessons to revise aspects of the course. Research tells us that revision 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 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 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?

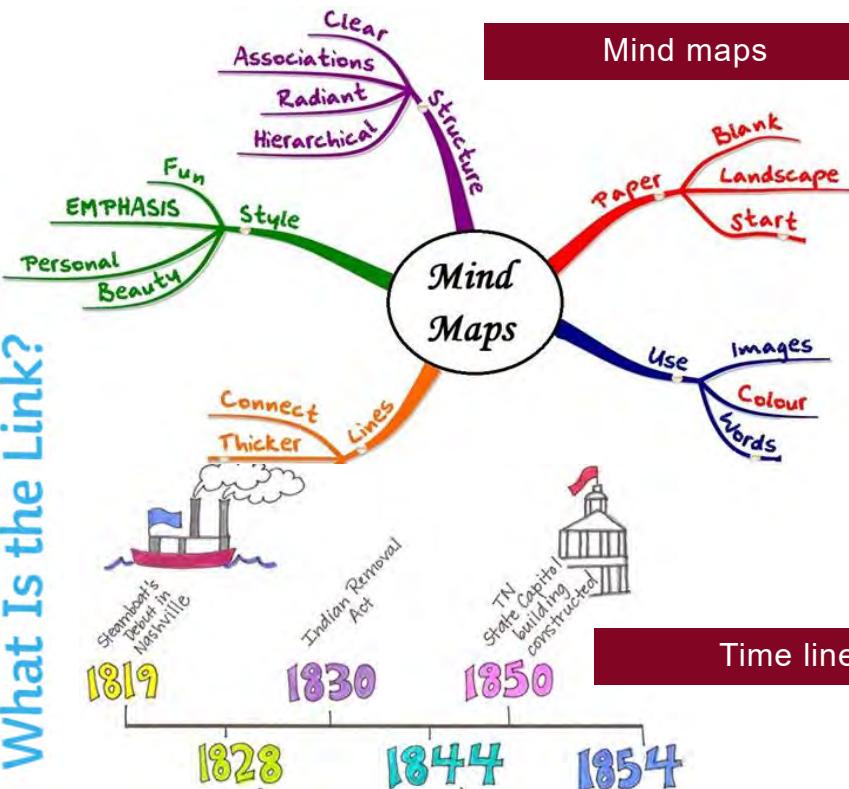
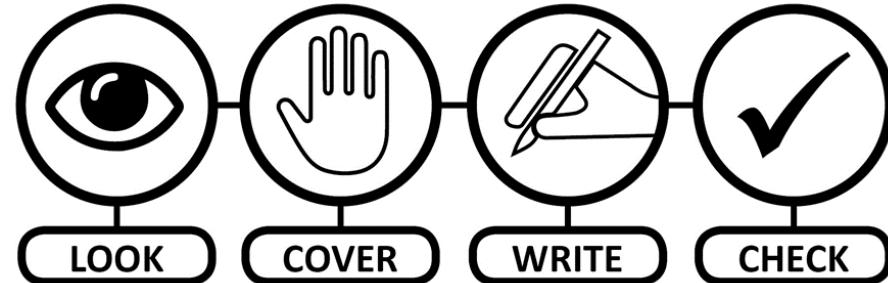
The knowledge organiser contains all the facts needed to test someone on the content from a topic. This is great because it means you can help someone revise content even if you haven't studied it yourself!

- 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



What Is the Link?

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

Quotes



Mnemonics

FOIL

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

Example 1:

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

↑ ↑ ↑ ↑

F O I L

Order of Operations

Show Your Work!



Online flashcards





St Joseph's College Art Department

Y11 Structures

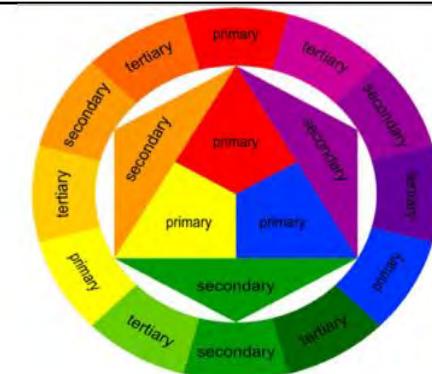


Exploring a variety of Materials, Media and Techniques

Colour Wheel

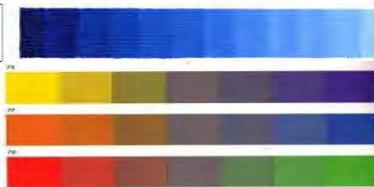
Assessment objective

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	<p>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.</p> <p>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.</p> 	<p>Sketch lines lightly so you can rub them out if a mistake is made.</p> <p>Shade evenly in one direction with no white gaps.</p> <p>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.</p>
			<p>Shade neatly and sharply to the edges of your shape.</p> <p>Look carefully at what you are drawing, take your time to get it right.</p>

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	<p>Blending- Painting colours so that there is a gentle and gradual transition from one to the other</p> <p>Layering- adding layers of paint over previous layers to create tone or add detail.</p> <p>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.</p> <p>Flat base painting- filling areas of a painting with flat colour before adding detail. This gives you a better surface on which to paint.</p> <p>Dry Brushing- A painting technique in which a paintbrush that is relatively dry, but still holds paint.</p> 	<p>Take your time to mix your colours. Add a range of colours and tones to your work.</p> <p>Colours are blended neatly and evenly.</p> <p>You need to look carefully at what you a drawing to get accurate shapes, colours and tones.</p> <p>Add a little by little don't use too much paint at once.</p> <p>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.</p> <p>Don't use too much water.</p> <p>For best results paint on a strong surface such as wood, canvas or high quality paper.</p>
Watercolour Paint	<p>Blending- The technique of moving between different colours in watercolour.</p> <p>Wet on wet- Applying paint onto wet paper. This also allows to colours to bleed into each to create a subtle soft effect.</p> <p>Watercolour paints can be blotted and easily lifted from the paper. Watercolours come in blocks and tubes.</p> 	<p>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.</p> <p>Mix colours to create the tones you want.</p> <p>Leave areas of paper free from paint to create highlights.</p> <p>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.</p> <p>Use careful paintbrush control to work neatly to the edges.</p> <p>Use watercolour paper for best results.</p>



St Joseph's College Art Department

Y11 Structures



Exploring a variety of Materials, Media and Techniques

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.	Water colour pencils Wax/oil colour pencils Pastel colour pencils Brands include Crayola, Staedtler, Faber Castell	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.	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.	Material Pen A drawing or writing instrument, where a tube or cartridge of ink held in a plastic tube.	Types of the material Biro/ball point pen. Gel pen Watercolour Rollerball Permanent Ink- Cartridge pen	Techniques Crosshatching is the technique of adding overlapping lines to create tone in pen. Hatching is the technique of adding lines in one direction with changes on pressure to create tone. Stippling is the technique of adding dots in varying amounts to create tone.	What do you need to remember with this material? 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 parts already completed so they don't smudge. Use cheaper pens as often you are able to create lighter tones.
Fineliner A fineliner is a pen with a felt tip, almost like a felt tip marker but smoother and more precise.	Fine liners come in a range of sizes, from 0.05mm to 1.0cm. Available in water-resistant and water-soluble.	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.	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.	Image showing a fineliner pen.	Image showing a fineliner pen.	Image showing a fineliner pen.	Image showing a fineliner pen.
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?							You can also use a range of mark making techniques.



St Joseph's College Art Department

Y11 Structures



Exploring a variety of Materials, Media and Techniques.

Material	Techniques	What do you need to remember with this material?	Oil Pastel	Blending- The act of mixing one or more colour together, by layering them on top of each other or blending with a blending stick.	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.
<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).</p> <p>Layering- start with a base layer of a colour and work on top building up the tones and blending.</p> <p>Blocking in colour- quickly filling in an area in flat colour.</p>	<p>Sketch your image out lightly with a light coloured chalk.</p> <p>Add highlights first and then build up to darker tones.</p> <p>Work on a thick paper such as sugar paper or pastel paper.</p> <p>Be careful not to smudge your work with your hand, use a piece of paper to lean on.</p>	<p>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)</p> <p>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> 	<p>Layering- start with a base layer of a colour and work on top building up the tones and blending.</p> <p>Blocking in colour- quickly filling in an area in flat colour.</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.</p> <p>Soft edge- using the side or edge of the oil pastel to draw pressing softly.</p> <p>Removing colour- adding a layer of chalk, then using a rubber to remove sections of colour.</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.</p> <p>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.</p> <p>Soft edge- using the side or edge of the oil pastel to draw pressing softly.</p> <p>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.</p> <p>Build up the tones with mark making and layering charcoal.</p> <p>Be careful not to smudge your work with your hand, use a piece of paper to lean on.</p> <p>Work on a thick paper such as sugar paper or pastel paper.</p> <p>You can achieve both soft and strong lines depending on the type you use, use a combination of both in your work.</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.</p> <p>Pointillism- building up layers to dots to create colour.</p> <p>Soft edge- using the side or edge of the oil pastel to draw pressing softly.</p> <p>Removing colour/Sgraffito- using a blunt instrument to scrape off colour</p>	<p>Work carefully so you don't make the lighter colours dirty.</p> <p>Sketch your image out using oil pastel first, as pencil will create dark lines and disrupt your drawing.</p>

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 Careers Department

Future Success

For each student at St Joseph's College to have the skills, experiences and guidance for them to reach their potential academically and in their careers.

Keywords

Goal
University
Sixth Form
Determination
Vocational
Apprenticeship
A level
BTEC
Purpose



Do you want to speak to the school
Careers Adviser about your choices?

Email rcashmore@sjc.ac



Questions:

- What are my top skills?
- What kind of career might be right for me?
- What does jobs will be available in the future?
- What is the world of work like?
- What do I need to get into University?
- How do I write the personal statement on my applications?



Most frequently advertised jobs (online):

Nurse
Software developer
Teaching assistant
Administration assistant
Project manager
Civil engineer
Account manager:

Top Employability Skills:
Are you practicing these skills?
Continuous learning.
Time management.
Decision making.
Collaboration, ...
Emotional intelligence.
Creativity and resilience.
Adaptability.
Change Management

Start with a subject

Choose a subject you love and see where it might lead



For career ideas and information take the Morrisby careers quiz. Scan this code and enter MC33GPPV in the sign up box.





St Joseph's College Business Department

Autumn term 1: Topic 2.5 Making Human Resource Decisions



In this topic we will look at different organisational structures, recruitment, training and motivational methods that companies use.

DIFFERENT WAYS OF WORKING

Contract of Employment - a legal agreement between the employee and the employer. The contract states:

1. Working hours
2. Location
3. Remuneration (pay)

Full-Time/Part-Time

Full time hours = 37.5 hours per week (approximately)

People work part-time to spend time with family or for other interests

Part-time staff are useful if there is only a limited amount of work in the business

Flexible Hours

When employees have some influence over the hours and location they work. For example:

Working their 37.5 hours over 4 days, not 5

Working from home for 1 day per week

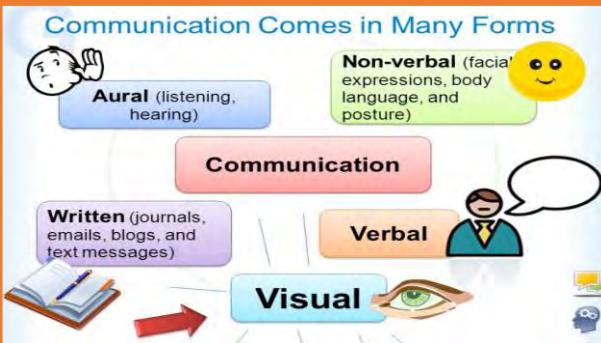
Starting later and finishing later

Zero hour contracts: when employees do not have any contracted hours so they employer and employee choose if and when they work on a weekly basis

Permanent employment - the employee will stay at the business, unless -They leave, are dismissed or are made redundant

Temporary employment - the employee stays at the business for a fixed period of time (such as 12 months)

Freelance employment - a self-employed person is recruited by a business to work on a very specific job or project over a fixed period of



Performance Review - when a business sets employees targets and assesses the employee's performance in the business

1. Manager and employee agree targets
2. Employee is given support to meet targets
3. Performance against targets is reviewed
4. Employees are offered further training, promotions or pay rises
5. Process starts again!

Motivation

Businesses need motivated staff because:

Motivated staff are more productive

They are more likely to stay at the business so reduces recruitment costs

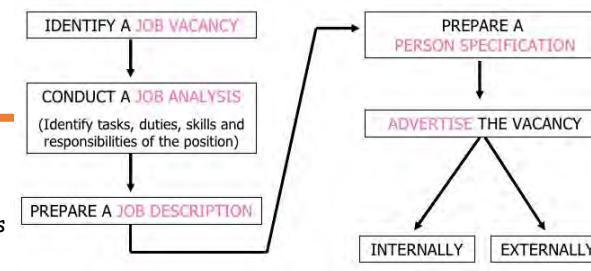
Attracts new employees to the business



Financial Motivators	Non-Financial Motivators
Wages (per hour) or Salary (fixed)	Job rotation - moving the employee around the business so they complete lots of different tasks
Commission - staff earn per product they sell	Job Enrichment - Giving an employee more responsibility in the business
Bonus - extra lump sum when an employee meets targets	
Fringe Benefit - not part of an employee's main income, such as a car or staff discount	Autonomy - giving employees freedom to make their own decisions
Promotion - An employee is given more responsibility and paid more for this	

The Recruitment Process

(the process used by an organisation to find applicants for a job vacancy)



MOTIVATION

Loading...

Questions

1. Discuss the impact of a business 'flattening' their organisational structure
2. How could poor communication affect a business?
3. Explain the difference between centralised and decentralised organisations
4. How could a demotivated workforce impact the business?
5. Why is it important to review a business's workforce?



St Joseph's College Business Department

Topic 2.5 Making Human Resource Decisions



In this topic we will look at different organisational structures, recruitment, training and motivational methods that companies use.

Organisational Structure - how employees are organised within the business. Businesses have layers in their structure, these are normally:

Directors - manage the strategy

Senior managers - implement the directors' strategy Supervisors -

manage small teams under the managers

Operational staff - not responsible for any staff and carry out tasks given by supervisors and managers.

Chain of command - link from the directors to the operational staff.

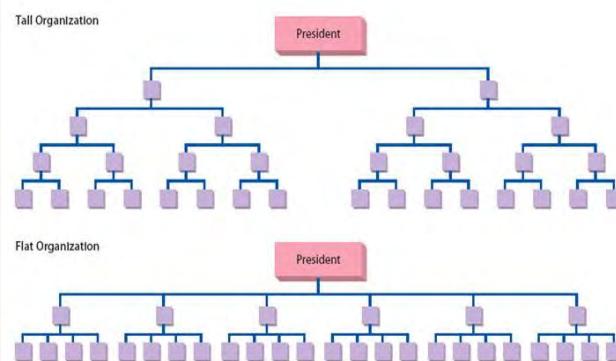
Span of control - the number of employees who report to one manager or supervisor.

Hierarchical Structure

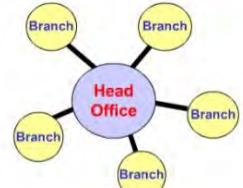
- Long chain of command
- More layers
- Communication difficult and slow
- Narrow span of control

Flat Structure

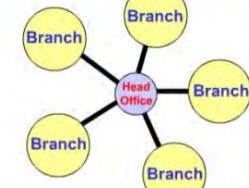
- Short chain of command
- Wide span of control
- Fewer layers



Centralised or Decentralised?



- Centralisation means keeping major responsibilities at the centre of the organisation



- Decentralisation involves giving decision-making power to an organisation

EFFECTIVE TRAINING

Training - Giving employees the skills and knowledge to do their jobs effectively

Employees may need training because:
The business introduced new technology
To develop their skills

The business has new processes

Benefits of training the workforce

Makes staff more productive
Staff stay up to date with changes in the business. Staff are more motivated
Encourages staff retention

COMMUNICATION

Businesses need to communicate internally and externally with all stakeholders.

Barriers to effective communication:

- **Noise**—people cannot communicate when it's too noisy in the background
- **Personal relationships** - employees will not want to communicate if they do not get along with a person
- **Distance** - long distance makes it challenging to communicate face-to-face
- **Jargon** (technical language) - people may not understand specialist language

Too much communication causes...

- **Inefficiency** because it wastes time employees could be generating revenue for the business
- **Confusion** over different issues if lots of people are delivering the same message
- **Demotivation** because employees are overwhelmed by all the information

Too little communication causes:

- **Inefficiency** because employees may not receive important messages about tasks they should be completing
- **Demotivation** because they may be annoyed that a lack of communication is causing them not to complete their job properly

EFFECTIVE RECRUITMENT

Recruitment - the process a business goes through to bring in new employees

Candidate - a person who is applying for a job in a business

Recruitment Process:

1. **Job Analysis** - the business looks at the job role in great detail
2. **Job Description** - document that includes the main duties, line manager, location of job and wage
3. **Person Specification** - Lists the skills, experience, qualifications and characteristics of the ideal person for the job
4. **Job Advertised** - either **internally** (inside the business) or **externally** (outside the business). Candidates apply with their **CV** (summary of a candidate's experience, skills and qualifications) and **application form** (made by the business and asks for the information the business needs)
5. **Shortlisting** - once candidates have applied to the job, they are compared to the criteria on the person specification
6. **Interviews** - shortlisted candidates are interviewed
7. **Job Offer** - the job is offered to the most suitable candidate



St Joseph's College Business Department

Autumn term 2: Topic 2.1 Growing the business



In this topic we will look at how a business grows, changes its aims and objectives and look at business ethics and globalisation

Two different methods of growth for a business: Internal and External

Internal growth (organic growth) - when a business grows by expanding its own activities. It is low risk, but slow. They do this by:

- Targeting new markets
- Developing new products

External Growth (inorganic growth) - when a business merges or takeover another business. This is higher risk, but faster

Merger—when two businesses join together to form a new larger business

Takeover—when an existing firm expands by buying more than half the shares in another business

There are four ways a business can merge or takeover another business:

- Join with a supplier
- Join with a competitor
- Join with a customer
- Join with an unrelated business

Economies of Scale	Diseconomies of Scale
When a business expands, its costs may decrease per unit produced. This is called economies of scale. They can happen because: Larger businesses can buy raw materials in bulk, so get them at a cheaper price per unit Larger firms can afford to operate and purchase advanced machinery that are faster and cheaper to run A factory that is 10x as big wont be 10x as expensive—the law of dimensions	When a business expands, it could cause some costs to increase per unit. Such as: It is harder and more expensive to manage a large business Bigger businesses have more people so lines of communication are longer, employees lower in the hierarchy may be demotivated and be less efficient The production process might become complicated and difficult to coordinate.



Sources of finance for large businesses

Internal	External
Retained Profits - profits the owners have put back into the business	Loan Capital - money borrowed from the bank, paid back with interest
Selling Assets —business can sell fixed assets that are no longer in use	Share Capital - If a business becomes a limited company they can sell shares

Public Limited Company—Shares in the company are traded on the stock market so they can be bought and sold by anyone. They have limited liability

The extra capital can help the business expand

Changing Aims and Objectives

As a business grows, its aims and objectives will change. They could:

- Change if they aim to survive (earlier stages) or grow (more established business)
- Change the size of their workforce
- Enter or exit new markets
- Change the size of their product range

Reasons for changing aims and objectives:

Internal Reasons	External Reasons
Business performance	New legislation
Management changes	Changes in market conditions
New technology	Changes in technology

Globalisation — when businesses and countries become more connected because of better technology, travel and communication

Globalisation can have many impacts on business:

- Imports: businesses have a larger, global, market to buy from. Can buy supplies cheaply
- Exports: Easy to export so a larger market to sell to
- Location: easier for businesses to locate and operate abroad
- Multinationals: when a company operates in a new country, businesses already in that country need to make sure they are able to compete.

There are barriers to international trade:

- **Tariffs**—taxes on goods being exported or imported
- **Trade blocs**—groups of countries that have little or no trade barriers between them (such as the European Union). If you are outside of these blocs it's difficult to compete with the businesses inside.

How businesses can compete internationally:

- Use e-commerce to sell goods online
- Adjust the marketing mix to suit a given country





St Joseph's College Business Department

Topic 2.1 Growing the business



In this topic we will look at how a business grows, changes its aims and objectives and look at business ethics and globalisation

Ethics — the moral principles of right and wrong Businesses may act unethically by:

- Forcing staff to work excessively long hours
- Forcing staff to work for low pay
- Buying raw materials from businesses that exploit staff
- Lying in marketing about their products or competitors

Businesses can have a negative impact on the environment. Their factories, trucks and machinery can cause air, water and noise pollution.

Businesses can use up non-renewable resources such as coal and oil

Sustainability—acting in a way that will not harm the earth for the future Businesses can be sustainable by:

- a. Using less packaging and recycling
- b. Disposing of hazardous waste in the correct way Using efficient machinery
- c. Using renewable energy sources such as solar

Advantages and Disadvantages of a business acting ethically:

Advantages	Disadvantages
Can give competitive advantage such as a unique selling point (USP)	Can be expensive for the business
May encourage investment	Can be difficult to find suppliers
Positive brand image	May not make much profit on products

Benefits of being environmentally friendly:

1. Positive brand image
2. Being "green" can be a USP and give competitive advantage

However, being environmentally friendly can be expensive, such as buying new energy efficient equipment

A stakeholder that persuades businesses to be more environmentally friendly are pressure groups. They can run campaigns on businesses that are not environmentally friendly and ruin their brand image.



Questions:

1. Discuss providing examples the two different methods of growth for a business.
2. Why is it important that a business reviews their aims and objectives?
3. Evaluate the impact that globalisation can have on a business.
4. Discuss the consequences of how a business would be affected by behaving unethically.
5. What are the advantages to a business "going green"



CSR = Corporate Social Responsibility

VALUES

What is Important?

What should I achieve?

Differ from person to person

Motivates

ETHICS

What is Right?

What is the correct action?

Usually considered universal

Constrains



St Joseph's College Business Department

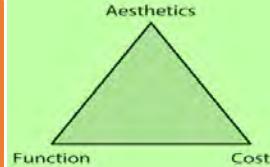
Spring term 1: Topic 2.2 Making Marketing Decisions



In this topic we will look at the product life cycle, extension strategies and all four elements of the marketing mix as well as the design mix

The Design Mix - Consists of 3 questions:

1. **Function** - what problem does the product or service solve?
2. **Design/Aesthetics** - how does the product look, feel, taste?
3. **Cost/Economic** - can the product be made (or service provided) for the right price, so a profit can be made?

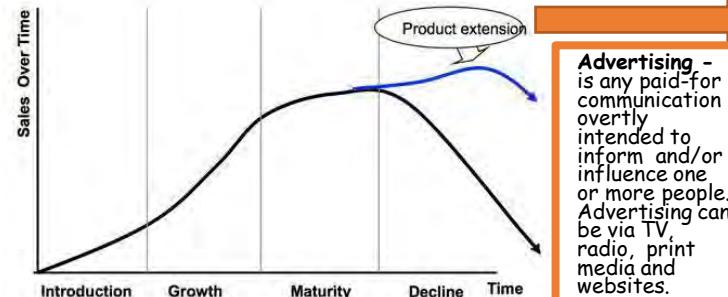


The product life cycle

Another way in which a business can make product decisions is to use the product life cycle. The product life cycle plots the sales of a product through the four stages of its life:

- initial introduction
- growth
- maturity
- decline and discontinuation or extension.

The product life cycle can help a business to make decisions about its pricing, promotion, production levels and decisions about other products within its **product portfolio**.



Advertising - is any paid-for communication overtly intended to inform and/or influence one or more people. Advertising can be via TV, radio, print media and websites.

Extension strategies extend the life of the product before it goes into decline. Again businesses use marketing techniques to improve sales. Examples of the techniques are:

1. **Advertising** - try to gain a new audience or remind the current audience
2. **Price reduction** - more attractive to customers
3. **Adding value** - add new features to the current product, e.g. improving the specifications on a smartphone
4. **Explore new markets** - selling the product into new geographical areas or creating a version targeted at different segments
5. **New packaging** - brightening up old packaging or subtle changes

Product Differentiation - When a business make their products or services different from the competition.

This can be achieved though:

1. Branding
2. USP
3. Location
4. Design
5. Customer Service
6. Quality
7. Product mix



Mass Marketing occurs when a business aims a product at all (or most) of the market. Examples:



Niche Marketing occurs when a business targets a product/service at a small segment of a larger market. Examples:



Pricing Strategies

Price skimming - A product is priced high to begin with as it has a desirability factor (novelty) that will mean customers will want it when it is new. This price might be lowered later on.

Penetration pricing - means setting prices really low for a new product or service to encourage sales and to persuade customers to try the product for the first time. Then when customers like the product and have to keep buying it, the business raises the price. Low prices should gain the business more market share.

Cost-plus pricing - is worked out by calculating the total cost to produce the product or service and then profit is added on top.

Competitor pricing - some products which are very similar (like orange juice) will be priced very similar to close competitors. This means that customers will have to judge a product or service on "non-price" methods such as; quality of service, speed, extras.

Promotional Pricing - a product or service is offered for sale at a cheaper price for a limited time. Customers may also be offered free extras to encourage them to make a purchase.

Sponsorship - When a business sponsors something, They are establishing an **association** with another organisation or event

That connection must make sense to the customers and enhance the reputation of the business.

Product Trial - A temporary offering intended to provide market information by allowing consumers to examine, use or test a product prior to fully committing company resources to a full launch.

Influences on Pricing Strategies

Technology - Technology now enables customers to quickly compare prices with competitors, businesses have to be wary of this. Technology also includes the monitoring of web traffic, Amazon react to web traffic by increasing and decreasing their prices continually depending on how many customers are viewing their pages.

Competitors - If a business is operating in a market where there is lots of choice and not much product differentiation then prices will be similar to other firms. E.g. Petrol (product is the same everywhere).

Market Segments - Similar mass market products (e.g. eggs, milk) will have low prices to encourage high sales volumes. Unique differentiated products within niche markets are more likely to be sold for higher or premium prices.

Product Life Cycle - where a product is on the product life cycle will influence its price:

Introduction - businesses may start with a low price to encourage sales when a product is first launched

Growth - businesses may offer small discounts and promotions to encourage purchase

Maturity - businesses will keep prices high to take advantage of profit

Decline - products may be very heavily discounted to make it cheap enough for consumers to buy it



St Joseph's College Business Department

Topic 2.2 Making Marketing Decisions



In this topic we will look at the product life cycle, extension strategies and all four elements of the marketing mix as well as the design mix

Special offers/sales promotion - sales promotions techniques they are designed to encourage consumers to make a purchase e.g. BOGOF, discounts, free gifts and competitions.

Branding - a characteristic name or symbol that distinguishes one product from a competitor. Consumers will be brand loyal and businesses can use this loyalty to promote their products

The use of technology in promotion

Targeted advertising online - e.g. a customer is shopping online for video games, they then click on a news site and see an advert for video games

Viral marketing - When an image, video, piece of information is circulated rapidly and widely from one Internet user to another. It **went viral** means that an advertising campaign has been so successful that consumers are passing it along to each other.

Advantages of Social media advertising:

- Social media advertising is free or low cost so very cost effective
- All brands now need a web presence and can do this with social media platforms
- Customers can be kept informed of new products
- Increases customer engagement with the brand
- Can show customer service with a quick response

Viral advertising via e-newsletters means advertising by sending out an e-newsletter to a customer (means via e-mail). That customer then sends it to their friends and they send it to their friends. The business needs to ask their e-mail customers to **SHARE** the newsletter

The Marketing Mix - 4P's



Place - (Methods of Distribution)

Retailer - A retailer is a business that sells goods direct to a consumer through a 'bricks and mortar' shop

E-tailer - An e-tailer is a business which sells goods direct to a consumer via the Internet

Retailer Advantages

- Going shopping is an enjoyable experience that customers can do with their friends or family
- Trying on clothes helps when buying
- Customers can have the product as soon as they have bought it - instant satisfaction
- Retailers win when a customer needs to see, touch, try or test a product first

Retailer Disadvantages

- Retailers are only open during the day and customers may be too busy with work or family
- Customers may have to wait in a queue or carry heavy bags of shopping
- Customers may find it embarrassing to buy some personal items
- May charge higher prices than the e-tailers

極度乾燥(しなさい)
Superdry.

TESCO

E-Tailer Advantages

- Can be started with a smaller investment as no premises and less staff needed
- Can sell a much larger range than a physical shop
- Can undercut competitors prices by being cheaper (no shops, less staff)
- Lots of potential to grow rapidly and reach a global marketplace
- Lower fixed costs as no shops to pay rent on

E-Tailer Disadvantages

- Hard to establish trust with the customer as no face-to-face interaction
- Website costs can be high
- Security and fraud for online transactions are an issue
- Only as strong as your distribution / delivery if this is late then it may damage your reputation

Questions:

- Explain what is meant by the term 'Design Mix'
- Discuss the product life cycle with the aid of a diagram
- Analyse why differentiation is so important to a business
- Explain the pricing strategy you would use for each of the following products:
 - Heineken Beer
 - Iphone 11Pro
 - Walkers ready salted crisps
- Discuss why the use of technology is so important when a business is promoting their product/service.





St Joseph's College Business Department

Spring term 2: Topic 2.3 Making Operational Decisions



In this topic we will look at business operations, working with suppliers to manage quality and understanding the sales process

The purpose of business operations

1. To produce goods
2. To provide services

Production Processes!

JOB



BATCH



FLOW



Impact of technology on production

Lower Costs - Initial costs of buying new machinery or robots will be expensive. However the business will soon make these costs back with the improvement in quality and reduction of wastage. Robots don't need to be paid so the savings on wages will soon build up.

Improvement in quality - Design used to be on paper now with CAD (computer aided design) designs can be completed on the computer and seen in 3D. Machinery and robots ensure there is no human error in production.

Improvement in productivity - Robots and machines can work 24/7. They do not need breaks, lunch hours, time off or holidays. This will increase the productivity of a business producing products. Productivity output per hour.

Improvement in flexibility - Using CAM computer aided manufacture means that a business can use computers to very precisely control, monitor and adjust tools in manufacturing. It also means that a business producing products can be more flexible and produce a wide variety of products.

The Role of Procurement

Procurement defined: Is the process by which businesses buy raw materials, component, products, services, and other resources from a supplier to produce their own products and services.

Relationships with suppliers:

Quality - a business will want its suppliers to sell them the best possible quality products for the best price.

Delivery - Some businesses may wish to enter into a JIT agreement with a supplier. This may involve a number of deliveries being made a day. If a delivery is late this may stop production and could cost the business money.

Availability - Once the business has an agreement with a supplier to deliver quality stock on time - there will be problems if the stock is not available. This may stop production entirely. If products continue to be out of stock customers will shop elsewhere.

Cost - Once a supply deal has been made, both sides will want the deal to last a long time to reduce the costs of having to find other suppliers or customers or renegotiate another deal.

Trust - The best relationships work well when there is joint problem-solving and open communication between the businesses. Trust can be built through reliable deliveries and quality products/services.

One person produces the product
Takes a long time
Cost of labour is high
Low volume production
Quality is often emphasized
Each product is unique

Product made in stages
Each stage must be prepared
Each stage must be monitored for defaults
Large quantities can be made
Batches can be modified

Product is continuously worked on
Each product is identical
Faster production times
Very high volume made
High technological costs

Just-in-time (JIT) - Means that a business does not keep stocks of parts in a warehouse. Instead they order the parts and get them delivered same day from the supplier. To make JIT work the manufacturer needs to have excellent working relationships with their smaller parts suppliers. JIT does not work when there are delivery or quality issues. **No buffer stocks are held in a JIT system** so if delivery does not arrive the product cannot be made.

Advantages of Just-in-time

Stock is ordered as it is needed so there is **no wastage**.
Stock is not warehoused which is a massive **cost saving** in terms of premises and staff.
Stock is less likely to go out of date.
The business will improve their cash flow, as their money is not tied up in stock.

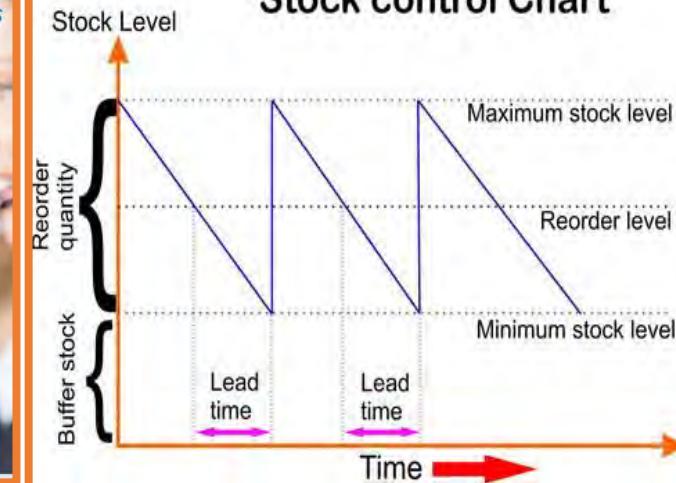
Disadvantages of Just-in-time

The business won't be able to meet unpredicted surges in demand.
The business won't be able to quickly replace damaged parts.
If the delivery does not turn up in time this can stop the whole production line which is costly

"The sales process is circular. If the sales process is managed well it should lead to customer loyalty and repeat purchase"



Stock control Chart





St Joseph's College Business Department

Topic 2.3 Making Operational Decisions



In this topic we will look at business operations, working with suppliers to manage quality and understanding the sales process

Working with suppliers:

- Stock can be defined as -
- 1. Raw Materials
- 2. Work-in-Progress
- 3. Finished Goods



Raw Materials



Work-in-progress



Finished goods



Poor Customer Service leads to:

Brand image will be damaged



Customer loyalty will fall

Business will have lower sales

Customers will switch to other brands



Lower market share

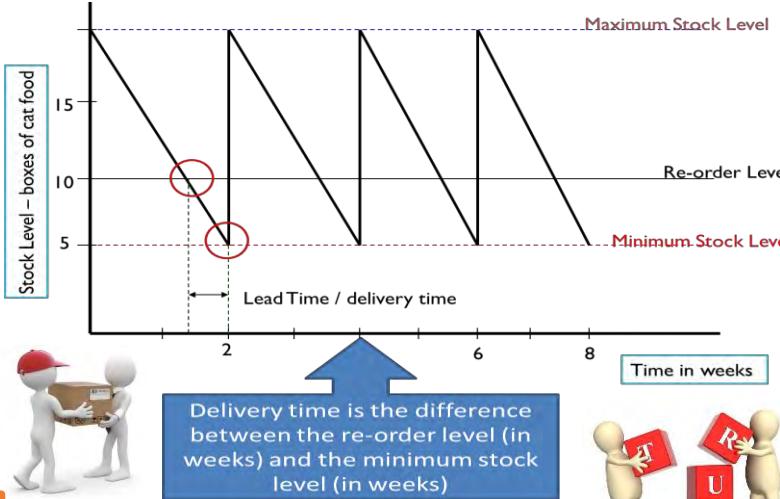
Business will have lower revenue



QC VS **QA**

QUALITY ASSURANCE

QUALITY CONTROL



Max stock level - This is the most you can store in e.g. your shop/storage. You can't store more as you don't have the space and it will go out of date.

Min stock level - This is the least that you should store - any less and you will run out and not be able to meet customer demand. This is also called the "buffer stock". E.g. You may keep in 2 boxes of cat food as a buffer to make sure you never run out.

Re-order level - As a business owner of a pet shop you know when you are getting low, but if you have a re-order level you will never run out e.g. 3 boxes. This should keep you in stock until the delivery turns up.

In the bar gate diagram alongside:

- The max stock level is 20 boxes
- Min stock level is 5 boxes
- You will have 10 boxes when you need to re-order

Questions

- Discuss the impact on a business when changing its production process from batch to flow production.
- Discuss the benefits to a business changing from JIC (Just in case) to JIT (Just in time)
- Discuss the drawbacks of technology on a business
- Explain the difference between quality control and quality assurance
- Discuss the impact that customer service can have on a business

Quality Control vs Quality Assurance

Quality is the extent to which a business meets or exceeds customer needs. Within manufacturing, a measure of excellence or a state of being free from defects, deficiencies and significant variations.

Quality Control - Quality inspectors check that standards have been met at the end of the production process: standards are consistent. This means that quality standards are met and the customer does not receive a sub-standard product. However it could be a lot of waste as the fault is only identified at the end of the production process. Quality control is mainly about "detecting" faulty output - rather than preventing it.

Quality Assurance - Quality assurance is about how a business can design the way a product or service is produced or delivered to minimise the chances that output will be sub-standard. In quality assurance, there is more emphasis on 'self-checking' by everyone, rather than checking by inspectors. Quality assurance will likely be more time consuming for the workers and each worker may have different standards therefore impacting on the consistency of e.g. production, customer service etc.



St Joseph's College Business Department

Summer term 1: Topic 2.4 Making Financial Decisions



In this topic we will look at performing business calculations and understanding business data

Average Rate of Return—how much a business will make or lose as a proportion of the original investment

Step 1: Calculate the **average annual profit** =

$$\text{total profit} / \text{number of years}$$

Step 2: Calculate the **average rate of return %** =

$$(\text{average annual profit} / \text{cost of investment}) \times 100$$

The bigger the average rate of return (%) the more successful the investment

Gross Profit—the profit a business makes after the costs of making the product (**costs of sales**) has been taken from the revenue. **Gross Profit** =

$$\text{Revenue} - \text{Costs of Sales}$$

Net Profit—the profit a business makes after all of the costs and **expenses** (wages, salaries, rent, bills) have been taken away from the revenue. **Net Profit**:

$$\text{Gross Profit} - (\text{Other expenses} + \text{interest})$$

Calculating ARR

$$\text{ARR (\%)} = \frac{\text{Total net profit} / \text{No years}}{\text{Initial cost}} \times 100$$

Example Project

Total net profit (5 years) = £1,350,000

$$\text{Divided by project life} = £1,350,000 / 5 \\ = £270,000$$

$$\text{Divided by the initial cost} (£2,000,000) = £270,000 / £2,000,000 = \mathbf{13.5\%}$$

tutor2u

Businesses collect data about:

- Competitors' finances
- Customers
- Sales
- The market

Data helps businesses to make decisions and justify these decisions.

Types of data used in businesses:

- Financial data—break even, profit margins, cash flow
- Marketing data - market research
- Market data - knowing about competitors
- Financial Data

Limitations:

Has to be compared against a similar competitor or previous year

Comparing is tough because no two businesses are exactly the same

Lots of different variables can cause financial change to a business, both internal and external change

Does not include qualitative data

Profitability Ratios Formula

$$\text{Gross Profit Margin} = \frac{\text{Gross Profit}}{\text{Sales}} \times 100$$

$$\text{Operating Profit Margin} = \frac{\text{Operating Profit}}{\text{Sales}} \times 100$$

$$\text{Return on Equity} = \frac{\text{Net Income}}{\text{Shareholder's Equity}}$$

$$\text{Net Profit Margin} = \frac{\text{Net Income}}{\text{Sales}} \times 100$$

$$\text{Return on Assets} = \frac{\text{Net Income}}{\text{Assets}} \times 100$$

Basis for Comparison	Qualitative Data	Quantitative Data
Definition	Qualitative data is information that can't be expressed as a number	Quantitative data is data that can be expressed as a number or can be quantified
Can data be counted?	NO	YES
Data type	Words, objects, pictures, observations, and symbols	Number and statistics



Questions

1. Explain the difference between gross and net profit.
2. Why would shareholders expect a return on their equity?
3. Why is cash important for the survival of a business?
4. Why is it important for businesses to analyse data?
5. Discuss how a business can look to increase their net profit margin.



St Joseph's College Business Department

Autumn term 1: Year 11 Enterprise Term 1: COMPONENT 2 -
Planning for and Pitching an Enterprise Activity



In this term you will use research knowledge gained from Component 1 to consider a number of ideas before developing a plan for a micro enterprise activity

Keywords:

Skills audit-A skills audit is a process of identifying your own skills and the skills of others to see what skills your enterprise has and identifying what they therefore need.

Financial aims-Plans that involve money based targets are financial aims because they involve the enterprises finances.

Non financial aims-These are not linked money based targets, but are linked to other aspects of the enterprise such as strengthening brand image, building relationships with customers and suppliers or operating ethically.

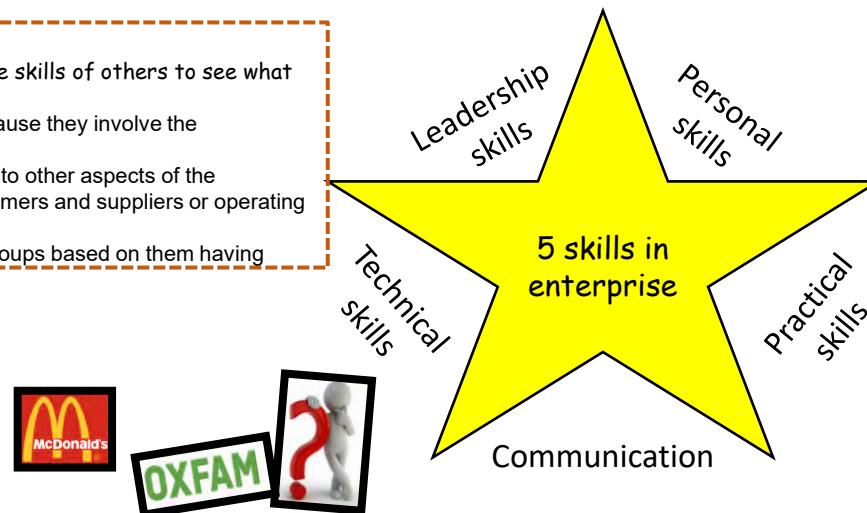
Market segmentation- Market segmentation is dividing your customers into groups based on them having similar characteristics!

How can they generate ideas?

- Mind mapping / thought showering new ideas [innovation]
- Look at a problem which needs solving - how can a new enterprise solve this?
- Importing an idea from abroad that works in another country [goods or services in a new market]
- Adapting a current product or service
- Looking at what skills and attributes you have and how you, as an entrepreneur, can use them to build a new enterprise.

Resources can include:

- ✓ Human resources
- ✓ Financial resources / financial forecasts
- ✓ Physical resources
- ✓ Communication methods and promotional methods
- ✓ Skills of people / ability to recruit the skill set



When setting up a business you need to consider risks and assess whether the risks are likely to happen!

Identify potential risks to a business.
What might happen?

Consider the likelihood of the risk happening and causing problems

Making a judgement as to whether the risk out weighs the benefits.

Questions:

- What do we mean by the term entrepreneur?
- What methods do entrepreneurs use to generate ideas?
- How are gaps in the market identified?
- What can entrepreneurs do to close the gap in the market?



St Joseph's College Business Department

Autumn term 2: Year 11 Enterprise Term 2: COMPONENT 2 -
Planning for and Pitching an Enterprise Activity



In this term you will use research knowledge gained from Component 1 to consider a number of ideas before developing a plan for a micro enterprise activity

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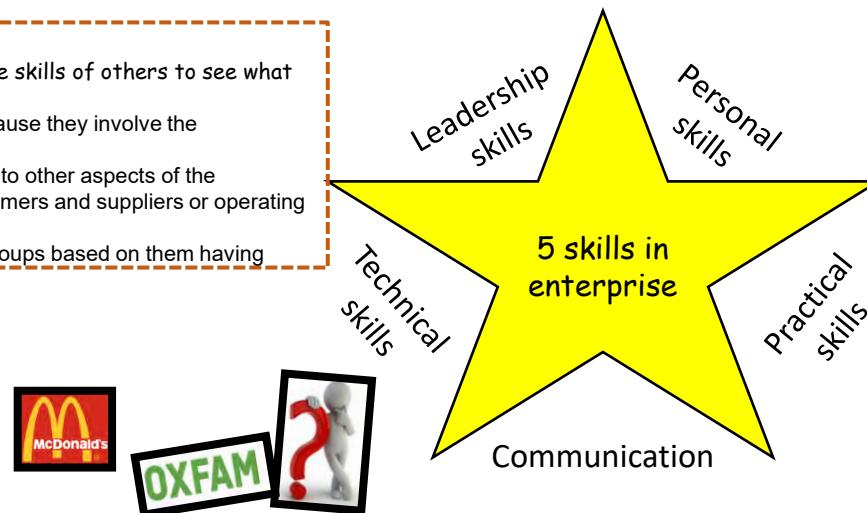
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St Joseph's College Business Department

Spring term 1: Year 11 Enterprise Term 3: Learning Aim B Pitch a micro-enterprise activity



This term you will learn how to create and deliver a business pitch for your developed idea based on your business knowledge and research

Keywords:

Pitching: presenting key elements of a business plan logically

Presentation skills:

- o professional behaviour and conduct of presenter
- o positive attitude
- o well-rehearsed and prepared
- o considerate of the needs and interests of the audience

Communication skills:

- o body language, gestures and eye contact
- o language and tone, pace, volume and projection
- o use of business terminology
- o listening, handling questions and formulating appropriate responses.

What is a business pitch?:

Pitch: A presentation made by an entrepreneur about the nature and details of an idea or start up to persuade a person or business to invest in the enterprise, or loan capital to start up the enterprise.

The purpose of a pitch is to provide your audience (potential investors/lenders) with information about the enterprise which you are running.

You need to convince them and prove to them why your business is or is becoming a huge success!

Pitches usually last 2-10 minutes, include lots of facts, and end with the opportunity for the investors/lenders being able to ask questions.

Questions:

What are the different ways to deliver a pitch to an audience?

How can you engage your audience?

How will your service/product be different to your competitors?

Will you/how will you be more ethical?

How can I deliver a persuasive pitch?

- ✓ Tell a **story** to explain your idea or your journey to this point of the pitch from the start.
- ✓ Be focused on **problem solving** – how does the product or service you're producing solve a problem for your consumers? Make the investors/lenders know how vital your product is.
- ✓ Using **rhetorical questions** will help the investors/lenders think about their own view, opinions and beliefs around what you're discussing with them.
- ✓ Repeat, at various points, the **important phrases** you want your audience to remember.
- ✓ **Rule of 3:** Things are easier to remember in 3s so give all reasons, benefits, advantages etc. in 3s.

What do I include in my successful professional pitch?

1. Overview
 - You need to hook them in!
2. Enterprise Aims
 - What do you want to achieve?
3. Your product or service
 - What are the different features of the product or service which you're providing?
4. Target Market
 - Who are you targeting?
5. Competition
 - Who are your direct competition?
6. Methods of Communication
 - How will you reach your potential consumers to communicate what your product is, how it's beneficial to them and to promote the product?
7. Resources
 - What will you need to make your enterprise a success?
8. Finances
 - How will your enterprise be funded?
 - Costs of setting up, costs of running the enterprise.
 - Forecasts of sales figures, pricing and targets



St Joseph's College Business Department

Spring term 1: Year 11 Enterprise Term 3: Learning Aim B Pitch a micro-enterprise activity



This term you will learn how to create and deliver a business pitch for your developed idea based on your business knowledge and research



How do I deliver a professional pitch on the day?



1. Dress Code!

It is most traditional and it is deemed the most smart to wear a suit when you're in business. This said, there are times where businesses have difficult cultures and will wear something different.

Morning!

Hi!

Good morning!

Hello!

2. Greetings!

Once you're smartly dressed and you enter your pitch it's vital to remember you're here to persuade the audience to invest or to lend.

- Greet the audience with a positive greeting (e.g. Good Morning, please to meet you.)
- Introduce yourself and shake the hands of the entrepreneurs.
- Be polite and courteous throughout the pitch - remember you're being persuasive.

3. Be Positive. Positivity is infectious!

You should be enthusiastic, excited and smiley - this will radiate to your audience too! Very helpful when you're being persuasive

During the questions stage, welcome them openly, being positive once again.

4. Rehearse your pitch!

It's natural to be nervous.

You don't need to know your pitch word for word, but you do need to know the points you want to get across to your audience.

Some people will practice in front of the mirror and some with family and friends - what ever works for you, but you must rehearse your pitch!



St Joseph's College Business Department

Spring term 2: Year 11 Enterprise Term 4: Learning Aim C Review
own pitch for a micro-enterprise activity



In this term you will use feedback to review your plan and pitch for the micro-enterprise activity, reflecting on your plan, your pitch and the skills you demonstrated when pitching.

Keywords/terms:

• Receive feedback from audience on:

- o the business content of the pitch
- o the presentation and communication skills demonstrated.

• Reviewing plan and personal performance, reflecting on feedback gathered from others:

- o what went well, e.g. clear synopsis of plan, demonstration of skills
- o what went less well or did not go to plan, e.g. not clearly explaining plan, lack of presentation and communication skills.

• Recommending improvements:

- o to the contents of the plan
- o to own performance.

Giving Feedback

- The purpose of feedback is to help improvement.
- Giving feedback is a professional skill which should be practised and done well to support the person who you're feedback back to.
- There are two models which you should use when feedback back to your peers: BOOST and SKS

SKS model of feedback.

What should the person:
STOP doing, **KEEP** doing and **START** doing?



Questions:

- Which elements of the business plan should you include in your pitch?
- Which elements of your Business contributes to a successful pitch?
- What skills are needed to ensure that your pitch is successful?
- Why is receiving any form of feedback important to your feedback?

Giving feedback continued:

B Give **balanced** feedback of positives and improvements; sandwich improvements with positives.

O Feedback on what you **observed** not what you think about the topic.

O Focus on the **objectives** of the pitch. Don't be personal with the receiver, feedback on their actions/ outcomes.

S Give **specific** examples, to help you, when you're feeding back based on what you observed

T **Time** - give feedback as soon as possible whilst its fresh in both yours and the receivers minds.

Receiving Feedback:

• Receiving feedback is very helpful and can help an entrepreneur (receiving the feedback) make important decisions.

• In business, your feedback may come from (but not only from)

- Employees
- Customers / Clients
- Suppliers
- Stakeholders (such as the community)

• Effective feedback should help to:

- Motivate yourself to improve
- Understand how others have perceived your pitch
- Go though a process of learning to progress
- Improve your performance





St Joseph's College Business Department

Summer term 1: Year 11 Enterprise Term 5: Learning aim A -Promotion



This term learners will explore the different methods of promotion used by enterprises, their suitability for different sizes of enterprise, including the factors they consider when choosing the most appropriate.

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:

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

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?

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

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.





St Joseph's College Business Department

Summer term 1: Year 11 Enterprise Term 5: Learning aim A- Promotion



This term learners will explore the different methods of promotion used by enterprises, their suitability for different sizes of enterprise, including the factors they consider when choosing the most appropriate.

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 media.

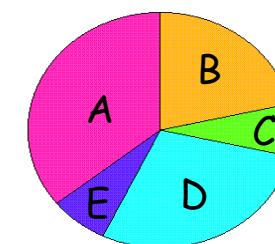
The purpose of public relations
PR may be used to promote products. Its purpose is to:

- 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

- 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.



St Joseph's College Business Department

Summer term 1: Year 11 Enterprise Term 5: Profitability and profitability ratios



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

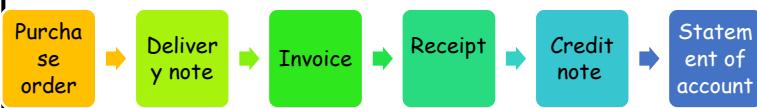
Problems with inaccurate records

- 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



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.



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?



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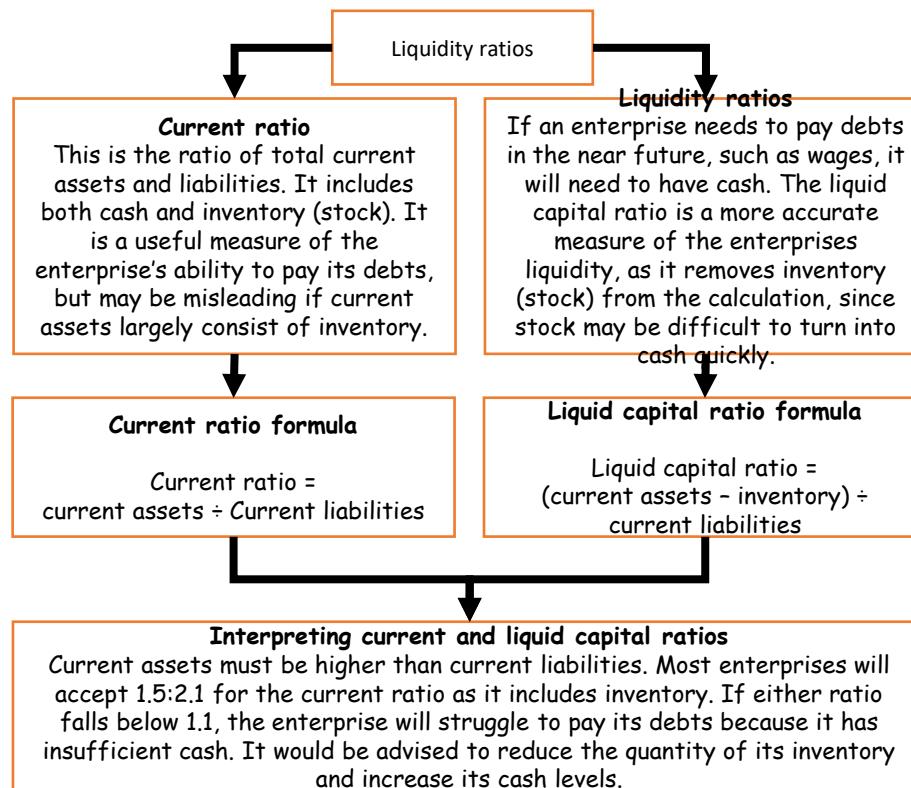
Summer term 1: Year 11 Enterprise Term 5: Profitability and Profitability ratios



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



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Summer term 1: Year 11 Enterprise Term 5: Profitability and Profitability ratios



In this term you will complete cash flow forecasts, and investigate the effects of positive and negative cash flow on an enterprise.

Keywords:

Inflow - the money coming into an enterprise.

Outflow - the money leaving an enterprise

Owners funds- Most new owners supply most of the start-up capital themselves because profits have yet to be made.

Retained profit- Profit remains with the company, these can be used to finance the growth of the enterprise.

Bank overdraft-Bank overdrafts

The bank allows the enterprise to spend more than it has in its bank balance up to an agreed limit.

Trade credit-Current assets are purchased on credit with payment terms of 30-90 days.

Cash inflows and outflows :

Payments from customers are cash inflows. When an enterprise pays a bill, this is an example of a cash outflow. The difference between inflows and outflows is the amount of cash in the enterprise – this is its **net cash flow**.

An enterprise needs to know how much cash is flowing in and out, and its net cash flow, so that it can ensure it has sufficient money to cover purchases and other running costs such as wages, rent and any monthly loan repayments

Questions:

What are the benefits of cash flow forecasting?

What are the risks of not forecasting cash flow?

How can you improve cashflow?

What are the low risk methods of finance available to a small business

Cashflow statement:

Enterprises collect cash flow data and use it to produce **cash flow statements** and **cash flow forecasts**. They use this information to monitor and control cash flow.

Cash flow statement

This records the enterprise's actual cash inflows and outflows over the previous 12 months. It is used by the enterprise to monitor the flow of cash. Analysis of the previous year's cash flow statement may be used to produce the enterprise's cash flow forecast.

Cashflow forecast:

This predicts the enterprise's likely cash inflows from sales, and outflows (purchases) each month over a period of time. The forecast allows the enterprise to calculate net cash flow and ensure it has sufficient cash to cover its running costs.

It is also used to determine net current asset requirements - the working capital needed to operate the business - and to make business decisions.

INFLows

- Revenue from sales of goods and services
- Owners capital
- Capital introduced, for example money from family and friends or from additional investors such as shareholders
- Bank loans
- Rent from property owned by enterprise
- Sale of assets

Outflows

- (purchases, including running costs)
- Raw materials for manufacture of goods
 - Wages and salaries
 - Heating, lighting and power
 - Fuel for vans
 - Rent
 - Insurance and business rates
 - Monthly loan repayments



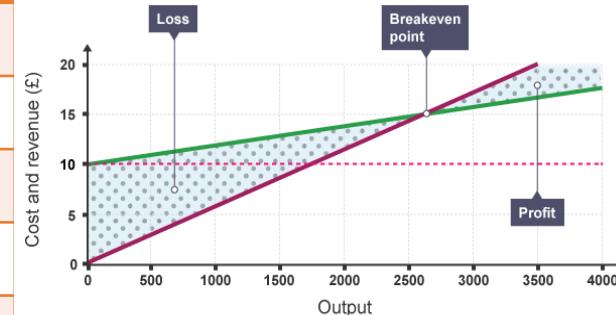
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Summer term 1: Year 11 Enterprise Term 5 Financial planning and forecasting



In this term you will complete cash flow forecasts, and investigate the effects of positive and negative cash flow on an enterprise.

Key Term	Definition	Example and / or Formula
Break Even	Works out how many items a business must sell in order to make a profit	
Margin of Safety	The difference between the sales made and the break even point	Total Sales - Break even point
Fixed Costs	Costs which don't change with output (how many items you make or sell)	Rent, Rates, Insurance, Salary
Variable Costs	Costs which do change with output (how many items you make or sell)	Raw Materials, Stock, Wages, Electric used to make product
Total Costs	All of your costs added together	Fixed Costs + Variable Costs
Break-Even Point	When the amount of money spent on making/buying in the product is the same as the money made from selling the product	$\frac{\text{Fixed Costs}}{(\text{Selling price per unit} - \text{Variable Costs per unit})}$
Profit	Sales made after the break-even point are a Profit for the company	
Loss	Sales made before the break-even point are a Loss for the company	
Changes to Variable or Fixed Costs	If variable costs decrease, each unit costs less to make. This means they have to sell less to break even. If revenue stays the same they will make a bigger profit	If costs increase, each unit costs more to make. This means they have to sell more to break even. If revenue stays the same
Changes to Sale Price	If the selling price increases the break even point will be lower so they need to sell less. This could affect sales as people won't pay as much so revenue would be less	If they lower the selling price the break even point will be higher so will need to sell more. The lower price might attract more customers and boost their total revenue



Information for a break even chart:
Before drawing a break-even chart, you will need the following information about the product:

- Fixed costs
- Variable costs
- Total revenue (sales)
- Selling price per unit



You must remember the formulas as these are not given in the exam!!



St Joseph's College DT Department

Exam Revision: Manufacturing systems and processes



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

1.2 Production Systems

Continuous improvement	Manufacturers constantly improve products. Often done to sell more (eg. New iphone models often).
Life cycle assessment	<p>Life cycle assessment</p> <p>Look at each stage of the life of a product to work out its total environmental impact.</p>
Material choice	Is the material environmentally damaging? Use a lot of energy to extract? Finite? Or is it sustainable?
Manufacturer	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	<p>Repair</p> <p>Fix things instead of throwing them away</p> <p>Re-use</p> <p>Pass on old products or re-purpose (eg old tire = swing)</p> <p>Recycle</p> <p>Recycling uses less energy than obtaining new materials. Also prevents finite resources being used.</p> <p>Rethink</p> <p>Think about making the design more efficient.</p> <p>Reduce</p> <p>Reduce the number of products customers need to buy (eg. Rechargeable batteries)</p> <p>Refuse</p> <p>Refuse to buy wasteful products.</p>
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)
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.



St Joseph's College DT Department

Exam Revision: Materials Properties & applications



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
	Electrical Conductivity	Electrical conductors let electricity pass through easily
Physical Properties	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 won't bleed, design with marker pens
Board	Solid white	Bleached surface for printing on. Packaging
	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
Timber	Foil-lined	Board + aluminium lining. Food packaging
	Pine	Light colour, quite strong, cheap. Construction
	Larch	Attractive, hard, tough, durable. Decking/fences
	Spruce	Red/brown, hard, not durable. Crates/structures
	Oak	Good finish. Tough, durable, strong. Furniture
Hardwood	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	Cast iron	Strong, brittle, not malleable. Manhole covers.
	Steel	Iron mixed with carbon. Strong, cheap. Car bodies
	Aluminium	Light, corrosion resistant, malleable. Cans/planes
	Copper	Soft, malleable, ductile, conductive. Electric wires
	Tin	Soft, corrosion resistant, malleable. Tin cans, foil
Non-ferrous	Zinc	Not strong. Corrosion resistant. Coating steel
	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
	Acrylic	Hard, stiff, shiny. Signs, baths, helmet visors
Alloys	HDPE	Strong, light. Washing up bowls, pipes, baskets.
	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.
Thermoforming	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



St Joseph's College DT Department

Exam Revision - Materials properties and Systems



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 plant. Strong, cheap. Shirts, jeans etc.
	Sheep. Warm, absorbent. Coats, carpets etc.
	Silk worms. Smooth, comfortable. Dresses etc.
	Elastane. Soft, stretchy, strong. Lycra sportswear
Synthetic	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	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	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. Titanium. Strong, light, expensive. Bikes, ships, armour Coated metals. galvanised (coated) metal to improve properties eg. Steel galvanised with zinc to reduce corrosion Nanomaterial. Materials made from tiny particles Smart material. Changes its properties in response to heat/light material etc. Shape memory alloy. Return to original shape when heated Photochromic. Changes colour (chromic) in response to light (photo) Thermochrom. Changes colour (chromic) in response to heat ic(thermo)
Smart Material	GRP. Glass reinforced plastic. Glass fibres coated in plastic resin. Strong, heat resistant, can be moulded. Boats etc Carbonfibre. Carbon fibres coated in plastic resin. Light, strong, expensive. Crash helmets, racing cars etc Technical Textiles. Enhanced fabrics made for function not looks. Eg. Kevlar for protective clothing due to strength
Composite	



St Joseph's College DT Department

Exam Revision - Materials & Manufacture



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



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 ecosystems

(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

Strong Good at withstanding force without breaking

Stress Force per unit area (N/m^2)

Tension Stretching force. Trampoline springs etc

Compression Opposite to 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

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 \pm 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 cutter

Power setting, speed setting, thickness setting

Tools



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



St Joseph's College DT Department

Exam Revision - Material Production



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

More About Materials & Components

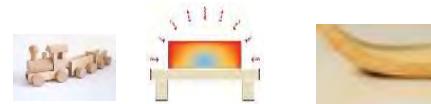


3.6 Production of Materials

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
	Press	Pressed flat between rollers, dried, cut to size
Wood (from trees)	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
	Cut into form	Cut into useful form (planed square edge/rough sawn)
	Finish	Applied to protect/improve look. Varnish, paint, oil etc
Metal (from ore)	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

Environmental damage	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	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.





St Joseph's College DT Department

Exam Revision - Paper, Boards, Printing & Finishing



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



Properties	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
Adhesives	Glu



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 Normal printing on painter's paper

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



St Joseph's College DT Department

Exam Revision: Materials Processes & Finishes



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:	
Stock form	Standard shape/size materials can be bought in
Timber (wood)	Planned square edge
	Rough sawn
	Mouldings
Metal	Manufactured
	Sheet
	Rod
	Tube
Plastic	I-shaped girder
	Sheet/tube/rod
	Foam
	Films
	Granules
Material	Powders
	Standard components
	Temporary fixings
Modification	Cooking utensils
	Hand tools
	Polymer seating
	Electrical fittings
None	Seasoning (wood)
	Annealing (metal)
	Stabilisers (plastic)

5.3 Shaping materials – 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
	Plane	Has an angled blade, shaves off thin layers of wood
	File	For shaping and smoothing metal
Abrasive paper	Bradawl	Different types for smoothing wood/metal/plastic
	Centre punch	Press to make hole in wood/plastic to locate drill bit
Drilling	Twist bit	Hit with hammer to dent metal to locate drill bit
	Flat bit	Drill small holes in wood, metal, plastic
		Large, flat bottomed holes wood or plastic

5.4 Shaping Materials – Power and Machine Tools

Power tools	Safety	Visual check of tool, mask, extraction for dust, goggles, apron, clamp work, know how to stop machine
	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
	Sanding Disc	Spinning disc of abrasive paper
Machine tools	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

5.5 Shaping Techniques

Shaping	Milling	Remove material one layer at a time
	Lathes	Material held and rotated, shaped using tool/bit
	3D printing	Additive CAM process, prints layers of molten plastic
	Metal pressing	Press metal sheet between two moulds. Car doors etc.
Casting	Casting	Molten material poured into a hollow mould
	Die casting	Metal or plastic melted and poured into mould
Bending	Metal folder	Bending sheet metal. Aluminium, tin etc.
	Laminating	Thin wood strips glued and held in a curved jig
	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.
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
Soldering	Melt 'solder' onto join, sticks pieces of metal together
	Higher temperature than soldering, uses blowtorch

5.7 Treatments and Finishes

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
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
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
Polymers (plastics)	Do not need finishing, already resistant to corrosion. To change appearance, vinyl decals can be applied, or can be printed using offset lithography



St Joseph's College DT Department

Exam Revision: Textiles and their applications



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 Fabrics 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 Fabrics

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 skies, 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.
CAM Machines	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	Computer Aided Manufacture
	Embroidery	CAM embroidery machine use the data from a design done on a drawing package (CAD) to sew a design (Like your 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)
	Sewing	Industrial sewing machines are very strong. They can automatically carry out processes like button holes
	Seam	Hold fabric together with stitches (at the side of garments)
Seams	Plain	One joining line
	French	Encloses the seam edge (Used on see through fabric)
	Flat Felled	Has two lines of stitching. It encloses the edge and increases the strength (used on jeans)
Shaping Techniques	Piping	Can be used at seams to add decoration or strength. Cord is trapped inside.
	Quilting	Wadding is trapped between two layers of fabric using stitched lines.
	Shaping	We use different techniques to shape fabric, Gathering and pleating use excess material to create shape and detail (better fit)
	Gathering	Sew two lines of loose stitch and pull the thread while easing the fabric along. Used on cuffs or waistbands.
	Plaits	Even folds made in fabric to give shape or fullness to skirts.



St Joseph's College DT Department

Exam Revision: Textiles and their applications



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
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 can't 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 choking 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 fabric's 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.



St Joseph's College DT Department

Exam Revision - Designers, Considerations & Procedures



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

	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 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
	Evaluative 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
	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 $\frac{1}{4}$ 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
	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

	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 dryers 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.



St Joseph's College DT Department

Useful DT Information



Keyword Signage and sentence starters used in Technology.

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

Health & Safety

Red signs tell you something you must not do.

Green signs give you information.

Yellow signs warn you of a potential hazard.

Blue signs tell you something you must do.

10 Health & Safety Rules in the workshop:

1. Do not run at anytime
2. Tie hair up and tuck loose items away
3. 1 person using a machine at a time
4. Stand behind the yellow line when somebody is on a machine
5. Do not talk to somebody whilst they are on the machine
6. Wear goggles when instructed
7. Wear an apron (ensuring it is tied up)
8. Stack chairs/stools up at the side
9. Put bags/coats under the workbenches
10. Ask if you do not know how to use a tool or machine.

Keywords	Definition
• Annotate	• To label, provide information on the design
• Inspiration	• A source that provides ideas
• Consumer	• The person who buys or uses the product
• Aesthetics	• The appearance of the product
• Environment	• The place we live, work, socialise in
• Sustainability	• The ability to sustain natural resources without impacting future generations
• Function	• What a product does, the purpose
• Size	• Measured in mm or cms.
• 6Rs	• Used to assess environmental impact
• Sketch	• A quick drawing to show
• Evaluate	• Assessing whether an idea is successful
• Initial Designs	• First rough designs in response to the task
• Final Design	• Final drawing of the product being made
• Mood Board	• Collection of images to gain inspiration
• Existing Product	• Products that are already available
• Design Specification	• A list of specific design requirements
• Design Brief	• An introduction to the overall task
• Materials	• The physical matter the product is made from
• Primary Research	• Collecting new data first hand (Questionnaire)
• Secondary Research	• Collecting data that already exists (Websites)
• CAD	• Computer Aided Design
• CAM	• 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.



St Joseph's College DT Department

Exam Revision: Manufacturing systems and processes



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	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?
Manufacturer	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.
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.
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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.

	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.



St Joseph's College DT Department

Exam Revision - Designers, Considerations & Procedures



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	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.



St Joseph's College English Department

Autumn Term 1 - 'Jekyll and Hyde' by Robert Louis Stevenson



This unit will explore the novel 'Jekyll and Hyde' with a focus on context, language and the writer's techniques.

Keywords and Vocabulary:

Aberration
Abhorrent
Allegory
Allusion
Anxiety
Atavism
Consciousness
Debased
Degenerate
Depraved
Duality
Duplicity
Epistolary
Ethics
Eugenics

Evolution
Feral
Genre
Metamorphosis
Perversion
Respectable
Respectability
Restraint
Savage
Subconscious
Suppression
Supernatural
Unorthodox
Victorian

Key Themes

Duality
Science and the unexplained
The supernatural
Reputation
Rationality
Urban terror
Secrecy and silence
Gothic

Jekyll and Hyde Summary of the Plot:

The Story of the Door: Passing a strange-looking door whilst out for a walk, Enfield tells Utterson about incident involving a man (Hyde) trampling on a young girl. The man paid the girl compensation. Enfield says the man had a key to the door (which leads to Dr. Jekyll's laboratory)

2. Search for Hyde: Utterson looks at Dr. Jekyll's will and discovers that he has left his possessions to Mr. Hyde in the event of his disappearance. Utterson watches the door and sees Hyde unlock it, then goes to warn Jekyll. Jekyll isn't in, but Poole tells him that the servants have been told to obey Hyde.

3. Dr. Jekyll was Quite at Ease: Two weeks later, Utterson goes to a dinner party at Jekyll's house and tells him about his concerns. Jekyll laughs off his worries.

4. The Carew Murder Case: Nearly a year later, an elderly gentleman is murdered in the street by Hyde. A letter to Utterson is found on the body. Utterson recognises the murder weapon has a broken walking cane of Jekyll's. He takes the police to Jekyll's house to find Hyde, but are told he hasn't been there for two months. They find the other half of the cane and signs of a quick exit.

5. Incident of the Letter: Utterson goes to Jekyll's house and finds him 'looking deadly sick'. He asks about Hyde but Jekyll shows him a letter that says he won't be back. Utterson believes the letter has been forged by Jekyll to cover for Hyde.

6. Remarkable Incident of Dr. Lanyon: Hyde has disappeared and Jekyll seems happier and more sociable until a sudden depression strikes him. Utterson visits Dr. Lanyon on his death-bed, who hints that Jekyll is the cause of his illness. Utterson writes to Jekyll and receives a reply that suggests he is has fallen 'under a dark influence'. Lanyon dies and leaves a note for Utterson to open after the death or disappearance of Jekyll. Utterson tries to revisit Jekyll but is told by Poole that he is living in isolation.

7. Incident at the Window: Utterson and Enfield are out for walk and pass Jekyll's window, where they see him confined like a prisoner. Utterson calls out and Jekyll's face has a look of 'abject terror and despair'. Shocked, Utterson and Enfield leave.

8. The Last Night: Poole visits Utterson and asks him to come to Jekyll's house. The door to the laboratory is locked and the voice inside sounds like Hyde. Poole says that the voice has been asking for days for a chemical to be brought, but has rejected it each time as it is not pure. They break down the door and find a twitching body with a vial in its hands. There is also a will which leaves everything to Utterson and a package containing Jekyll's confession and a letter asking Utterson to read Lanyon's letter.

9. Dr Lanyon's Narrative: The contents of Lanyon's letter tells of how he received a letter from Jekyll asking him to collect chemicals, a vial and notebook from Jekyll's laboratory and give it to a man who would call at midnight. A grotesque man arrives and drinks the potion which transforms him into Jekyll, causing Lanyon to fall ill.

10. Henry Jekyll's Full Statement of the Case: Jekyll tells the story of how he turned into Hyde. It began as a scientific investigation into the duality of human nature and an attempt to destroy his 'darker self'. Eventually he became addicted to being Hyde, who increasingly took over and destroyed him.

Key Characters:

Dr Henry Jekyll - A doctor and experimental scientist who is both wealthy and respectable

Mr Edward Hyde - A small, violent and unpleasant-looking man; an unrepentant criminal.

Gabriel Utterson - A calm and rational lawyer and friend of Jekyll.

Dr Lanyon - A conventional and respectable doctor and former friend of Jekyll.

Richard Enfield - A distant relative of Utterson and well-known man about town.

Poole – Jekyll's manservant.

Sir Danvers Carew - A distinguished gentleman who is beaten to death by Hyde.

Mr Guest - Utterson's secretary and handwriting expert.

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

Doors Locks Letters/Documents Cane Mist/Moonlight Hyde's description



St Joseph's College English Department

Autumn Term 1 - 'Jekyll and Hyde' by Robert Louis Stevenson



This unit will explore the novel 'Jekyll and Hyde' with a focus on context, language and the writer's techniques.

Responding to the Question

- Sustained focus on the extract and the question given.
- Coherently structure and present ideas.
- Appropriate, sensitive and mature approach to the extract, looking at finer details and interpretations.
- Show a perceptive understanding of events within the extract and the wider effect they have.
- Give a thoughtful and considered personal response that looks at the audience, as well as their own opinion.
- You must reference and give context for the extract, referring to events and quotations across the play as a whole. □ Use pertinent, direct quotations from the extract.
- Make reference to and analyse the writer's use of language, form and structure as a way of conveying ideas and meaning to the audience.
- Use precise subject terminology to enhance analysis and use this in an accurate way.
- Explore the genre of the text and the contexts in which the text is viewed by different audiences.
- Explore the text in relation to period, location, social structures and literary contexts.

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:

How is tension and a sense of suspense created?

How does Stevenson present the characters of Jekyll and Hyde?

Context and Literary Traditions:

Duality - lots of contrasts in terms of setting, character and themes including: reality vs appearance, Jekyll and Hyde, light and dark.

Victorian values - from the 1850s to the turn of the century, British society outwardly displayed values of sexual restraint, low tolerance of crime, religious morality and a strict social code of conduct. Utterson is our stereotypical Victorian male.

The implications of **Darwinism** and **evolution** haunted Victorian society. The idea that humans evolved from apes and amphibians led to worries about our lineage and about humanity's reversion to these primitive states.

Gothic genre - the key features of the gothic genre are shown through the: setting e.g. the alleyway, character e.g. the antagonist of Hyde, the plot e.g. the vicious murder of Carew.

Victorian London - the population of 1 million in 1800 to 6.7 million in 1900, with a huge numbers migrating from Europe. It became the biggest city in the world and a global capital for politics, finance and trade. The city grew wealthy.

Urban terror - as London grew wealthy, poverty in the city also grew. The overcrowded city became rife with crime. Gothic and detective literature became more relevant.

Robert Louis Stevenson was born and raised in Edinburgh, giving him the dual identity of being both Scottish and British. Edinburgh was a city of two sides - he was raised in the wealthy New Town area, but spent his youth exploring the darker, more sinister side of town

Religion vs Science. Religious people believed that you should not go against God and what he created but then scientists such as Dr Jekyll manipulated DNA.

Stevenson's Methods

- Imagery
- Simile
- Sensory
- Metaphor
- Pathetic fallacy
- Alliteration
- Antithesis
- Oxymoron



St Joseph's College English Department

Autumn Term 1 - 'Jekyll and Hyde' by Robert Louis Ste



Keywords and Vocabulary:

Abberation - Abnormal
Abhorrent - Disgusting
Allegory - Story with a moral parallel
Allusion - Reference
Anxiety - Nervousness
Atavism - Evolutionary throwback

Consciousness - Awareness

Debased - Become lower

Degenerate - Disgusting

Depraved - Morally corrupt

Duality - Two aspects explored

Duplicity - Lying or dissembling

Epistolary - Story written in letter form

Ethics - The moral rules you live your life by

Eugenics - Population control

Evolution - Slow change over many years

Feral - Wild

Genre - Type of writing

Metamorphosis - Change

Perversion - Corruption from original

Professional - Belonging to a profession; respectable

Respectability - Socially acceptable

Restraint - Holding oneself back

Savage - Wild

Subconscious - Part of the mind not fully aware

Suppression - Holding something down

Supernatural - Beyond the natural

Unorthodox - Against the usual

Victorian - During the reign of Queen Victoria



St Joseph's College English Department

REVISION- 'An Inspector Calls' by J.B.Priestley



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

Keywords and Vocabulary:

Pompous
Socialist
Capitalist
Influential
Disconcerting
Provincial
Optimistic
Systematic
Authoritative
Proletariat
Omniscient
Bourgeoisie
Generation
Isolationism
Obstinate
Egalitarian
Materialistic
Cowardly

Parsimonious
Dogmatic
Opulent
Naïve
Reticent
Remorseful
Condescending
Altruistic
Prejudiced
Boastful
Grandiose
Exploitative
Unsympathetic
Orthodox
Arrogant
Belittling
Patriarchal
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?

Context:

The play is set at a time when industry was undergoing significant expansion, which meant an increase in wealth for the owners of the 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 there 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.

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.

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?



St Joseph's College English Department

REVISION- 'An Inspector Calls' by J.B. Priestley



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 between 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.



St Joseph's College English Department

REVISION- 'An Inspector Calls' by J.B. Priestley



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.



St Joseph's College English Department

REVISION English Language Paper 1, Section A



60 mins (25% GCSE) - One literary fiction text. 4 questions.

QUESTION ONE
LIST 4 things in lines.....

4 marks = 5 mins
 Extract referred to but not re-printed
 AO1 - Locate

To answer:
 Read and highlight key words in the question
 Don't quote
 Don't use the word 'and'
 Write four short points in spaces A-D for 4 marks

Top tips:
This is not a trick question. It is easy. Be brief but accurate. Re-read the correct lines from the text.

QUESTION TWO
How does the writer use LANGUAGE to.....?

8 marks = 15mins
 Extract re-printed on your answer page.
 Bullet points guide your answer
 AO2 - Language

To answer:
 Read and highlight key words in the question
 Pick your quotes first then consider devices
 Point (name writer)/Quote/Device/Effect
 DON'T DISCUSS STRUCTURE
 DO LOOK AT SENTENCE FORMS (simple/compound/complex)

Top tips:
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.

QUESTION THREE
How has the writer STRUCTURED the text to...?

8 marks = 15mins
 You will need to consider the WHOLE text.
 Bullet points guide your answer
 AO2 - Structure

To answer:
 Read and highlight key words in the question
 Consider the sequence through a passage (introduction, development, summary and conclusion. Maybe also: contrast, flashback/forwards, repetitions, threads patterns or motifs).
 Consider changes in ideas and perspectives (changing focus from wide to narrow, place to place, outside to inside (and vice versa).
 Consider coherence (connections and links across paragraphs, links within paragraphs, topic sentences.)

Top Tips:
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'

QUESTION FOUR
Statement written. How far do you AGREE?

20 marks = 25 mins
 Bullet points guide your answer
 AO4 - Evaluate

To answer:
 Read and highlight key words in the question
 Agree with the statement. The text IS well written.
 Two stages: recognising how the writer tries to achieve effects and deciding how effectively this has been done.
 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:
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.

The Mark Scheme

Bands 1-4
 4 - DETAILED, PERCEPTIVE
 3 - CLEAR, RELEVANT
 2 - SOME ATTEMPTS
 1 - SIMPLE, LIMITED

Q1
 • Reads with understanding
 • Identifies explicit information.

Q2/3
 • Analyses the effects of writer's choices
 • Well-judged quotations
 • Sophisticated subject terminology

Q4
 • Same as Q2/3
 • Evaluates (judges the effectiveness of) the text in a detailed way

Assessment Objectives (AOs)

AO1

- Identify and interpret explicit and implicit information and ideas.
- Select and synthesise evidence from different texts.

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.

AO4

- Evaluate texts critically and support this with appropriate textual references.

Language	Structure
Pronouns	Narrative perspective/voice
Direct speech	Flashforward/backward
Terms of address	Discourse markers
Noun phrase	Non sequiturs
Subordinate/ main cause	Ellipsis
Narrative voice	Topic sentence
Simple/compound /complex sentences	Foreshadowing
Accent /Dialect	Contrast/juxtaposition
Utterances	Focus/Narrowing
Ellipsis	
1 st /3 rd person	
Hyperbole	
Imperatives	
Exclamations	

Basics & Stretch Yourself

Know your basics	Noun/verb/adverb/adjective/simile/metaphor/question/alliteration/onomatopoeia/5 senses/listing/personification/repetition
	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/

**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



St Joseph's College English Department

REVISION Language Paper 1 Section B



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	<ul style="list-style-type: none"> <input type="checkbox"/> Register is convincing and compelling for audience <input type="checkbox"/> Assuredly matched to purpose <input type="checkbox"/> Extensive and ambitious vocabulary with sustained crafting of linguistic devices
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Organisation	<ul style="list-style-type: none"> <input type="checkbox"/> Varied and inventive use of structural features <input type="checkbox"/> Writing is compelling, incorporating a range of convincing and complex ideas <input type="checkbox"/> Fluently linked paragraphs with seamlessly integrated discourse markers
--------------	---

Technical accuracy	<ul style="list-style-type: none"> <input type="checkbox"/> Wide range of punctuation is used with a high level of accuracy <input type="checkbox"/> Uses a full range of appropriate sentence forms for effect <input type="checkbox"/> Uses Standard English consistently and appropriately with secure control of complex grammatical structures <input type="checkbox"/> High level of accuracy in spelling, including ambitious vocabulary <input type="checkbox"/> Extensive and ambitious use of vocabulary
--------------------	---

The basics	Stretch yourself
Capital letters	For planning - mind map rather than spider diagram.
Full stops	Learn some impressive vocab.
Question marks	Break the rules!!!
Commas	Reveal slowly/quickly
Apostrophes	Dialogue
Consistent tense	Parenthesis
Paragraphs	Ascending / descending tri-colon
Homophone spellings	Syndetic/asyndetic listing
Connectives	Cohesion (topic sentence, pronouns, chains, prepositions, fronted adverbials)
Semi-colons	Cyclical/non-linear structure
Colons	Sentence starts
Vary sentence starts/lengths	Verb - Running quickly, she (make sure you finish sentence)
Vary paragraph lengths	Adverb - Darkly, the night sky....
Topic sentences	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 2xdescriptive.)

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 $1 \frac{1}{2}$ 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.



St Joseph's College English Department

REVISION- 'Macbeth' by William Shakespeare



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

Keywords and Vocabulary:

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

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.

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.

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:

- How many men reign as king of Scotland throughout the play?
- What is Macbeth's original title in the play?
- Who discovers Duncan's body?
- Which character says: "There's daggers in men's smiles"?



St Joseph's College English Department

REVISION- 'Macbeth' by William Shakespeare



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

Slaughtering - 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



St Joseph's College English Department

REVISION Language paper 2, Section A



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

QUESTION ONE

CHOOSE four true or false statements from a list of 8.

4 marks = 5 mins (4 boxes shaded)

Named lines

AO1 - find & inference

QUESTION TWO

Write a **SUMMARY** of the **DIFFERENCES** between Source A and B

8 marks = 10mins

Two texts

AO1 - summarise differences

QUESTION THREE

How does the writer use **LANGUAGE** to..." in one source only

12 marks = 20 mins

One text

AO2 - Language (not structure)

QUESTION FOUR

Compare **DIFFERENCES** in **LANGUAGE** in how the two writers present/convey/convince/persuade... in Source A and B

16marks = 25mins

Two texts

AO3 - compare language (not structure)

Only look at lines named in question to in order to find answers.

- Only shade 4 boxes (1 box = 1 mark) - this is not a trick question - it is easy.
- Follow the instruction on the paper if you shade the wrong box.

- Read and highlight key words in the question**
- Start with an overview sentence stating main difference then your summary of **differences** using **short quotes** and stating specific **effects**.
- Track** through each text; space your quotes out throughout the whole text.

- Read and highlight key words in the question**
- Read and highlight text
- Analyse as many quotes as you can, analysing a technique used by the writer and discussing the multiple effects for the audience.
- Track** through each text, space your quotes out throughout the whole text.

- Read and highlight key words in the question**
- Start with an **overview sentence** stating the main **difference** in the language.
- Then compare the differences in the **writers' viewpoints** using **short quotes** and stating **specific effects**.
- REFER TO BOTH WRITERS THROUGHOUT.
- YOU CAN REPEAT QUOTES & EFFECTS FROM EARLIER QUESTIONS.
- 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.

Mark Scheme		Stretch yourself
Band s1-4	4 - DETAILED, PERCEPTIVE 3 - CLEAR, RELEVANT 2 - SOME, ATTEMPTS 1 - SIMPLE, LIMITED	Paradox/oxymoron
Q2	<ul style="list-style-type: none"> • Perceptive inference and differences from both texts • Well-judged quotations 	Irony
Q3	<ul style="list-style-type: none"> • Analyses the effects of writer's choices • Well-judged quotations • Sophisticated subject terminology 	Onomatopoeia
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.



St Joseph's College English Department

REVISION Language Paper 2, Section A



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/implied/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.



St Joseph's College English Department

REVISION Language Paper 2, Section B.



'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

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

- 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**

- 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		Capital letters	Imperative verbs	Repetition		
Article		Full stops	Alliteration	Emotive lang./ expert opinion		
Leaflet (text only)		Question marks	Modal verbs	Statistics		
Speech (text only)		Commas	Apostrophes	Appeal		
Essay		Tense	Ellipsis	Figurative lang.		
		Homophone spellings	Opinion	Exaggeration		
		Connectives	Audience			
		Semi-colons	An audience your age:			
		Colons	<input type="checkbox"/> Colloquial expressions and sayings and references to modern culture.			
		Vary sentence starts/lengths	<input type="checkbox"/> Frequent use of direct address.			
		Vary paragraph lengths	<input type="checkbox"/> Use of humour and sarcasm.			
		Topic sentences	<input type="checkbox"/> Affronted conjunctions (So...)			
Stretch yourself						
Take a bold standpoint: hook/tone/style. Also consider cohesive devices: adverbials/pronouns/reference chains/ synonyms/rhetorical questions/discourse markers.						



St Joseph's College English Department

REVISION Language Paper 2, Section B.



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

The Exam

45 minutes - 1 task - no choice

Step one: read & highlight key words in question

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)

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

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

Sentence starts

Verb - Running quickly, she

Adverb - Darkly, the night sky....

Adjective - Red light filled the ...

Preposition - Down there, all...

Connective - However, his life...

Paper 2 Question 5 - Impact Writing

I think that...

Spell out your point of view clearly. Use imperative verbs and hyperbole to create a sense of urgency.

I feel like this because...

Recount an anecdote that shows why you feel this way.

There are other good reasons for my point of view...

Give at least three different ideas to support your point.

It's not just me that feels like this...

Quote an expert.

It's the truth.

Give a range of facts and statistics to support your point of view.

It could affect you too.

Relate the issue to the reader to show how it could impact on them. Include a rhetorical question.

So, we need to...

Describe what you think needs to happen in the future.

I think that...

End with a one-sentence paragraph to powerfully repeat your viewpoint.



St Joseph's College English Department

REVISION Love and Relationships Poetry



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

Key words:

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

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.



St Joseph's College English Department

REVISION Love and Relationships Poetry



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.



St Joseph's College English Department

REVISION - Love and Relationships Poetry



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

Themes: Bonds, Parental Love, Connections, Anxiety

Tones: Apprehensive, Optimistic

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 *Book of Matches*. 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.

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".

Sonnet 29 – 'I think of thee!' by Elizabeth Barret Browning

Themes: Obsession, Passionate Love, Longing

Tones: Intense, Intimate, Joyful

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.

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 thy 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.

Love's Philosophy by Percy Bysshe Shelley

Themes: Longing, Unrequited Love, Nature

Tones: Frustration, Playfulness

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 18th and 19th 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 19th Century.

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 rhyming 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: *kiss, clasp*.
-The poem is short and concise, adding to its impact as a persuasive message.

Before You Were Mine by Carol Anne Duffy

Themes: Parental bonds, Admiration, Nostalgia, Guilt

Tones: Personal, Possessive, Reflective

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.
-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

'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.



St Joseph's College English Department

REVISION- Love and Relationships Poetry



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

Themes: Possession, Passivity, Insanity

Tones: Dark, Sinister, Sexual, Violent

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.

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 and effect of instability and unpredictability – just like the speaker himself.
-Poem is in two parts that mirror each other:
First half: Porphyria is dominant, speaker is passive
Volta (turning point) line 31: 'I looked up at her eyes'
Second half: 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.

Walking Away by C. Day Lewis

Themes: Parental love, Protectiveness, Loss

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"**.

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.

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.

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.

Winter Swans by Owen Sheers

Themes: Nature, Separation, Loss, Reconciliation

Tones: Tense and Painful shifting to Hopeful.

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

"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 relationship 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.

Singh Song! by Daljit Nagra

Themes: Passionate Love, Marriage, Parental relationships

Tones: Cheerful, Proud, Rebellious

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

"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.



St Joseph's College English Department

REVISION- Love and Relationships Poetry



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

Themes: Discovery, Family, Admiration

Tones: Firm, Loving, Nostalgic

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.

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.

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.

When We Two Parted by Lord Byron

Themes: Loss, Heartbreak, Longing

Tones: Anger, Bitterness, Grief

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

-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 sh = 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 (*tears, cold, kiss, broken, shame*) 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

Themes: Memories, Family/Parents, Bonds

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'**.

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"**.

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.

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.

Neutral Tones by Thomas Hardy

Themes: Loss, Longing, Heartbreak

Tones: Neutral, Pessimistic, Melancholic

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 19th Century industrialisation and the loss of traditional country ways which he held so dear (he was from Dorset).

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.



St Joseph's College English Department

REVISION- Love and Relationships Poetry



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 2nd 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.

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 loneliness 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!**"

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

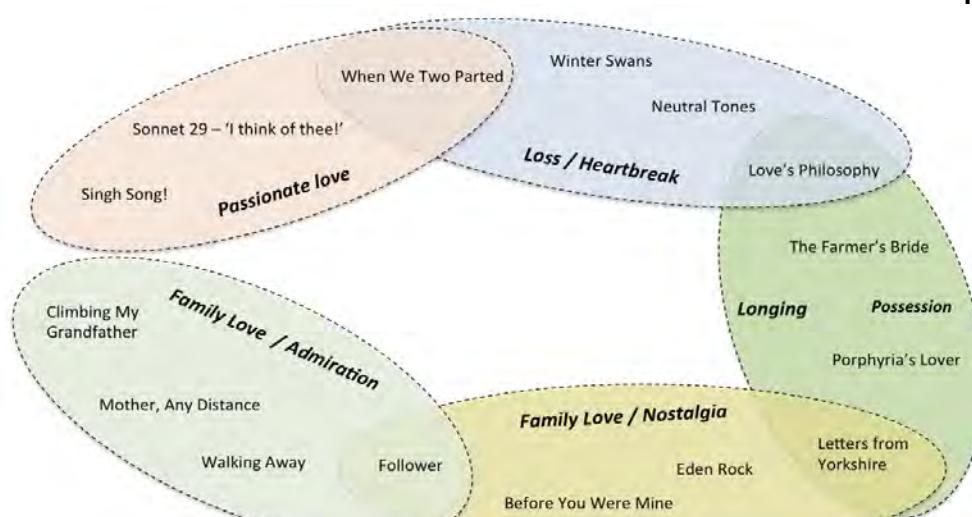
- Seamus Heaney lived from 1939-2013.
- He grew up on his father's farm in Northern Ireland and so the poem is thought to be autobiographical.
- The poem was published in 1966, within a collection on themes of childhood, identity and rural life.
- Many of his poems praised the concept of hard work and 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**".





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



St Joseph's College English Department

REVISION- Unseen Poetry , Section C



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.



St Joseph's College English Department

REVISION- Unseen Poetry, Section C



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.



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 of free range produce.
- Draw conclusions from: explain what you learnt. E.g. draw conclusions from the results of this yeast fermentation experiment.

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.

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.

Topics:

- Food, Nutrition and Health
- Food Science
- Food Safety
- Food Choice
- 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.

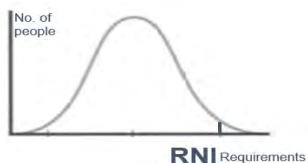
There are two main groups of micronutrients:

- vitamins;
- minerals and trace elements.

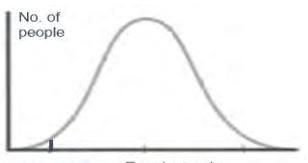
Micronutrients are measured in milligrams (mg) and micrograms (μg) with $1\text{mg} = 0.001\text{g}$ and $1\mu\text{g} = 0.001\text{mg}$.

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/36KUji>

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.
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B vitamins	Thiamin, riboflavin, niacin, folate, and vitamin B12 have a range of functions within the body.	Different for each B Vitamin.
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Vitamin C	Helps to protect cells from damage and with the formation of collagen.	Fruit (especially citrus fruits), green vegetables, peppers and tomatoes.
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Vitamin D	Helps the body to absorb calcium & helps to keep bones strong.	Oily fish, eggs, fortified breakfast cereals and fat spreads.
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Vitamin E	Helps to protect the cells in our bodies against damage.	Vegetable and seed oils, nuts and seeds, avocados and olives.
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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).
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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.
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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.
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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.
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Sodium	Helps regulate the water content in the body.	Very small amounts found in foods. Often added as salt.
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Fluoride	Helps with the formation of strong teeth and reduce the risk of tooth decay.	Tap water, tea (and toothpaste).
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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.
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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.foodafactoflife.org.uk>



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

Paper 1 - Topic 1: Hazardous Earth



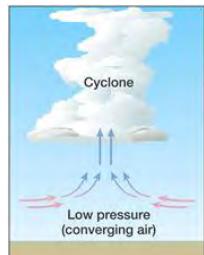
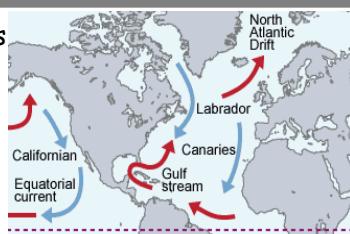
This topic looks at physical processes and their hazards - **global circulation, tropical cyclones, climate change and tectonic activity.**

Aid	Atmosphere	Basalt	Collision zones
Conservative boundary	Convection currents	Convergent boundary	Cumulonimbus clouds
Divergent boundary	Epicentre	Ferrel cell	Focus
Geothermal	Glacial	Greenhouse effect	Gulf stream
Hadley cell	Hot spots	ITCZ	Lava
Lithosphere	Magma	Magnitude	Mantle
Pangea	Plumes	Polar cell	Pyroclasts
Richter scale	Saffir-Simpson	Seismometer	Storm surge
Subduction	Tree rings	Tsunami	VEI

Ocean currents distribute heat around the Earth

Warm water, in **equatorial regions**, moves to cool areas near the poles. This is helped by wind blowing across the ocean.

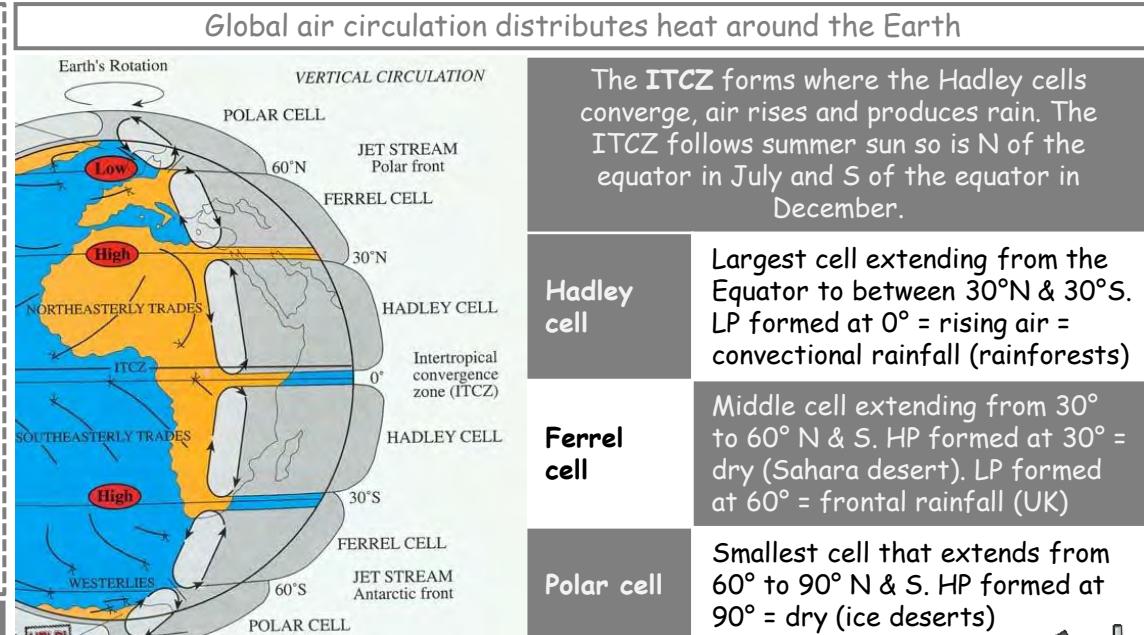
This means a location's proximity to water can have an effect on its climate as water retains heat longer than land.



Caused by warm air rising, **condensing**, forming clouds and bringing **precipitation**



Caused by cool air sinking and drying, bringing clear and calm weather



Climate change is a large-scale, long-term shift in the planet's weather patterns or average temperatures.

Past climate change reasons:
Orbital changes - Earth's orbit is sometimes elliptical, tilted on an axis and wobbles, which affects the amount of heat received

Solar Output - Sunspots increase every 11 years bringing more solar energy
Volcanic activity - volcanic aerosols reflect sunlight reducing temperatures

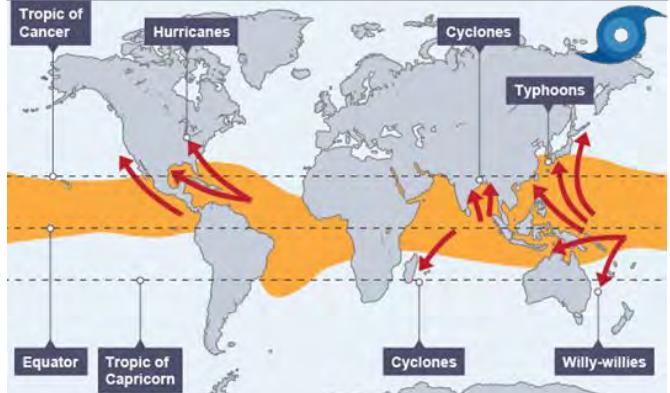
Evidence:
Ice cores - CO₂ trapped in bubbles
Tree rings - Each ring is a year of growth

Present climate change reasons:
Fossil fuels - release CO₂ - 50% of greenhouse gases
Agriculture - 20% of greenhouse gases - methane from cattle.
Deforestation - releases CO₂ and reduces ability to absorb carbon through photosynthesis.

Evidence:

Global - temperature increase
Melting - glaciers and ice sheets
Sea - level rise

Tropical storms - rotating systems of clouds



Occur in low latitudes between 5° and 30° N and S of the equator, in the tropics, where ocean temperatures are above 27°C. They are measured using the **Saffir-Simpson Hurricane Scale** based on their wind strength



1. Warm air rises from warm ocean
2. Strong winds form as rising air draws in moisture causing rain
3. Air spins due to **Coriolis effect** around a calm eye of the storm
4. Cold air sinks in the eye and is clear and dry
5. On meeting land, it loses source of energy and **dissipates**

Social impacts - anything affecting people - deaths, injuries, homelessness, relocation

Economic - anything involving money - loss of jobs/income, government spending on recovery

Environmental - anything involving the environment - Storm surge (flooding), lack of sanitation (Cholera), landslides, habitats affected

Management to plan, predict and prepare against possible damage:

Weather forecasting - warnings on TV

Satellite technology - digital images from space

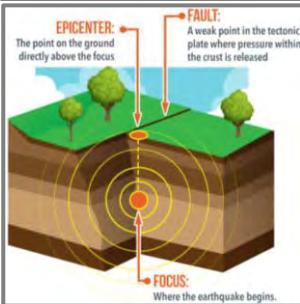
Warning systems - allowing people to evacuate

Evacuation strategies - procedure and shelters

Storm surge defence - embankments built to protect areas from rising sea levels

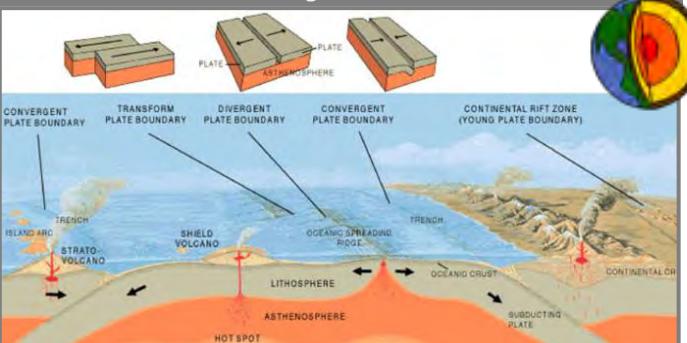


Earthquakes



Earthquakes are the sudden violent shaking of the ground because the Earth's plates are constantly moving. They are measured on the **Richter scale** (1-10), which measures the **magnitude** (power), using a machine called a **seismometer**.

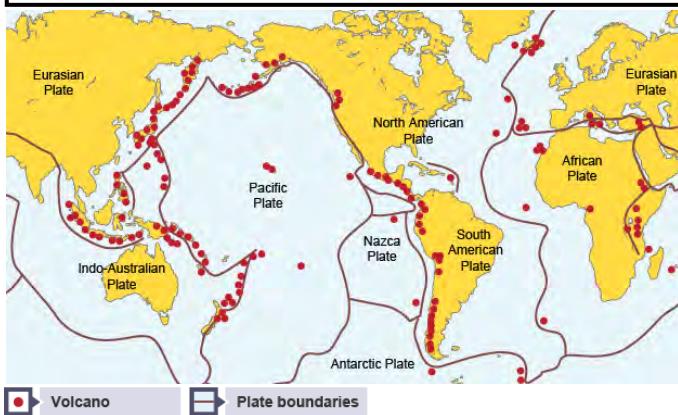
These occur at boundaries as the **lithosphere** moves slowly on the **asthenosphere**, the upper part of the **mantle**, owing to **convection currents**.



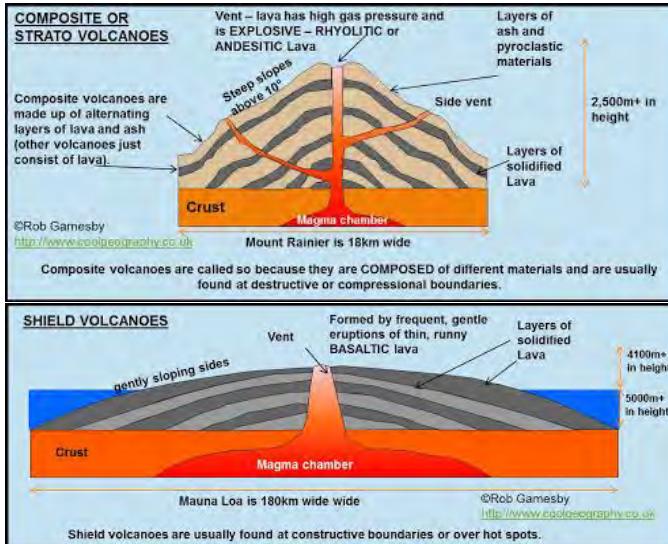
Boundary	Movement	Example	Hazard
Conservative	Slide past each other	Pacific & N. American	Destructive earthquakes
Collision	2 continental plates collide	Indian & Eurasian	Destructive earthquakes
Divergent	2 plates move apart	Mid-Atlantic Ridge	Weak earthquakes, Non-explosive volcanoes
Convergent	2 plates collide, 1 must be oceanic	Nazca subducts S. American	Violent earthquakes, explosive volcanoes

Prediction involves using seismometers to monitor Earth tremors. **Protection** involves building aseismic buildings. **Preparation** involves education and evacuation drills.

Volcanoes



These form when **magma** reaches the surface along **divergent** and **convergent** plate boundaries. They are measured using the **Volcanic Explosivity Index (VEI)**.



Scientists can **monitor** volcanoes to estimate when they are likely to erupt:

Aircraft measure gas (sulphur dioxide) in the air

Tiltmeters detect a change to the gradient

Lahar channels divert dangerous mudflows

Concrete shelters protect against volcanic bombs & ash from pyroclastic flows

Seismometers measure earthquakes as magma rises

Evacuation routes and drills practised





St Joseph's College Geography Department

Paper 1 - Topic 2: Development Dynamics



This topic looks at development on local, national and global scales and focuses on the specific causes and consequences of change in India

Biogas	Bottom-up Development	Cash Crops	Colonisation
Commodities	Communism	Core Region	Cycle of Poverty
Demographic Data	Dependency Ratio	Emerging Country	Fertility Rate
Footloose	FDI	GDP	Globalisation
High Income Countries	HDI	Industrialisation	IGOs
Irrigation	Knowledge Economy	Maternal Mortality	Life Expectancy
Multiplier Effect	Neo-colonialism	New Economy	NGOs
Outsourcing	Population Structure	Primary Products	Purchasing Power Parity
Quaternary Sector	Quintile	Rural-urban Migration	Secondary Products
Subsistence Farming	Tariff	Terms of Trade	Tertiary Sector
Top-Down Development	TNCs	World Trade Organisation	

Global Inequality

High Income Countries (HICs) - wealthy countries in N. America, Western Europe, Japan and Australia, also called the 'global north'.

Low Income Countries (LICs) - poorer countries in Latin America, Africa and Asia, also called the 'global south'.

Measuring Development

There are **three** main aspects to development:

- Social** - improving standard of living
- Economic** - progress in the economic growth
- Political** - stable political system with effective institutions (healthcare, education etc.)

Name	What it is	A measure of...	As a country develops, it gets...
Gross Domestic Product (GDP)	The total value of goods and services a country produces in a year. It's often given in US\$.	Wealth	Higher
GDP per capita	The GDP divided by the population of a country. It's often given in US\$ and is sometimes called GDP per head .	Wealth	Higher
Gross National Income (GNI) and GNI per capita	The total value of goods and services produced by a country in a year, including income from overseas. It's often given in US\$. GNI per capita is the GNI divided by the population of a country.	Wealth	Higher
Birth rate	The number of live babies born per thousand of the population per year.	Women's rights	Lower
Death rate	The number of deaths per thousand of the population per year.	Health	Lower
Fertility rate	The average number of births per woman.	Women's rights	Lower
Infant mortality rate	The number of babies who die under 1 year old, per thousand babies born.	Health care	Lower
Maternal mortality rate	The number of women who die due to pregnancy related problems per hundred thousand live births.	Health care	Lower
Doctors per 1000 of population	The number of working doctors per thousand of the population.	Access to health care	Higher
Gini coefficient	A measure of economic inequality. Countries are given a score between 0 (equal) and 1 (total inequality).	Inequality	Lower
Gender Inequality Index	A number that's calculated using data on e.g. women's education, access to jobs, political rights and health during pregnancy. The higher the score, the more inequality.	Women's rights	Lower
Human Development Index (HDI)	This is a number that's calculated using life expectancy, education level (e.g. average number of years of schooling) and income per head. Every country has an HDI value between 0 (least developed) and 1 (most developed).	Lots of things	Higher
Corruption Perceptions Index (CPI)	A measure of the level of corruption that is believed to exist in the public sector on a scale of 1-100. The lower the score, the more corruption.	Corruption	Higher

Population Structure

Chad

1) Developing countries have **higher fertility and birth rates** because there's no use of contraceptives. People also have **lots of children** because poor health care means that many infants die.

2) The **death rate** is also high due to **poor health care**, and **life expectancy is low** (few people reach old age).

3) This means that there are **lots more children** than older people — population pyramids for developing countries have a very **wide base**, which rapidly **narrow**s.

Physical Factors Limiting Development

Landlocked - if a country is **landlocked** it has no coastline, so no access to a port to export or import goods. They may have to pay **increased tariffs**.

Rural Isolation - rural areas are often isolated, with poor infrastructure. It can take several hours to travel to local markets or major cities.

Climate Change - can lead to water shortages (increasing evaporation), or **food shortages** caused by variable rainfall and increased **drought**

Pollution - economic growth leads to urban growth and increases in air pollution.

Economic Factors Limiting Development

Terms of Trade - this is the value of a country's exports relative to its imports. When a country primarily **exports primary products**, they then **import goods**, which are more expensive.

Colonisation and Cash Crops - farming is critical to LICs; **cash crops are exported**, and **commodities** are traded on **global markets**. Prices constantly change however, and typically local farmers lose out. **Profits** got to companies in **developed countries** (**neo-colonialism**).

Global Trade and International Relations - The **World Trade Organisation (WTO)** is a global organisation that aims to make trade easier. It aims to get countries to agree that goods will be free of **duties or tariffs**.

Consequences of Global Inequalities

Education

- 1) Poorer countries **can't afford** to invest as much in education as **richer** countries.
- 2) Poorer people may not be able to afford **school fees** or **children** may have to **work** to support their families instead of attending **school**.
- 3) Lack of **education** means people can't get better-paid, skilled jobs in the future, so the **cycle of poverty** continues.

Health

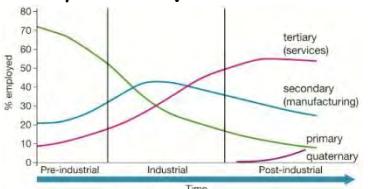
- 1) People in **developing** countries are at **higher risk** for many **diseases** than people in developed countries leading to **lower life expectancies**.
- 2) **Infant mortality** is also much **higher** in developing countries.
- 3) Poorer people find it harder to get **quality health care** and **healthy food**.

- 1) Inequalities can increase **political instability**, **crime** and **discontent** in **poorer** countries.
- 2) This means **civil wars** are **more likely** in developing countries. Conflict can increase inequality — poverty **increases** as money is spent on fighting rather than **development**.
- 3) Developing countries are often **dependent** on **richer** countries. This means they have **less influence** over regional and global **decisions**.

Clark Fisher Model

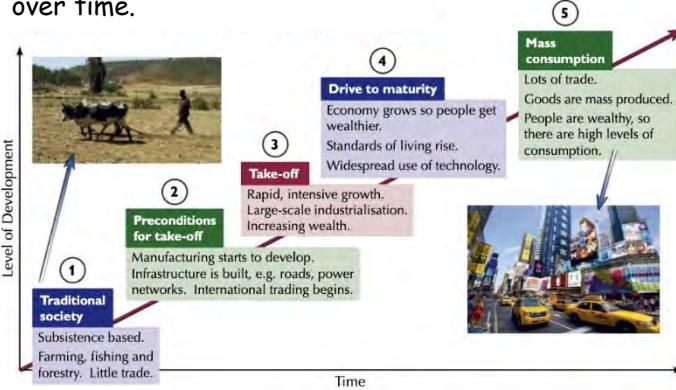
The **Clark Fisher Model** shows how economic sectors change as a country becomes more developed. **LIC's** employment is dominated by **primary sector**, **MICs** by the **manufacturing secondary sector** and **HICs** by **tertiary** and **quaternary**.

Rapid industrialisation leads to changes to **economic** and **social** changes, adding value to the economy via capital.



The Rostow Model

Rostow's Modernisation Theory predicts how a country's level of economic development changes over time.



Case Study: Globalisation and Development in India

India is an Emerging Country in Southern Asia

1) India is a rapidly developing **emerging** country. It has the **second largest** population in the world (approx. 1.3 billion) and is **still growing**.

2) India was a **British colony** until 1947, but now has its own **democratically elected** government.

3) India has a **rich and diverse cultural background**.

4) It's renowned for its production of '**Bollywood**' films, which are exported **worldwide**.

5) India has a **beautiful and varied landscape**, including areas of **mountains**, **desert**, **great plains** and a large **coastline**, making it an attractive **tourist destination**.

6) The large **coastline** also allows the development of **ports**, such as Mumbai, increasing trade.



Globalisation has Increased Development

1) More than 30% of all Indians now own a **mobile phone**. This has enabled lots of people to start their own **small businesses**, giving them a **larger income**.

2) India has 12 major **ports** and more than 20 international **airports**. It also has an extensive **rail network**, carrying 8 billion passengers a year and almost 3 million tonnes of freight per day. This makes it **easier** to transport goods, so **trade can increase**, and **TNCs** are more **likely to invest**.

3) Some large TNCs, e.g. Microsoft, Nokia, Unilever and Coca-Cola®, outsource some **manufacturing** and **R&D** to India. These bring **jobs**, greater **income** from **taxes** and the latest **technology** and **business practices**.

Economic Development has Pros and Cons for Different Groups of People

Economic development is **good news** for **some people**, but can cause **problems** for **others**:

Positive Impacts

1) All age groups have **better health**:

- Elderly people are **living longer**.
- There is a **lower** infant mortality rate.
- There is a **lower** maternal mortality rate.

2) Some age groups have **better education**:

• Higher education has given young graduates access to better **jobs**,

• e.g. in technical firms and ICT.

• Many adults have better **literacy**.

3) There can be **better gender equality**:

• Women have better access to **education** — **literacy rates** for Indian women have increased from 34% in 1991 to 59% in 2011.

• Women have better access to **contraception and family planning advice**.

Negative Impacts

1) Rapid **industrialisation** means young working men may have to do **dangerous jobs**. Working conditions may also be **poor** due to a lack of **regulations** put in place by **Indian authorities**.

2) As **young** people move to urban areas to find work, there are **fewer workers** in **rural villages**. This means:

• Children in rural areas may get a **poor education** due to a **lack of skilled teachers** — nearly 50% of teachers have only completed **secondary education**.

• Children may have to work as **agricultural labourers** to support their families.

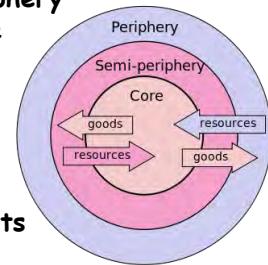
3) There is still a lot of **gender inequality**:

• It is **unsafe** for women in many **urban** areas. E.g. in Delhi, **crimes against women** increased by 20% from 2014-15.

• When men leave to find work in cities, women are left to **care for** and **provide** for the entire household — balancing a job with **housework**.

Frank's Dependency Theory

Frank believed that development was about two types of global region: **core** and **periphery**. The **core** represents the developed nations, and the **periphery** represents the 'other' areas, which produce raw materials to sell to the **core**. The **periphery** therefore depends on the **core** for its **market**.



Low-value raw materials are traded between the **periphery** and the **core**; the **core** processes these into **higher-value products** and becomes wealthy.

India's Global Influence is Increasing

1) India is playing a **larger role** in **regional** and **global politics** as it develops. In recent years the Indian government has **improved relations** with its immediate **neighbours** (e.g. joining **ASEAN**, a political and economic organisation made up of countries in southeast Asia).

2) India is a member of several **international organisations** — India was one of the founding members of the **United Nations** (UN), which works towards **sustainable development**. It is also part of the **World Trade Organisation** (WTO) and a member of **G20**, a group of 20 of the world's **largest economies**.

3) Economic **growth** has also **changed** India's **relationship** with the **USA** and **EU**:

- India and the USA**
- 1) India used to have a poor relationship with the **USA** but this has been **improving**.
 - 2) The **USA** expects the economic development of India to **increase trade**, employment and economic growth in both countries.
 - 3) The **USA** also sees **India** as a huge **market** for **renewable** and **nuclear energy** because of the number of increasingly wealthy people and the **growth of industry**.

- India and the EU**
- 1) India has had a good relationship with the **EU** and they became **strategic partners** in 2004, agreeing to **cooperate** on certain issues.
 - 2) Negotiations for a **free trade agreement** began in 2007. The **EU** is one of India's **biggest markets** and **trading partners**.
 - 3) The **EU** supports **health** and **education** programmes in India to promote **continued development**.

There are Costs and Benefits to Foreign Influences on India

India is increasingly **open** to the influence of the rest of the **world** — but **not everyone** is **happy** about this.

- 1) Changing **international relations** have **costs** and **benefits**:
 - **Costs** — there is increasing **tension** between India and China — both have rapidly growing economies. Developed nations are also concerned about **losing** economic power as India grows.
 - **Benefits** — improved relations mean India can **cooperate** with other countries on **global issues**, e.g. climate change. FDI brings economic benefits to both India and the country of origin, and global trade agreements mean that **political actions**, e.g. sanctions, are more **effective**.
- 2) **Foreign investment** (TNCs) is bringing **wealth** and **jobs** to India but there are **problems** too:
 - TNCs can cause **environmental problems** — e.g. the concern of local communities about the amount of water being **extracted** by Coca-Cola® bottling plants led to plants in Kerala and Varanasi being **closed**.
 - Large global **retail chains** can offer **cheap prices** on goods — Indian **street traders** are concerned that this will **destroy** their **livelihoods** as people choose to shop in supermarkets instead.
 - TNCs could **withdraw** their **business** from India at **any time**, e.g. if the **economic climate** changes.



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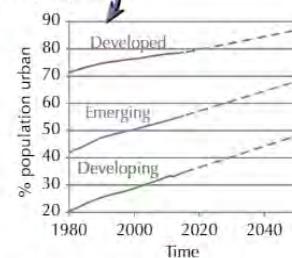
Paper 1 - Topic 3: Challenges of an urbanising world



This topic looks at urbanisation – the causes and challenges this creates as well as a megacity case study, in an emerging country.

Urbanisation is happening faster in poorer countries

- 1) **Urbanisation** is the **growth** in the **proportion** of a country's population living in **urban areas**.
- 2) It's happening in countries **all over the world** — more than **50%** of the world's population currently live in **urban areas** (**3.9 billion** people) and this is **increasing** every day.
- 3) Urbanisation happened **earlier** in developed countries (see p. 31), e.g. during the **Industrial Revolution** (in the 18th and 19th centuries), and **most** (79%) of the population now **already live in urban areas**. Developed countries have very **slow rates** of urban growth.
- 4) A **smaller proportion** (35%) of the population in developing countries **currently live** in urban areas. In general, the **fastest rates** of urbanisation in the world are in developing countries.
- 5) The percentage of the population living in urban areas **varies** in **emerging countries**. Some, such as **Thailand** and **China**, are experiencing **rapid urban growth**.
- 6) Urbanisation is predicted to continue at a **fast rate** in regions that still have **large rural populations**. By 2050, the **majority** of people in **every global region** are predicted to live in **urban areas**.



Migration is a result of push and pull factors

- 1) Migration to **cities** can be **national** or **international**:
 - **NATIONAL MIGRATION** — when people move to a city **in** the **same** country, e.g. **rural-urban migration** is the **movement** of people from the **countryside** to the **cities**.
 - **INTERNATIONAL MIGRATION** — when people move from one country to a **city** in **another country**.
- 2) Migration **to** a city is affected by **push factors** (things that **encourage** people to **leave** an area) and **pull factors** (things that **encourage** people to **move to** the city).

Push Factors

- A **shortage** of jobs or **low** wages.
- **Poor** standard of living.
- **Poor** healthcare and education.
- **War** or conflict.
- **Natural disasters** like earthquakes or floods.
- A **poor environment** due to pollution or crime.

Pull Factors

- **More** employment opportunities and **higher** wages.
- **Better** standard of living.
- **Better** health care and education.
- A **safe** place with little crime or risk of natural disasters.
- A **cleaner** environment.

Cities go through different stages as they develop

Urbanisation

Suburbanisation

De-industrialisation

Counter-urbanisation

Regeneration

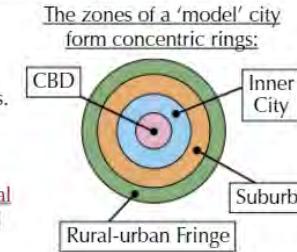
Urban economies vary by level of development

	Developing countries	Emerging countries	Developed countries
Formal and informal employment	Many workers are employed in the informal sector.	Number of workers in the informal sector decreases as the country develops.	Few workers in the informal sector.
	Lots of people work in low-skilled tertiary sector jobs, e.g. on market stalls. Few people work in the secondary sector because there's not enough money to invest in the technology needed for this type of industry, e.g. to build large factories.	Employment in the secondary sector is high . There are established industrial zones and good infrastructure . There are also lots of low-skilled tertiary jobs, e.g. in retail or tourism.	Fewer people work in the secondary sector than in emerging countries . Most people work in the tertiary sector because there's a skilled and educated workforce, and there's a high demand for services like banks and shops.
Economic sectors	A small percentage of people work in high-skilled tertiary jobs, e.g. in government offices or IT.	As the industrial economy grows people have more money to spend on services — jobs are created in higher-skilled jobs in the tertiary sector , e.g. in medicine or law. Some cities specialise in certain services , e.g. Hyderabad, India specialises in IT development .	There's some employment in the quaternary sector because the country has lots of highly skilled labour and has money to invest in the technology needed .
	Conditions are poor . Pay is low , hours are long and conditions can be dangerous .	Conditions improve and workers' rights increase .	Conditions are good . Pay is high , workers have many rights protected by law .

Land use in cities can be commercial, industrial or residential

Different types of land use are found in particular areas of the city because they have similar requirements. This creates distinct zones within a city, which can be identified on maps and satellite images:

- The **central business district (CBD)** has **commercial** and **public buildings**. Look for **high density** buildings and the **meeting** of **major roads**.
- The **inner city** is mainly **residential** (low-class housing) and older **industry**. Look for **short, parallel roads** of **terraced housing** and **larger factory** buildings.
- The **suburbs** are mainly **residential** (medium-class housing). Look for lots of **short, curved streets** and **cul-de-sacs**.
- The **rural-urban fringe** has a mix of **commercial** business parks and **residential** (high-class housing). Look for **more green space** between built-up areas and clusters of **larger office buildings** or **shopping centres** with **car parks**.



Accessibility	Bottom-up development	Brownfield sites	Central Business District (CBD)
Chawl	Conurbation	Counter-urbanisation	De-industrialisation
Ethnic enclave	Formal economy	Gross Domestic Product (GDP)	Hyper-urbanisation
Informal economy	Informal housing	Internal migration	International migration
Knowledge economy	Megacity	Metropolitan area	Million city
Natural increase	Net growth	Regeneration	Residential
Re-urbanisation	Rural-urban fringe	Rural-urban migration	Sanitation
Spatial	Sustainable development	Top-down development	Urban
Urbanisation	Vermiculture	World city	

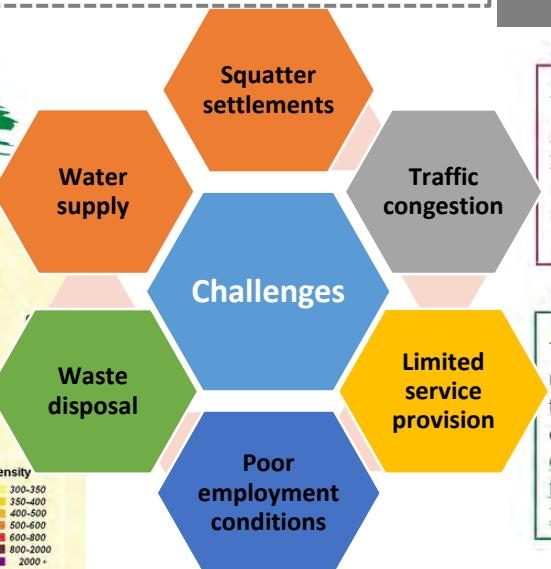
Urban change in Lagos - Case study

Lagos is a great example of the attraction of cities and the problems caused by rapid urban growth.

Lagos is the Biggest City in Africa

Lagos is a megacity in Nigeria — a developing country, but the richest country in Africa. The city's population is over 21 million, and it's one of the fastest-growing urban areas in the world.

- 1) Lagos is located at the outlet of the massive Lagos Lagoon (see map on the next page) on the Atlantic western coast of Nigeria.
- 2) This location is ideal for its port, which is one of the biggest in Africa. The city has spread outwards from its origin on Lagos Island around the lagoon and along the coast.
- 3) Lagos is well connected by road to the other major towns in Nigeria, e.g. Abuja (the national capital). It has an international port and airport, making it an important centre for regional and global trade.
- 4) Lagos is Nigeria's biggest city for population and business. It was the national capital until 1991 and remains the main financial centre for the whole of West Africa. The city contains 80% of Nigeria's industry and lots of global companies are located there.
- 5) It is the centre of the Nigerian film industry 'Nollywood' and has a thriving music scene, which has introduced music styles such as Afrobeat and Afro hip-hop — this gives it cultural importance in Nigeria.



The government is trying to make Lagos more sustainable

Improving Water Supply

The government has begun work on a US \$2.5 billion plan which includes new water treatment plants and distribution networks. In the meantime water kiosks are being introduced, where people can buy water at a lower price than from informal water sellers, until they are connected.

Improving Waste Disposal

The Lagos Waste Management Authority (LAWMA) is working to improve rubbish collection by making sure collection vans can get to each area of the city, e.g. by doing collections at night when there's less traffic. Recycling banks are being put in every estate and people are encouraged to sort and recycle their waste.

Reducing Traffic Congestion

Two light rail lines are under construction to relieve road congestion. The lines will connect the CBD on Lagos Island with the north and west of the city (including the airport) along major commuter routes. The trains will be emission free to limit air pollution and the route will take 35 minutes instead of up to 4 hours by car.

Improving Air Quality

Small electricity generators (used by households when the power goes out) are a big source of air pollution. To improve air quality the government banned the import of small generators — instead communities are encouraged to get together to run one larger generator, which will produce less emissions overall.



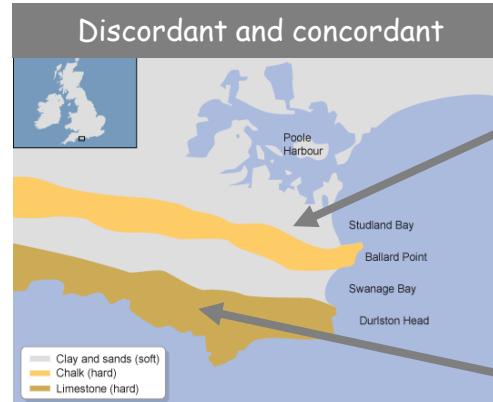
St Joseph's College Geography Department

Paper 2 - Topic 4: 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).

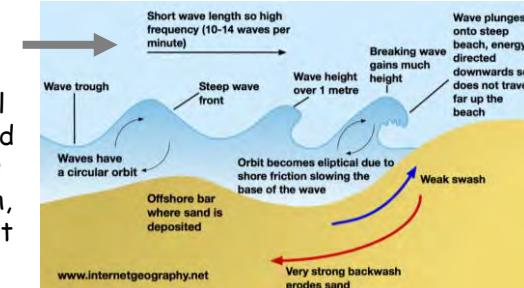
Concordant Coastline: Bands of rock run parallel to the coastline. Along this coastline, limestone (resistant rock) runs along the entire length of the coast, forming erosional landforms like **coves**.

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°).

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.



Uplands and lowlands

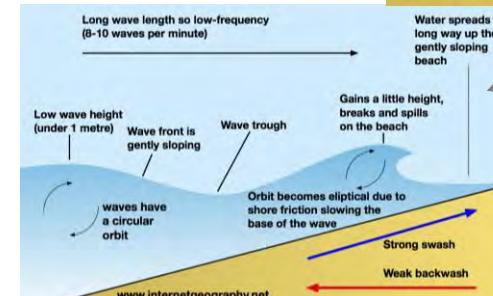
Geology and past processes (glaciation and past tectonic activity) have influenced the physical landscape of the UK.

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

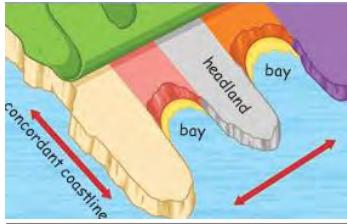
The UK is split into halves geologically:

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



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

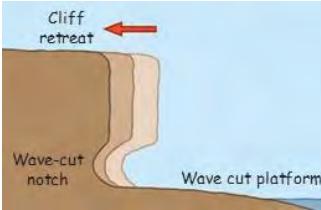
Erosional landforms



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.



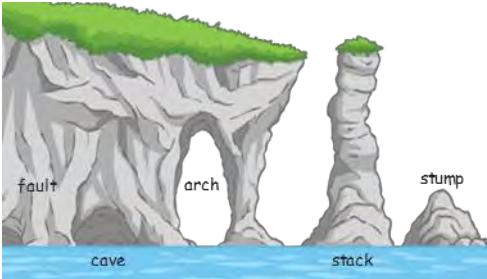
Faults in headlands can develop into:

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:

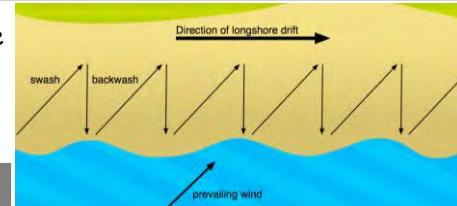
1. No intervention
2. Hold the line
3. Managed realignment
4. Advance the line

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

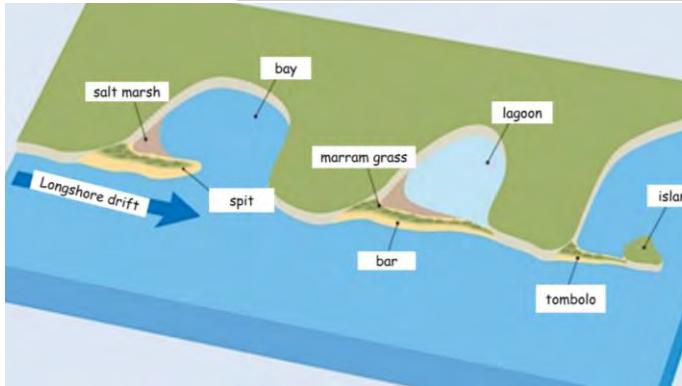
Waves approach the beach at the angle of the **prevailing wind**. Material is moved up the beach (**swash**), returning perpendicular (**backwash**) to the sea.



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**



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Paper 2 - Topic 4: The UK's evolving physical landscape

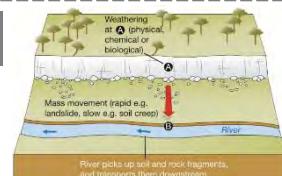


This topic is a detailed study of **rivers**; the variety of river landscapes, processes as well as challenges and conflicts over management.

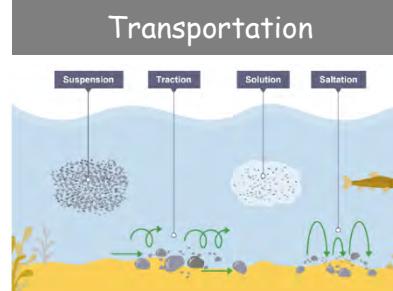
Abrasion	Alluvium	Antecedent	Attrition
Bankful Discharge	Channel	Cost-benefit Analysis	Cross Profile
Cross section	Delta	Dip Slope	Dredging
Dry Valley	Erosion	Escarment	Estuary
Evaporation	Eyot	Fault Scarp	Flood Plain
Friction	Glaciated	Gorge	Gradient
Groundwater Flow	Hard Engineering	Helicoidal Flow	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

Deposition

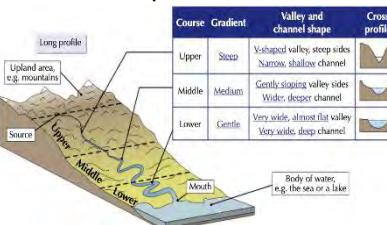
Deposition happens when the river loses energy, it drops any of the material it has been carrying.



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).



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.

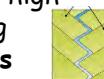
Saltation - pebbles are bounced along the river bed, most commonly near the **source**.

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.

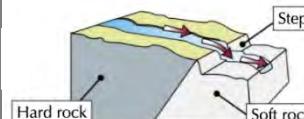
Interlocking Spurs

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.

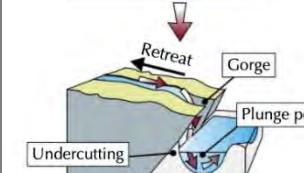
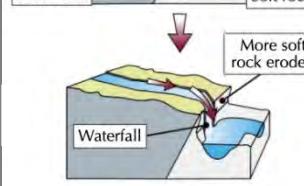


Weathering

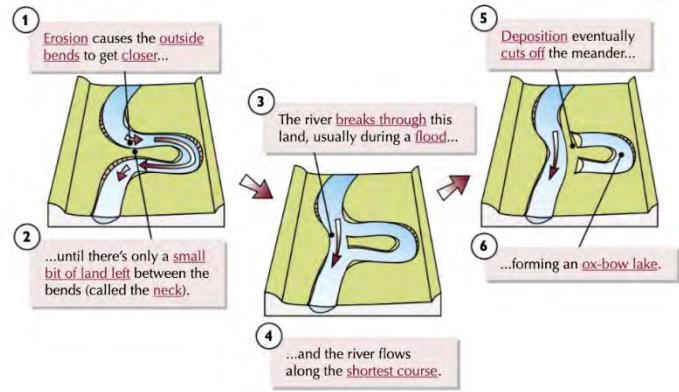
Weathering breaks down rocks on the valley sides.

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



Meanders and Oxbow Lakes

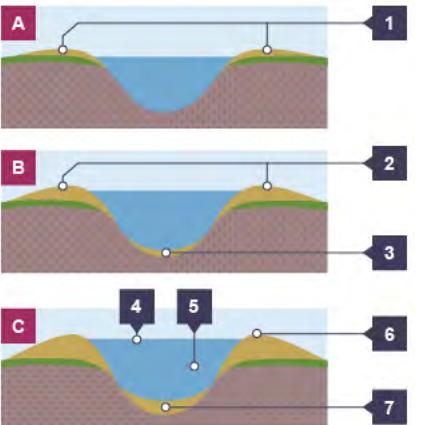


Oxbow lakes happen after continual erosion and deposition narrows the neck of the meander, and often during a flood the river will cut through.

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.

- 1 During a flood, water flows over the banks and deposits silts
- 2 New levees
- 3 In between floods slow moving river deposits silt in riverbed
- 4 New river level
- 5 With each flood the levees are built up
- 6 Between the floods the river bed is built up too
- 7 River may flow well above the level of the flood plain

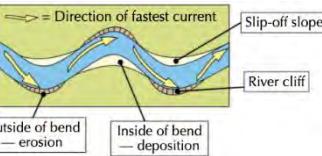


A **tidal estuary** is submerged by the sea twice a day, so **salt marshes** form where plants have to be able to stand both salt and fresh water. These are valuable for wildlife; migrating birds etc.

Deltas

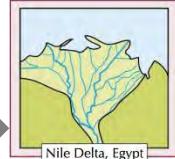
Deltas are formed of **deposited sediment**. Rivers are forced to slow down when they meet the sea, causing them to **deposit the suspended load**, which builds up over time.

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**



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

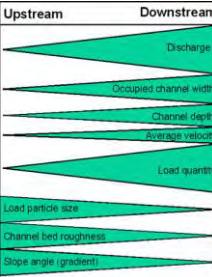


Causes of Flooding

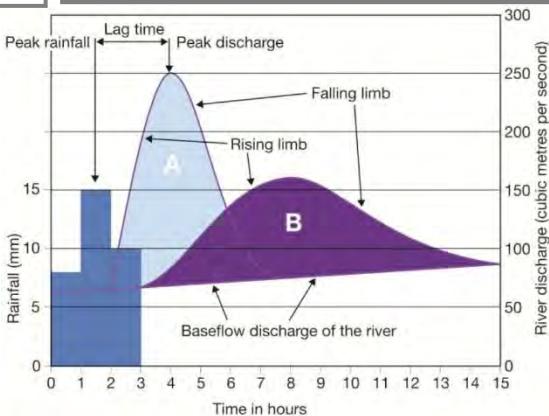
• **Prolonged rainfall** - if it rains for a long time, the land around a river can become **saturated** leading to **surface run-off**. If the rainfall is heavy, there is less chance of **infiltration**. The faster the water reaches the river, the more likely it will flood.
 • **Relief** - a steep valley 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.

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.



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Paper 2 - Topic 5: The UK's Evolving Human Landscape



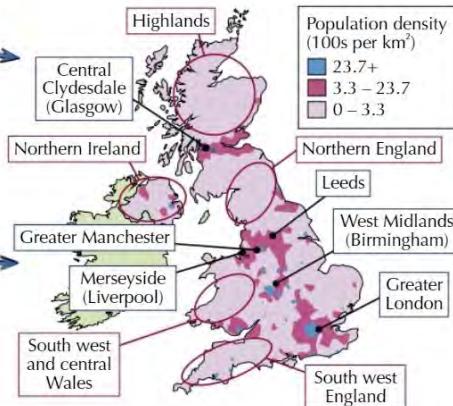
This topic is about how the UK's human landscape – its places and people – has evolved as well as a case study of London.

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 **sparingly** 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

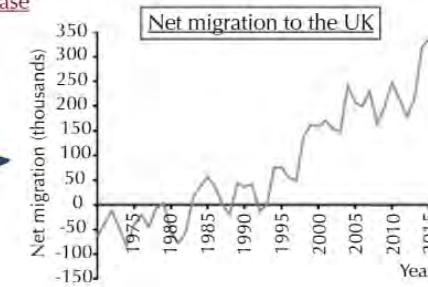
Some rural areas of the UK are **struggling** to grow economically. These include:

- 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	

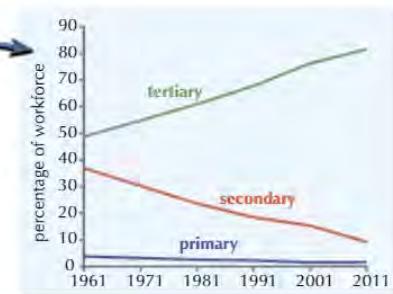
Some rural areas of the UK have high levels of poverty

- 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.



St Joseph's College Geography Department

Paper 2 - Topic 6: Geographical Investigations



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.

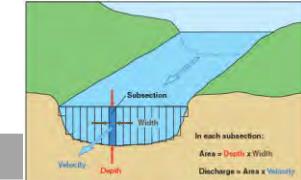
Stage 2 - Collect data:

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 pulled 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.

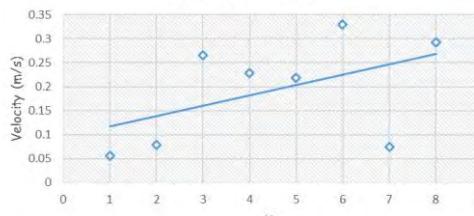
Weaknesses

- 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



Data presentation technique: Scatter graph river velocity at CMV

Strengths

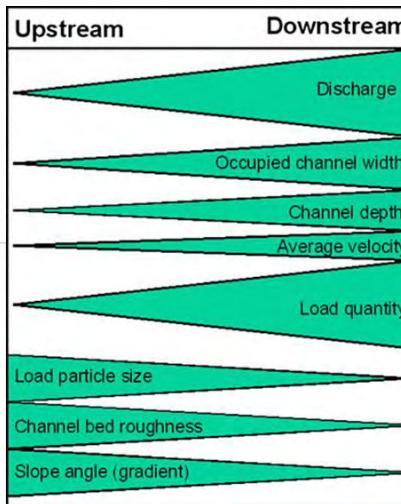
Easy to compare to sets of data, relatively low skillset required to create, shows relationship between data and anomalies easily.

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 4 - Analyse and explain data:

You need to describe and explain what your data shows.

Results and analysis

1. River discharge

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

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.

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.

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 analyses 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 Geography Department

Paper 3 - Topic 7: People and the Biosphere



This term we will look at how humans can use the resources of our planet sustainably.

Keywords:

Ecosystem services - collective term for all of the ways humans benefit from ecosystems

Indigenous peoples - the original people of a region. Some groups still have traditional lifestyles e.g. A tribal system; hunting for food

Slash and burn- farmers clear small areas of forest by cutting and burning the trees (ash from the burning adds nutrients to the soil; forest grows back over time)

Biotic - living part of a biome made up of plants (**Flora**) and animal (**Fauna**) life

Abiotic - non-living part of a biome that includes the atmosphere, water, rock and soil

Biodiversity - the number of different plants and animals in a certain area

The Biosphere:

The **biosphere** provides humans with some of our most essential resources: the food we eat and many of our medicines, building materials and sources of fuel. They are both globally and locally important.

Local Factors that affect Biomes:

ROCK & SOIL TYPE → rocks release nutrients when they undergo a chemical change

WATER AVAILABILITY → different plants require different levels of water

ALTITUDE → temperature drops by 6.5°C for every 1000m increase in height

Plant & Animal Adaptations:

PLANTS

The dense forest canopy blocks out light. Some trees called **EMERGENTS**, grow 40m tall, 10m above the **CANOPY**

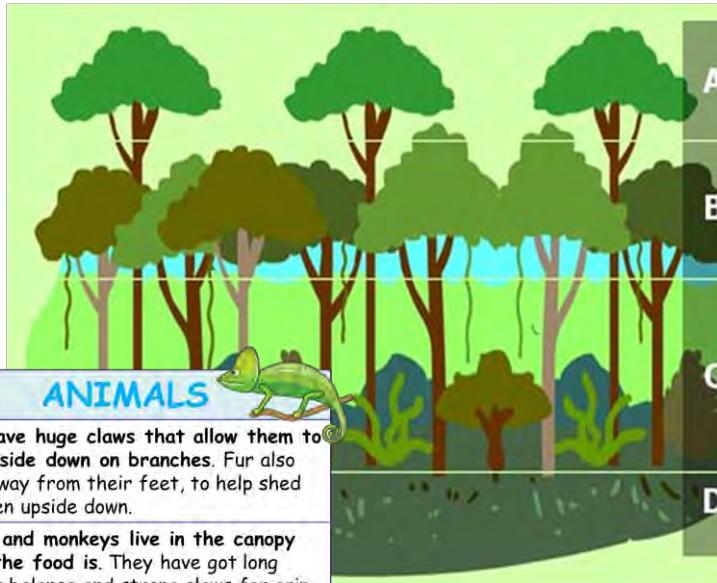
Mould grows on all wet surfaces. This would block sunlight from leaves. Most plants have evolved **DRIP TIPS** that channel water of the leaf

Nutrients are concentrated in only the top layer of the soil. This means tree roots have to be shallow. **BUTTRESS ROOTS** give the tall trees extra stability.

Tropical Rainforests

10% of the world's plant and animal species live in the Amazon rainforest. They are ADAPTED to the equatorial climate: There is no dry season, with at least 60mm of rainfall each month - some places get 3m of rainfall each year. Temperatures are high, at $26-32^{\circ}\text{C}$ all year round, so there is no summer or winter.

Structure of the Rainforest:



The Emergent Layer (A):

This layer is very sunny because it is the very top and only the tallest trees reach this level. It is also known as the **OVERSTORY**.

Animals found in this layer include birds, butterflies, small monkeys and bugs.

The Canopy Layer (B):

This is the thickest layer and much of the rain is stopped by the thick foliage. Most trees in the forest grow to this height. There are plants that grow in the canopy layer whose roots don't reach the ground.

The Understory (C):

This layer has many vines, dense vegetation but not much sunlight as it is all blocked by the canopy.

Animals found in this layer include birds, butterflies, frogs and snakes.

The Forest Floor (D):

This layer is dark, damp, full of many dead leaves, twigs and dead plants. The forest floor is dark due to the trees above stopping the sunlight from entering the forest. It is estimated that only 2% of the sunlight actually reaches the floor.

Animals found in this layer include jaguars in South America, gorillas, leopards in Africa, tapirs, tigers and elephants in Asia.

Nutrient Cycle in Rainforests:

The rainforest nutrient cycling is rapid. The hot, damp conditions on the forest floor allow for the rapid **DECOMPOSITION** of dead plant material



Questions:

- Explain one way in which climate influences the distribution of a major biome.
- Explain the term 'altitudinal zonation'
- Study the image of the Athabasca Oil Sands mine on the right. Explain the impacts of this mining on the biosphere services for local people.
- Explain, in detail, how ONE plant or animal is adapted to the rainforest biome. This should be at least a paragraph.
- Describe and explain the main social, economic and environmental impacts of deforestation in the rainforest biome.





St Joseph's College Geography Department

Paper 3 - Topic 8: Forests under threat



This term we will look at how humans can use the resources of our planet sustainably.

Keywords:

Decomposition - the process of rotting; decay

Decay - rot or decompose through the action of bacteria and fungi

Boreal forest - another name for the taiga biome

Climate graph - shows both precipitation AND temperature

Biodiversity - the number of different plants and animal species in an area

Adaptation - the process of change by which an organism or species becomes better suited to its environment

Net primary productivity (npp) - a measure of how much new plant and animal growth (**Biomass**) is added to the biome each year, measured in grams per square metre per year

Logging - cutting down trees

Life Support System:

The biosphere provides humans with some of our most essential resources: the food we eat and many of our medicines, building materials and sources of fuel. They are both **globally** and **locally** important.



Direct and Indirect Threats to the Rainforest:

7.3 million hectares of rainforest are **deforested** every year - that's 36 football fields a minute.

Causes of this include:

- Agricultural - this can be **subsistence** or **commercial**
- Commercial hardwood **logging**
- Biofuels
- Mining
- Fuelwood

Climate change however, is an **INDIRECT** threat

These are **DIRECT** threats

REDD

- REDD stands for Reducing Emissions from Deforestation and Forest Degradation.
- REDD supports schemes that reduce the rate of deforestation.
- The United Nations monitors the schemes by the use of remote sensing and visits.

- Tropical rainforests could become drier and hotter - the plants here are adapted to live in constant temperature conditions: they cannot tolerate heat spikes, so could become extinct
- Tropical rainforest plants are not able to tolerate a long drought: it kills some and stresses the survivors
- Drier forests are at risk of forest fires

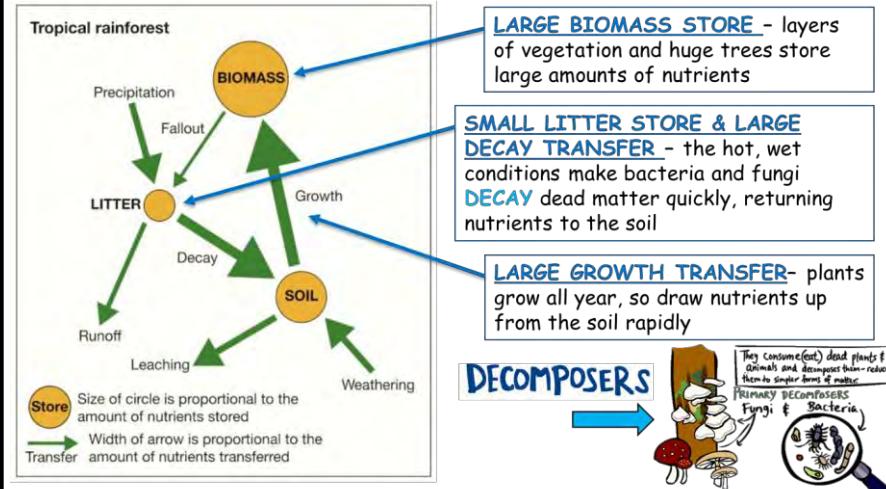
Population Pressure:

Our population is increasing. This puts lots of pressure on our resources - there are **TWO** opposing views of how this will affect us:

- **The Malthusian View** - Population will eventually grow so large that the planet will run out of food, water, energy and other resources, leading to a crisis. [by Thomas Malthus: **PESSIMISTIC**]
- **The Boserupian View** - As population grows, humans invent new technologies to allow more food to be grown, and more resources to be supplied. [by Ester Boserup: **OPTIMISTIC**]

Nutrient Cycle in Rainforests:

- The rainforest nutrient cycling is rapid. The hot, damp conditions on the forest floor allow for the rapid **decomposition** of dead plant material.
- This provides plentiful nutrients that are easily absorbed by plant roots.
- However, as these nutrients are in high demand from the rainforest's many fast-growing plants, they do not remain in the soil for long and stay close to the surface of the soil.
- If vegetation is removed, the soils quickly become infertile and vulnerable to erosion



Questions:

1. Explain how urbanisation increases demand for water resources.
2. Explain **THREE** resources that can be obtained from the biosphere.
3. Explain the difference between direct and indirect threats to the rainforest.
4. Describe how ecotourism, forestry and sustainable agriculture can help to protect the remaining tropical rainforest areas from deforestation.



St Joseph's College Geography Department

Paper 3 - Topic 9: Consuming Energy Resources



Keywords:

Fossil Fuels - finite resources like coal, oil and gas, that once used, cannot be replaced

Biofuel energy - fuels produced from plant material

Peak oil - the theoretical point at which half of the known reserves of oil in the world have been used

Black gold - a term used for oil, as it is regarded as such a valuable commodity

Organisation of Petroleum Exporting Countries (OPEC) - established to regulate the global oil market, stabilise process and ensure a fair return for its 12 member states who supply 45% of the world's oil

Fracking - removal of oil from shale using high pressure water

Commercially viable - makes sense economically

Carbon footprint - is the calculation of the total greenhouse gas emissions caused by a person, a country, an organisation, even or product. These can be direct AND indirect.

Energy security - means having access to reliable and affordable sources of energy. Countries with access to enough energy are energy secure, whilst those without enough are energy insecure

Different Energy Resources:

There are three main types of energy resources:

- **Non-renewable** - resources that cannot be replaced, e.g. **fossil fuels**
- **Renewable** - these will never run out and can be used over and over again, e.g. **wind power** or **solar power**
- **Recyclable** - these provide energy from sources that can be recycled or reused, e.g. reprocessed uranium for nuclear power, and **biofuel energy**

Changing Price of Oil:

The global price of oil is decided by traders on commodity markets. It is based on:

- **Supply** - too much oil & the price falls, too little and it rises
- **Demand** - demand causes prices to rise, and falling demand causes lower prices

Reducing Reliance on Fossil Fuels:

Renewable energy sources quickly replenish themselves and can be used again and again. For this reason they are sometimes called infinite energy resources.

ENERGY	ADVANTAGES	DISADVANTAGES
SOLAR Energy from sunlight is captured in solar panels and converted into electricity.	<ul style="list-style-type: none"> • Potentially infinite energy supply. • Single dwellings can have own electricity supply. 	<ul style="list-style-type: none"> • Manufacture and implementation of solar panels can be costly.
WIND Wind turbines (modern windmills) turn wind energy into electricity.	<ul style="list-style-type: none"> • Can be found singularly, but usually many together in wind farms. • Potentially infinite energy supply. 	<ul style="list-style-type: none"> • Manufacture and implementation of wind farms can be costly. • Some local people object to on-shore wind farms, arguing that it spoils the countryside.
HEP Energy harnessed from the movement of water through rivers, lakes and dams.	<ul style="list-style-type: none"> • Creates water reserves as well as energy supplies. 	<ul style="list-style-type: none"> • Costly to build. • Can cause the flooding of surrounding communities and landscapes. • Dams have major ecological impacts on local hydrology.

Oil Supply:

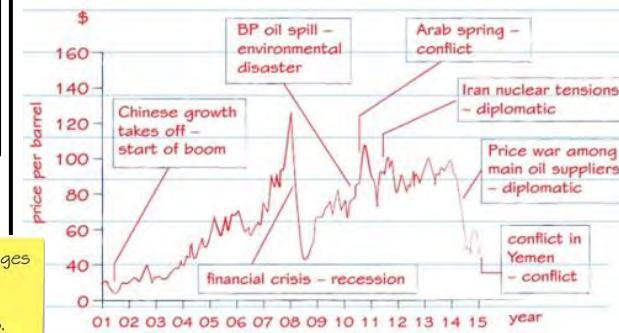
Oil production is unevenly distributed. In 2012, 63% of the world's oil came from 10 countries - Russia produced most, followed by Saudi Arabia. It's difficult to predict how much oil there is; pessimists believe we're close to **peak oil**.



Questions:

1. Explain one factor causing variations in global energy use per capita.
2. Describe three ways climate could influence a country's ability to access renewable sources.
3. Suggest one reason why people think the UK should use fracking to extract shale gas.
4. Describe two ways to reduce domestic energy wastage
5. Outline the main advantages and disadvantages of at least three renewable energy sources

This graph shows that changes in oil prices are usually triggered by conflicts, or economic or political crises.





St Joseph's College Geography Department

Map Skills



This term considers the growing demand for energy and the use of renewable and non-renewable energy sources

Keywords:

Latitude - an imaginary line around the Earth parallel to the equator

Longitude - the angular distance from the prime meridian at Greenwich

Key - metal device that allows a lock's mechanism to be rotated

Scale an ordered reference standard

6-Figure Grid References:

1. Break the 6 figure number up into two sets of three by putting a line down the middle : 175512 becomes 175I512

2. Then underline the first pair of numbers in each set of 3 ; that gives you your 4 figure ref grid square and find that first.
175I512 - so find square 17 51

3. Then you need to look at how many 'tenths' to go from the bottom corner of the square where your fingers have come together. In this case go Along 5 tenths (halfway towards the next grid line from 17 to 18) and Up 2 tenths from line 51 towards line 52
175I512

4-Figure Grid References:

The number for the vertical line (up & down) always comes first - that's the numbers along the top & bottom of the map. The number for the horizontal line (going across) comes next. Some people say - to find the square go 'along the corridor' (the number at the bottom of the map) till you get to the first pair of numbers (17), then 'up the stairs' (going up until you get to the 2nd pair of numbers) - which here is 51.

Where the 2 lines meet - you are in the middle of 4 squares. The one you want is always up and to the right (or North East) of where they meet.

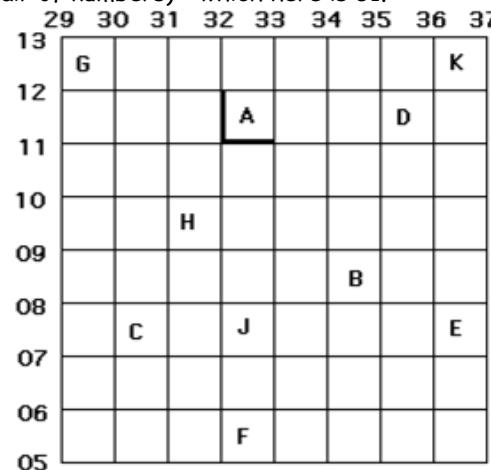
Check out the letters in this grid.

Letter A is in 32 11

Letter B is in 34 08

Letter C is in 3007 (notice there is no space left between the 2 pairs of numbers)

Letter D is in 3511

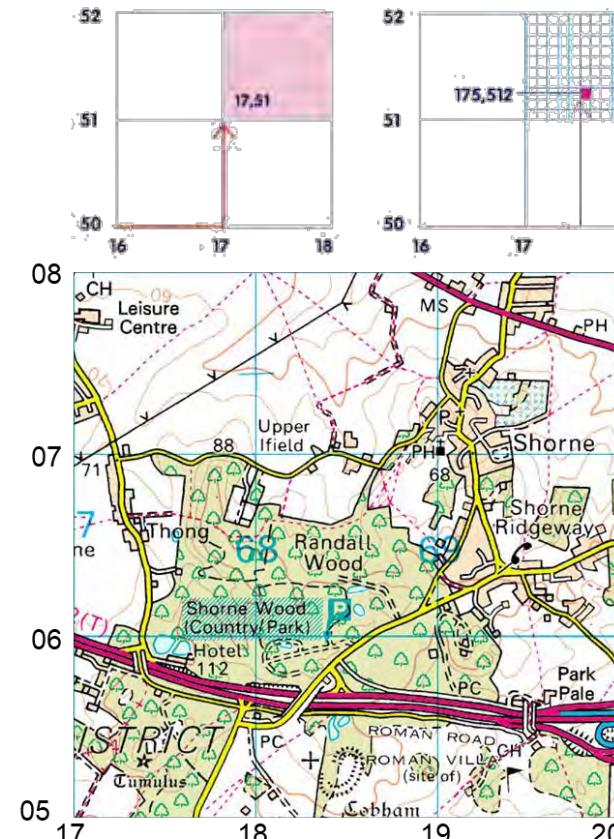


4-Figure Questions:

1. State the 4-Figure grid references for remaining letter above.

2. Using the map on the right:

- what is the name of the wood in 18,06
- where is there an old Roman Villa?
- what is there for sporty people in 1707



6-Figure Questions:

1. What building is at 197076?

2. Where might people go on a Sunday at 191071?

3. What's the 6 figure grid reference for the 'star' which marks a bronze-age burial site called a 'tumulus' somewhere on the map.

4. What is the 6-figure grid reference of the golf course

Scan the QR Code to do some more Map Skills practice





St Joseph's College History Department

Autumn Term 1 11 KS4:

Historical environment Policing white chapel



To examine why policing white chapel was so difficult

The Beat

The route taken by a police officer patrolling the local area.

Dead Hous-

A place where rooms or beds could be rented for a low amount.

Politics

Scientific techniques and tests used in crime investigation.

Socialist and anarchist beliefs often led to strikes and protests which could result in violence and riots.

The difficulties of policing Whitechapel

Whitechapel had a maze of narrow streets, which made it easy for criminals to escape.

Rookeries

Streets of slum housing in areas such as Whitechapel.

Whitechapel Vigilance Committee

An organisation set up by members of the public in Whitechapel to try and catch Jack the Ripper.

Workhouse

A government-run institution where the poor were given food and a roof over their head in return for working.

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.

Due to high levels of poverty in Whitechapel, many women turned to prostitution to earn some money to pay for their lodgings. 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

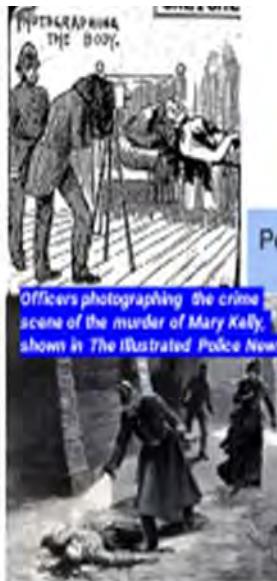


Illustration detailing the so-called 'double event' when Elizabeth Stride and Catherine Eddowes were killed within about an hour of each other.



Image showing the discovery of the body of Mary Ann Nichols in Buck's Row, Whitechapel.

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.



Officers photographing the crime scene of the murder of Mary Kelly, shown in The Illustrated Police News

Study of the victims' backgrounds and movements

Post mortems

Methods of investigative policing

Door-to-door enquiries

Crime scene photography

Interviewing witnesses

Criminal profiling

A police officer on his beat discovers one of Jack the Ripper's victims





St Joseph's College History Department

Crime and Punishment in the 20th century



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.

Open prisons came into use after 1934. They gave prisoners more freedom, allowing them to leave the prison, and were often used for first-time offenders.

Prisoners who were nearing the end of their sentences were given the opportunity to go on day release, to begin to get used to the world outside of prison.



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.

Neighbourhood Watch
A scheme which encourages ordinary people to be on the lookout for crime and to report anything.

Conscientious Objectors
People who are morally opposed to war or fighting in a war.

Terrorism
The use of violent means, usually involving attacks on civilians, to generate terror and achieve political or ideological aims.

Hate Crime
A crime that is motivated by prejudice on the basis of race, religion or sexuality, for example.

Tribunals
A court which heard testimony from conscientious objectors in the First and Second World Wars.

During the twentieth century, there have been many changes in the police force. It has expanded and has become more diverse, with women first appearing in the force in 1920 and drives to increase representation of different groups continuing today. Some of the other major changes have been in the role of the police force, and increasing specialisation for officers.

Specialised units have developed to deal with the challenges of evolving crime. These include the Fraud Squad, police working in the field of counter-terrorism, and specialist firearms officers.

Changes in the police force

Since 1900, police officers have become increasingly involved in a wider range of policing. These include non-criminal incidents such as keeping order at sporting events.

The training of police officers has improved. All new recruits undergo a fourteen-week basic training course. It is now also possible to enter the police force following the successful completion of a university course.





St Joseph's College History Department

Autumn Term 2: Super power relations the origins of the cold war



Key dates and events:

The Cold War (1945 - 1990) was the time when the USA and the USSR were enemies. It was a war of ideas in which both superpowers tried to get other countries to take their side, so they could increase their sphere of influence. Both superpowers took part in wars in different parts of the world but tried not to go to war against each other.

The Grand Alliance (1941) of Britain, the USA and the USSR, also known as the Big Three, was only created to beat Hitler. Once Hitler was killed, different ideas about what to do with Germany caused the relationship between the three to break down. Also, once the USA had atomic weapons (1945) it didn't need the USSR to help it finish the war against Japan.

At the Tehran Conference (1943) The Big Three talked about what to do when Hitler was beaten. They agreed on a Soviet sphere of influence in Eastern Europe and a capitalist one in Western Europe, but they could not agree on what to do with Germany.

At the Yalta Conference (1945) the Big Three agreed that Poland would be communist, the USSR would help in the war against Japan and the United Nations would be set up. They also agreed to work for democracy but what this meant was unclear.

At the Potsdam Conference (1945) the Big Three agreed to ban the Nazi Party and punish surviving Nazis as war criminals. They agreed to divide Germany and its capital Berlin for a short time. They were split into four zones each one run by the USA, USSR, Britain and France. The Truman Doctrine (1947) was a result of political differences between the superpowers. US President Truman was worried that communism would spread in Europe and said that the USA would use military (tanks, bombs, etc) and economic (money) means to stop it from spreading. It led to the Marshall Plan and increased tensions of the Cold War.

The Marshall Plan (1947) wanted to lessen poverty and to stop the spread of communism. The USA offered \$13 billion to rebuild Europe. Only capitalist/democratic countries were allowed to apply for the Marshall Aid- it was used to make sure that countries stayed in the USA's sphere of influence. Britain, France and 14 other countries accepted Marshall Aid, which helped their economy and their trade with the USA.

Cominform (1947) was an organisation for communist parties all over Europe. For example, in 1947 it encouraged 2 million French workers to go on strike against Marshall Aid. Stalin used Cominform to control the satellite states.

Comecon (1949) was another way Stalin controlled his satellite states. It was a rival to the Marshall Plan. It encouraged trade (selling and buying) and industry (building of factories and businesses) in Eastern Europe and discouraged trade with the West. This increased tension with the West.

Term	Definition
Communism	A theory or system of social organization in which all property is owned by the community and each person contributes and receives according to their ability and needs.
Capitalism	An economic and political system in which a country's trade and industry are controlled by private owners for profit, rather than by the state.
Arms Race	When countries compete to have the most effective armed forces
Atomic Bomb	A highly destructive nuclear weapon
Big Three	Roosevelt (United States), Stalin (Soviet Union) and Churchill (Britain)-the original leaders of the Grand Alliance
Blockade	An attempt to prevent resources reaching their destination
Conciliation	A term used to describe a return to improved relations between the USA and USSR during the late 1980s.
DeStalinisation	The promise that after Stalin's death political rule in the Soviet Union would be less oppressive.
Doctrine	A statement of ideas
Eastern Bloc	The European countries within the Soviet sphere of influence
Reparations	A form of compensation that the losing side in a war has to pay to the winners
Retaliation	An attempt to pay someone back for wrongdoing
Satellite State	A country that is officially independent, but is in reality controlled by another country.
Telegram	Both the USSR and USA regularly asked for secret reports from their embassies to help them understand how their opponents were thinking.

Key knowledge:

After the Second World War relations between the communist USSR (Soviet Union) and the capitalist/democratic West worsened and the Cold War began.

Both superpowers (USA and USSR) felt that other countries in the world should choose one side or the other in the Cold War, and both sides felt the other side was out to destroy them. They worked hard to spread their ideology (set of beliefs) and make their sphere of influence bigger while at the same time tried to stop the other side influencing countries.

The Cold War included an arms race and a space race to become the leading superpower. The actions of the superpowers in other countries, e.g. the USSR in Hungary could be violent and destructive.

Communism vs. Capitalism/democracy

The USSR (East) believed in communism where the communist party was in charge of the government and everything to do with the economy. The USA (West) believed in democracy with free elections that many political parties could take part in. They also believed in the system of capitalism where there was a free market economy. These different ideas weakened the Grand Alliance.



Tehran/ Yalta/ Potsdam/

Change of leaders. By the time of the Potsdam Conference, President Roosevelt had died. This changed the relationship between the Big Three. It was no longer the wartime leaders of Roosevelt, Stalin and Churchill; it was now Truman, Stalin and Churchill. Truman was more anti-communist and did not trust Stalin. At the end of the conference Churchill learned that he lost the election and was no longer the Prime Minister of Britain. He was replaced by Clement Attlee. Stalin was the only surviving leader of the wartime alliance. The trust between the Big Three was gone.

Tehran



Yalta



Potsdam



Iron curtain or Buffer zone

Buffer zone Stalin was worried about the west trying to take over. To make sure that the Soviet Union was safe he set up communist governments in the countries that the Red Army had 'liberated' (freed) from the Nazis in Eastern Europe. Bulgaria, Czechoslovakia, Hungary, Poland all became communist. These countries were called 'satellite states' of the USSR. To President Truman this proved his worst fear - communism was trying to take over the world.

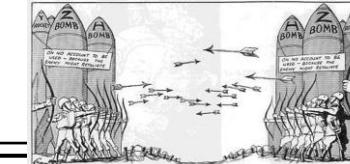
Iron Curtain the setup of communist governments in Eastern Europe made Winston Churchill give his 'iron curtain' speech in which he said that Europe was now divided into two secretive and opposed camps. The iron curtain was not a real iron curtain, but a sign of the division between East and West.



Post WW2 Relations

Containment: the Truman Doctrine and the Marshall Plan were meant to stop communism from spreading. Containment used political (pacts, alliances, etc), economic (money, aid, etc) and diplomatic (talks, discussion, negotiations, summits, etc) strategies to 'contain' communism within Eastern Europe.

Bizonia (US and British zones of Germany) was run almost as one. It had good relations with the French zone. In 1948 the Western powers decided to make the three zones (Trizonia) into a democratic and capitalist state. This increased tension with the USSR..



Berlin Blockade (1948-49) was Stalin's response to the West's creation of Trizonia. The USSR tried to get all parts of Berlin to become communist. When they refused, Stalin cut off all land access to West Berlin; this meant that Western powers could not get to West Berlin by land and 2.5million Berliners could not leave Berlin. Stalin did not want Berlin to be 'an island of capitalism in a sea of communism' and was worried the allies used West Berlin to spy on the USSR.

Berlin Airlift (1948-49) went on for 321 days and saw the British and Americans fly in thousands of tonnes of supplies and goods to West Berlin. Although the Soviets filled the shops in East Berlin with goods, only 2.5% of West Berlin left to go to the East. Although the Blockade failed it had shown that the two superpowers could no longer trust each other or work together. The two separate republics of East and West Germany were created in May 1949 at the end of the blockade.



Alliances

NATO (North Atlantic Treaty Organisation) was set up in 1949. It was made up of the USA and its allies. Its members promised to defend each other if attacked. The communist version of NATO was the Warsaw Pact, set up in 1955.

Arms Race the USA had the atomic bomb by 1945; the USSR had created its own by 1949. By 1953 both superpowers had the more powerful hydrogen bomb. They each raced to get more bombs and weapons than the other.

Hungary was a satellite state of the USSR. It became communist, lost land, and its coal and oil were shipped to the Soviet Union. In 1949 the Soviets made Rakosi the dictator of Hungary. He jailed 387,000 Hungarians and executed 2,000.

Nikita Khrushchev was the Soviet leader after Stalin died in 1953. His 'secret speech' of 1956 promised to change Stalin's policies (deStalinisation) and relax Soviet control of satellite states. He also promised peaceful co-existence with the West (you stay out of my sphere and I'll stay out of yours). Nagy became leader of Hungary in 1956. The 'secret speech' and Khrushchev's promises made the Hungarians go on protest and riot for change. The new Hungarian leader Imre Nagy put forward reforms such as leaving the Warsaw Pact and ending communism in Hungary. The US offered \$20 million in aid to Nagy's government.

Crushing Hungary (1956) fearing Hungary would make other countries in the Eastern Bloc do the same, 200,000 Soviet troops took over the country and put it back under communist control. The USA and UN did not like this but sent no military aid to the Hungarians. 20,000 Hungarians died in the Soviet takeover. Nagy was found guilty of treason (acting against the state) and hanged.



St Joseph's College History Department

Spring term 3 Y11: Super power relations cold war in crisis



The heating up of the conflict between the USSR and the USA

Key words/Terms

Term	Definition
Conciliation	A term used to describe a return to improved relations between the USA and USSR during the late 1980s.
Nuclear holocaust	The virtual destruction of the human race by nuclear weapons
Pact	An agreement (usually between two countries) towards peaceful relations
Propaganda	Information that is deliberately designed to win political support
Refugee	Someone fleeing from bad conditions
Retaliation	An attempt to pay someone back for wrongdoing
Summit	A high-level meeting between government representatives
Ultimatum	A demand made with the threat of force if not carried out
Brinkmanship	The practice of pursuing a dangerous policy to the limits of safety before stopping, especially in politics.

Key knowledge:

Berlin, Cuba and Czechoslovakia were all crises in the Cold War.

The drain of refugees from East to West Berlin led to Khrushchev ordering the building of the Berlin Wall in 1961. It became a worldwide symbol of the Cold War division between East and West.

The Cuban Missile Crisis of 1962 is often said to be the point where the Cold War came closest to turning into an actual nuclear war, which would have caused appalling devastation.

The Prague Spring of 1968 and the Soviet occupation that followed showed just how determined the USSR was to keep control of the satellite states that made a buffer between the USSR and the West.

Key dates and events:

Berlin Ultimatum (1958) it embarrassed the USSR that East Germans preferred the West and that they were losing good workers. So Khrushchev said all Berlin belonged to East Germany. He told Western powers that they had 6 months to take their troops and leave Berlin. Eisenhower's Berlin talks (1959) Khrushchev and President Eisenhower agreed to discuss what was happening in Berlin. Khrushchev took back his ultimatum that the troops had to leave. In 1959 he first met Eisenhower in Geneva and then at Camp David in the USA. They met again in Paris in 1960, but could not agree on what to do about Berlin. Before the talks a U2 spy plane owned by the US was shot down over the USSR. When Eisenhower refused to apologise for spying, Khrushchev walked out of the talks.

Kennedy's Berlin talks (1960-61) Khrushchev met the new President, John Kennedy in Geneva. Khrushchev thought that Kennedy was not very experienced and thought he could make him do as he told, and so Khrushchev again told the US they had 6 months to leave Berlin. The arms race- by 1961 the USA had 20 times more nuclear weapons than the USSR and unlike the USSR it had B52 planes that could carry nuclear bombs.

The Berlin Wall (1961) Khrushchev realised that he could not force the Americans to leave Berlin but he could not afford to go to war against them. To make sure that he didn't lose face he decided on the Berlin Wall. Overnight on 12 August 1961, East Germany closed off West Berlin with barbed wire and then quickly built a wall. The wall was 45km long and split many families; 239 people were killed trying to escape to the West.

The Bay of Pigs (1961) CIA trained Cubans who had left Cuba to America after Castro's revolution. During the Bay of Pigs they tried to take over Cuba and get rid of Castro. This failed and made America and President Kennedy look foolish.

1967 Outer Space Treaty - signed by the USSR, USA and UK. This banned the placement and testing of nuclear weapons in space and on the Moon.

1968 Non-proliferation Treaty - An agreement of all signatories to stop or limit the spread of nuclear capability to non-nuclear countries. The five recognised nuclear countries were the USA, USSR, UK, China and France.

The Berlin Wall, 1961

Berlin Refugees almost 3 million East Germans left to go to West Berlin from 1949-61. One reason for this was that the East German government was very unpopular. Another reason was that people wanted western freedom and wealth and higher standards of living. Many of the people that left were young and well educated - this was called the 'brain drain'.



Kennedy plans for war- the USA refused to leave Berlin. Kennedy was worried about a war and so spent an extra \$3.2 billion dollars on the military and \$270 million on nuclear fallout shelters.

The arms race- by 1961 the USA had 20 times more nuclear weapons than the USSR and unlike the USSR it had B52 planes that could carry nuclear bombs.

Berlin Wall's effects, although the wall was built to stop people from leaving East Germany (guards and soldiers were always present at the wall and were ordered to shoot anyone who came within 1km of the wall), it also stopped a war between both sides. The Berlin Wall made

Khrushchev look like a strong leader. It became a symbol of the division between the East and the West. It stood until 1989 when it was torn down and Germany was reunited. Many historians say the breaking of the wall ended the Cold War.

Castro and Cuba- Cuba is only 145km from the USA and had been a friendly country of the USA for many years. In 1959, Fidel Castro led a revolution (use force to change the government and way a country is ruled) in Cuba, throwing out the Pro-American government led by the leader Batista and taking control of all American property in Cuba. The USSR saw this as a way they could have influence in that part of the world, and so offered Cuba economic aid and experts to help Cuba industrialise (build better industries and factories). The US was worried, as the USSR now had an ally right in their sphere of influence..

The Arms Race By 1960 Khrushchev felt like a man surrounded by enemies. The US had missiles in Turkey just 150 miles from the USSR and he knew the USSR was starting to fall behind in the arms race. So Khrushchev began looking for a way to take a lead over the US.

The Crisis - worried that the US was trying to take over Cuba, Castro asked the USSR to help defend Cuba. Castro accepted the USSR offer to build a nuclear weapon sites in Cuba. This meant for the first time Soviet missiles were in a country close to them and could directly hit the USA. For thirteen days in 1962, the USA and the USSR were ready to go to war.

Discovery- a US spy plane took photos of the missile sites and President Kennedy was told that he had 10 days before Cuba could fire the missiles at American targets. This would have given the USSR 'first strike capacity', i.e. they could have wiped out many of the American missile sites before the USA had a chance to do anything.

Kennedy's reaction- On 16 October, Kennedy set up a National Security Council to give advice to him. The decision they took was to create a Naval Blockade around Cuba, so that no Soviet ships could get in or out. The ships carrying missiles were turned away, but the Soviets were still building the missile base

Khrushchev's letters - On 26 October, the first letter was sent by Khrushchev to Kennedy, it said it could take apart the missile sites in Cuba, if Kennedy would end the blockade and agrees not to invade Cuba. Before Kennedy could reply, Khrushchev sent another letter on 27 October, demanding that Kennedy also take apart American missile bases in Turkey. On the same day, a US U2 plane was shot down over Cuba. It looked as if war was about to happen. Kennedy ignored the plane incident.

Kennedy's response- Kennedy also ignored Khrushchev's second letter - his letter to Khrushchev said that it would lift the blockade and agreed not to invade Cuba, if Khrushchev would take apart the missile bases. On 28 October Khrushchev agreed. The crisis was over.

Mutually Assured Destruction (MAD) - By the 1960s, the USA and the USSR both had so many weapons that any nuclear war would cause so much damage to both sides. Neither dared to attack as the other could strike back before the bombs had even reached their country. This situation is known as MAD (Mutually Assured Destruction). Knowing this made each side a little more careful and brought some calmness to their relationship.

1967 Outer Space Treaty - signed by the USSR, USA and UK. This banned the placement and testing of nuclear weapons in space and on the Moon.

1968 Non-proliferation Treaty - An agreement of all signatories to stop or limit the spread of nuclear capability to non-nuclear countries. The five recognised nuclear countries were the USA, USSR, UK, China and France.

The Czechoslovakian Uprising, 1968

Czechoslovakia and the USSR: Communism was unpopular in Czechoslovakia, a satellite state of the USSR. The secret police crushed all political opposition and the economy suffered under the rule of the communist leader Novotny.

Alexander Dubcek was the popular secretary of the Czech Communist party, who became the leader of Czechoslovakia in 1968. His reforms (including making political opposition groups legal and allowing some capitalist profit-making activities) are called the Prague Spring. He wanted a new kind of communism for Czechoslovakia, he called it 'socialism with a human face'.

The Soviet Response Brezhnev (the Soviet leader) warned Dubcek many times about his actions, but Dubcek did not back down. As a result, in August 1968 Soviet troops invaded Czechoslovakia.

Dubcek's reaction Dubcek told the Czechs not to fight the invading troops. The only opposition was students standing in front of the Soviet tanks holding anti-invasion banners. Dubcek was forced to undo his reforms.

International reaction Western powers condemned the USSR, but gave no military help to the Czechs. Communists outside the USSR were angry at the Soviet action, some turned to China for communist leadership while others set up a rival form of communism: Eurocommunism.

The Brezhnev Doctrine Dubcek's reforms were a problem for the USSR who did not want this kind of challenge to their authority to spread. Brezhnev said that the USSR would invade any satellite state that threatened the security of the Eastern bloc, this was the Brezhnev Doctrine.

The Cuban Missile Crisis, 1962



The results- both the USA and USSR wanted to avoid a similar crisis in the future. In 1963 they agreed to a policy of building better relations. They set up the 'hotline' between Washington and Moscow and agreed to limit further nuclear testing. They also signed the Nuclear Test Ban Treaty. Khrushchev lost respect and status because he had to back down, but Kennedy gained respect and status because he had faced down the Russians. Cuba remained a communist dictatorship but America left it alone. Krushchev was dismissed in 1964.



St Joseph's College History Department

Spring term 4 Y11: Super power relations the end of the cold war



The cooling down of the conflict between the USSR and the USA

Key words/Terms

Term	Definition
Détente	A term used to describe the relationship between the USSR and USA during the 1970s. This involved a period of mutual understanding and greater cooperation between the two countries.
Doctrine	A statement of ideas
Evil Empire	A term used by President Reagan in 1983 to describe the Soviet Union.
Glasnost	'Openness'-censorship of the press in the Soviet Union was to be relaxed.
'Gorbymania'	A term used by the Western media to describe America's positive attitude towards Gorbachev-the leader of the USSR in the 1980s-and his new thinking.
Perestroika	'Restructuring'-Economic reforms designed to make the Soviet economy more efficient.
Second Cold War	Phase used to describe the period between 1979 and 1985, which marked a new low in superpower relations.
Boycott	To withdraw from commercial or social relations with (a country, organization, or person) as a punishment or protest.

Key knowledge:

The Cuban Missile Crisis had scared the superpowers so much that they tried a policy of détente-a lessening of tensions between them.

Détente became more common in the 1970s, but stopped working after the Soviet takeover of Afghanistan in 1979, which the USA fiercely opposed.

During the 1980s and 1990s relations between the USA and the USSR changed- the USA became the richer and more advanced superpower. At the same time, the USSR's power over the satellite states was weakened, and the 1985 policies of glasnost and perestroika introduced by Gorbachev speeded up the collapse of the USSR.

Key dates and events:

Détente in space 1967 Outer Space Treaty- USA and USSR ban nuclear arms in space; 1975: first joint space mission

Détente and arms limitations 1972 Strategic Arms Limitations Treaty [SALT 1] tried to control the number of nuclear weapons that both sides had. In the 1975 Helsinki Conference-superpowers and countries friendly to them agreed on things that they could work together on e.g. respecting human rights

The Kabul Revolution In 1978, the government in Afghanistan was brought down. Mohammed Taraki became the new communist leader and Afghanistan became an ally (friendly country) to the USSR. But his communist government was not secure and soon after Civil war broke out.

The USSR invaded Afghanistan in 1979. It wanted to support communism and to stop the growth of Islamic or Western control. Its war against Afghan rebels (fighters) lasted 10 years, about 1.5 million people died, including 15,000 Soviet troops.

Olympic boycotts- To show their disapproval of the Soviet takeover of Afghanistan, the USA and around 60 other countries, boycotted (stayed away, did not take part in) the 1980 Olympics in Moscow, Soviet Union. The USA ran a different Olympic Boycott Games in Philadelphia. As a result, in 1984 the USSR and 14 other communist countries boycotted the Olympic Games in Los Angeles, United States.

The 'Second Cold War' [1979-85] was caused by the takeover of Afghanistan and the new US president Ronald Reagan. He believed Détente had made the USSR stronger. He called it 'the Evil Empire'. He believed that the USA should stop it growing.

The Second Cold War ended after 1985 because the West liked Gorbachev's new methods, because Gorbachev knew the space and arms races were hurting the Soviet economy, and because he wanted to do business with the West.

At the Geneva Summit [1985], Gorbachev hoped to get Reagan to drop the SDI plan. He replaced the foreign minister, Andre Gromyko (who was against détente) with Eduard Shevardnadze (who agreed with détente). They did not reach an agreement, but agreed to meet again.

At Reykjavik [1986], Reagan would not drop SDI but offered to get rid of ballistic nuclear missiles. Gorbachev refused, but talks went on. Gorbachev saw the cost of nuclear weapons was harming the Soviet economy and did not make the USSR safer. He also saw that Reagan could not afford to back down on SDI and that accepting this would help with détente.

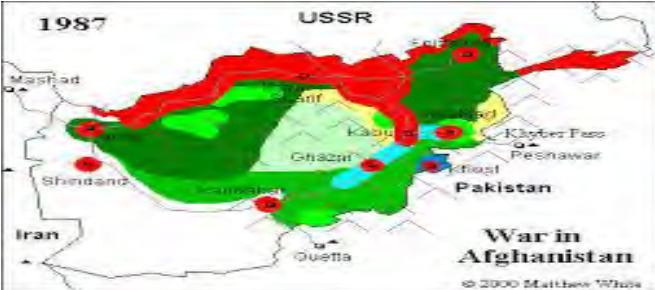
Intermediate-Range Nuclear Forces [INF] Treaty: At Washington [1987] both sides signed this treaty. They agreed to ban all nuclear weapons with a range of 500-5,000 km but SDI was left in place.

Détente

Détente is the policy of working to ease tensions between two groups or countries that have been enemies or fiercely opposed.

Glasnost is the term used for Gorbachev's policy of greater openness, the allowing of public discussion of issues and Détente.

Perestroika is the term used for Gorbachev's policy of economic reform to increase efficiency, cutting back state control and bureaucracy and allowing more foreign trade. Détente became more common by the 1970s. The USA and USSR wanted to lessen the chance of nuclear war; they also wanted to compete less; they worked together more.

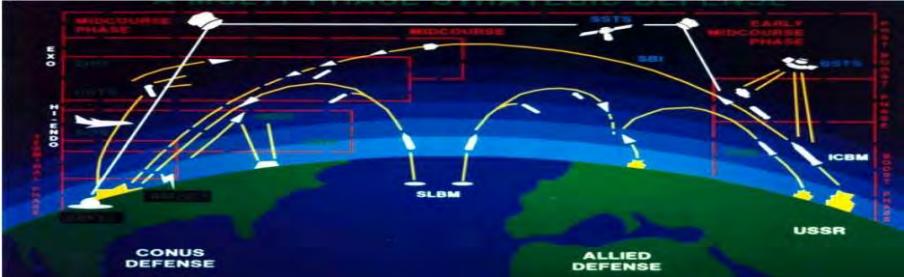


SDI - 'Star Wars'

The Strategic Defence Initiative [SDI - 'Star Wars'] was the US plan that would allow satellites to destroy nuclear weapons from space. It was planned to give the US arms superiority (lead or advantage). It undid the success of détente. It also broke the Outer Space Treaty.

Soviet response to SDI By the 1980s, the USSR was behind the USA in computer technology and was too poor to keep up with SDI, the arms race or space race.

Mikhail Gorbachev became the Soviet leader in 1985, when Communism was becoming unsuccessful and unpopular in the East. He put forward ideas of Glasnost [openness, cutting censorship; détente] and Perestroika [economic changes to make the economy work better]. He was very slow to allow democratic elections. He felt the changes he was making would help communism.



The Fall of communism

Berlin Wall falls. Once some Eastern Bloc countries became free, it was not possible to stop East Germans getting to the West. So, in November 1989, travel was allowed from East to West Germany and from East to West Berlin.

Communism crumbles. Freed from Soviet control, elections were announced and by 1990, communists lost power in Poland, Czechoslovakia, Hungary and East Germany. As the Warsaw Pact was an alliance of communist powers, this collapsed too.

Gorbachev falls Gorbachev was liked in the West for glasnost, for perestroika, and for freeing satellite states. But some Russians felt his policies had weakened communism. In 1991, the 'Gang of Eight', senior communists, removed him from power.

The Soviet Union falls. The new Soviet government lasted only three days. Gorbachev returned. He tried to rewrite the constitution (rules and laws of the country) of the USSR, giving Soviet republics more freedom. But being removed from power once had weakened his control. The republics demanded freedom. In December 1991, Gorbachev ended the Soviet Union and left the job as leader of the Soviet Union.



Gorbachev and the satellite states

Gorbachev did not want the Soviet Union to do business only with the satellite states. He also did not want the Soviet Union to waste money on having Soviet bases (where Soviet troops and military stayed) in satellite countries. He wanted Communism to benefit from perestroika and Glasnost there too.



St Joseph's College History Department

Summer Term 5 Y11 KS4: Revision



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.

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.

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



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.



St Joseph's College History Department



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

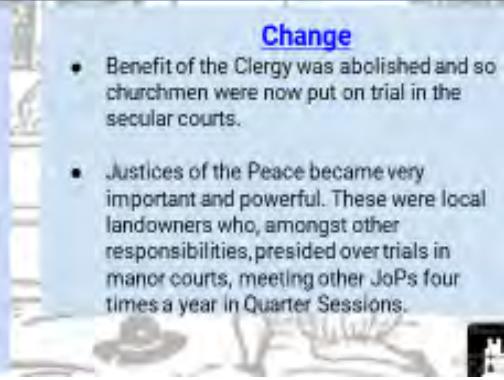
Key dates:

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 JPs 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..



St Joseph's College History Department

Summer Term 6: Revision

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



The 18th and 19th century saw a period of accelerated change in Britain. The Industrial age had a huge impact on the nature of crime and punishment.

Towns and Travel

The population increased quickly, and more people lived in towns and cities. Transport also improved, as railways developed.

Poverty and Wealth
Industrialisation and trade and the Empire allowed Britain to become the richest country in the world. The government raised more money from taxation and could afford to do things to improve people's lives. However, poverty remained for many.

Attitudes in Society
Attitudes about human nature and society's responsibility towards people changed at this time. Some people believed that better conditions would make crime less likely, and that people could be

Government
During the 19th century, people became more willing to accept government interference in their lives. This meant they were willing to support changes such as the introduction of the police force.

Elizabeth Fry also became interested in the subject of prison reform. She was a Quaker (a type of Christian) and believed that it was possible to reform and rehabilitate prisoners. She visited Newgate Prison and was horrified by the conditions.



Elizabeth Fry visiting prisoners at Newgate in London

In Newgate Prison, 300 women and their children were crammed into a small part of the prison.

Fry believed that sexual abuse was being committed by the male wardens against the female prisoners.

She set up prayer groups for the female prisoners.

She organised a school for the children of prisoners.

Elizabeth Fry also set up educational programmes in the prison, allowing the women to learn useful skills such as sewing and knitting in order to improve their chances of finding employment when released and avoiding

As prisons became more common, people began to put pressure on the government to improve conditions within them, arguing that to do so would make criminals less likely to re-offend.

The French Revolution, which began in 1789, had led to fear of similar political and social upheaval happening in Britain. Outbreaks of violence in Britain, such as the Swing Riots of the 1830s, led members of the upper classes to view any organisation or demands on the part of the working class with suspicion.



Contemporary sketch of some of the Tolpuddle Martyrs

In 1833, six farm labourers from Tolpuddle in Dorset - George Loveless, his brother James, James Hammett, James Brine, Thomas Standfield and Thomas's son John - took an oath, promising to join together in a union to try and persuade their employer to increase their wages.



The men's employer, James Frampton, found out what they were doing and reported them to the authorities, who wished to take action against people establishing trade unions. The men were charged with taking an illegal oath, and sentenced to transportation to Australia.



John Howard, Sheriff of Berkshire, who campaigned for prison reform

Howard recommended:

- Prisoners be separated, with male and female inmates in different parts of the prison, and hardened criminals and first offenders not placed together.
- An end to fees charged by prison guards. This led to prisoners being given more equal treatment.
- Medical care and an improved diet for prisoners.
- That inmates be encouraged to go to church services in the prison chapel.

I can:

Continuity and change in the composition of the army, including the decline of the cavalry.

Impact on warfare of changes in weaponry and industrialisation.

The recruitment and training of combatants, including Cardwell's army reforms and professionalisation.

The impact of war on civilians, including recruitment and requisitioning and the. The impact on popular attitudes of the growth of newspaper reporting and photography.

Case studies: The Battle of Waterloo, 1815: reasons for its outcome; the role of the Duke of Wellington and the Battle of Balaclava, 1854: reasons for its outcome; the role of Lord Raglan

The Bloody Code

Term referring to the large number of crimes which could be punished by death.

Penal Reform

The attempt to improve the system of punishment, including prisons.

Bow Street Runners

A private police force, established in London in 1749.

Separate System

The system in prisons in the 19th century, which prevented prisoners from associating with one other in order to encourage them to focus on rehabilitation.

Highwaymen

A criminal, typically on horseback, who held up travellers at gunpoint in order to rob them.

Tolpuddle Martyrs

Six men who were transported to Australia after taking a secret oath to form a union.



St Joseph's College History Department



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.

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.



This unit will enable learners to complete R087

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.

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.

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.

Devices used to access webpages:

- Laptops and personal computers
- Tablets
- Mobile devices and smartphones
- Game consoles and digital television
- Smart Speaker
- Smart Watch

Purposes of websites:

- Education
- Online retail
- Information
- Services
- Advertising
- Promotion
- Entertainment



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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.

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

Methods of internet connection:

- Wired broadband
- Wi-Fi
- 3G, 4G and 5G wireless broadband

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.



St Joseph's College IT / Computing Department

Spring term: Pre-production skills



This unit will enable learners to understand pre-production skills used in the creative and digital media sector. It will develop their understanding of the client brief, time frames, deadlines and preparation techniques that form part of the planning and creation process.

CONTENT OF VISUALISATIONS

- Images/Drawings
- Shapes
- Text
- Colours
- Dimensions
- Annotations

EXAMPLE



CONTENT OF STORYBOARDS

- Images/Drawings
- Scene numbers
- Timings
- Dialogue
- Camera angles
- Sounds (music/sfx)
- Camera movement

EXAMPLE



CONTENT OF SCRIPTS

- Location
- Scene numbers
- Stage Directions
- Dialogue
- Characters
- Camera angles
- Sounds (music/sfx)
- Camera movement

EXAMPLE



CONTENT OF MOODBOARDS

- Images
- Text
- Font Style
- Colour Scheme
- Fabrics (physical)
- Sounds (digital)
- Video (digital)

EXAMPLES



Key Vocabulary: Visualisation diagrams

These are sketches of what a product will look like when it is completed. Usually hand drawn.

- Annotations - labels that explain the content on the visualization diagram
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Storyboards are a sequence of drawings, typically with directions and dialogue, representing the shots planned for a film or television programme.

- Scene numbers - numbers that label the flow of the panel
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- Dialogue e.g. lines of passages that are intended to be spoken.

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Scripts are written texts of a film, play, broadcast intended to show what is being said, by whom and how it should be said.

- Dialogue e.g. Words that need to be spoken by actors.
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Key Vocabulary: Mood Boards

Mood boards are an arrangement of images, materials, pieces of text, etc intended to generate ideas.

Physical - created by hand using assets on paper e.g. pictures cut out from magazines



St Joseph's College IT / Computing Department

Spring term: R085 - Creating a Multipage Website



This unit will enable learners to complete R085

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.

Planning:

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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.

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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.

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



This unit will enable learners to complete R085

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

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St Joseph's College IT / Computing Department

Autumn term - Systems Software



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

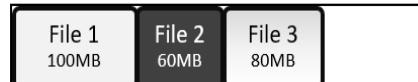
Scheduling: The process of arranging and controlling various processes when multi-tasking

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?

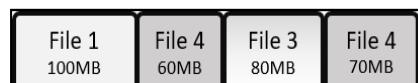
Fragmentation & Defragmentation



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

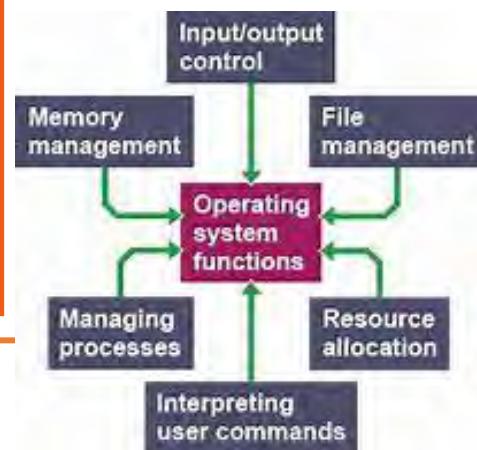
Search the hard drive for bad links and record those areas as unusable

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



St Joseph's College IT / Computing Department

Spring term: Ethical, Legal and Environmental impacts



This unit will enable learners to understand what is meant by ethical, legal and environmental impacts of digital technology on society

Ethical, Legal and environmental impacts of digital technology on society

Remember!

- Do not use a computer to harm other people
- Do not interfere with other people's computer work
- Do not snoop around in other people's computer files
- Do not use a computer to steal
- Do not use a computer to bear false witness
- Do not copy or use proprietary software for which you have not paid (without permission)
- Do not use other people's computer resources without authorization or proper compensation
- Do not appropriate other people's intellectual output
- Think about the social consequences of the program you are writing or the system you are designing
- Always use a computer in ways that ensure consideration and respect for other humans



Environmental Impacts

- The disposal of computer waste is a big problem because they contain many toxic chemicals. Often old computing equipment is illegally shipped for disposal to developing countries.
- The growth in cloud computing means a greater need for storing data online. For this data centres are used but they require huge amounts of electricity, thereby contributing to climate change.
- Cobalt is a key element required for Lithium batteries for powering mobile devices. Much of the World's cobalt is mined in the Congo even by very young children in appalling conditions.

Environmental benefits

- Less reliance on paper saving resources
- More opportunity for online global communication and collaboration thereby saving on travel and associated pollution
- Greater insight of environment and climate through using computer to model and analyse and process environmental data

Questions:

1. State three principles of the Data Protection Act 1998.
2. State what is made illegal under the Computer Misuse Act 1990.
3. State one principle of the Freedom of Information Act 2000.
4. Describe three environmental issues with the manufacturing, use and disposal of computer technology.
5. A supermarket is reducing the number of checkout operators, in favour of self-service checkout terminals. What are the impacts for the customer, company and workers?

C

Legal and Ethical Vocab

Copyright

A legal right that prevents others from copying or modifying intellectual work without permission

Intellectual property

A piece of non-physical work which has been created and is owned by someone

Patent

A licence which protects intellectual property



This unit will enable learners to understand what is meant by ethical, legal and environmental impacts of digital technology on society

Legislation

Computer Misuse Act (CMA)

The purpose of the CMA is to prevent:

- unauthorised access to computers by hackers
- intentionally impairing the operation of computer systems through denial of service (DOS) attacks on web servers or distributing viruses
- the theft of data

Three levels of offence:

- 1) Unauthorised access
- 2) Unauthorised access with intent to commit an offence
- 3) Unauthorised modification of data

Investigatory Powers Act This is legislation that allows public authorities to carry out mass surveillance on electronic communications.

Justification - By monitoring electronic communications security services can keep us safe from terrorists and other serious criminals

Concerns - Can infringe on our privacy and civil liberties

In a liberal democracy there will always a need to balance security and privacy, but where we draw that line will always be a matter of debate.

Some powers of the security services under the IPA

- can hack into computers, networks, mobile devices, servers
- internet service providers have to store which websites users visit for 12 months and allow access to authorities when requested
- carry out mass surveillance of communications; authorities can collect bulk data including data about people who are not suspected of anything.
- demand that an internet service provider provide access to a customer's communications including keys to encrypted data

Copyright, Designs and Patents Act (CDPA)

Copyright is a law that protects the creators of original pieces of work. No one else has the right to use or copy it without permission from the owner. This ensures that people can be rewarded for their work.

Plagiarism To pass off some else's work as one's own work.

Patent An inventor has the exclusive right to create, use and sell an invention for fixed period

Piracy Illegally copying and distributing copyrighted material.

Fair use allows copyrighted work to be used legally in certain situations

- personal or educational use (not commercial use)
- use only a small amount of the work (e.g. a short quote)
- acknowledge original source of the work

Copyleft work can be copied, modified used even used for commercial gain as long as the derived works are also distributed under copyleft.

Creative Common Licences (CCL) The creator of the work has explicitly given anyone permission to use the work.





St Joseph's College IT / Computing Department

Spring term: Ethical, Legal and Environmental impacts



This unit will enable learners to understand what is meant by ethical, legal and environmental impacts of digital technology on society

General Data Protection Regulation (GDPR)

The purpose of the GDPR is to ensure that personal information collected by businesses and other organisations are protected.

Personal data is defined as anything that allows an individual to be identified (e.g. name, biometric data)

Six principles of the GDPR

Personal information must:

- be used fairly and lawfully
- be used only for specific purposes for which it was collected
- be adequate, relevant and not excessive
- be accurate and kept up to date
- be kept for longer than is necessary and deleted when it is no longer needed
- be kept secure against unauthorised access



Other aspects of the GDPR

- The data subject needs to be notified if their data are shared with other organisations
- Obtain consent from the data subject to their process data
- Obtain consent from parents or guardians to process children's data.
- Allow data subjects to have their data removed
- Allow data subjects to access the data held about them
- Pay big fines for a breach of the GDPR

Other Social Impacts

Artificial Intelligence is replacing people in jobs. More hi-tech jobs but less need for many lower skilled jobs.

The **digital divide** refers to the unequal access to information technology between different groups of people, and the knowledge and skills needed to use the technology.

Online trolling, cyber bullying and fake news on social media sites is undermining freedom of expression

B	Legislation
Copyright, Designs and Patents Act, 1988	Legislation which protects intellectual property by banning its unauthorised copying or redistribution
Computer Misuse Act, 1990	Legislation against hacking and disruptive behaviour on computers
Data Protection Act, 1998	Legislation which prevents storing of data about an individual which is excessive, unlawfully sourced, unsafely stored or inaccurate.
Freedom of Information Act, 2000	Legislation which gives rights for individuals to find out about data held about them
Communications Act, 2003	Legislation against malicious communication and using someone's internet without their permission
Waste Electrical and Electronic Equipment Regulations, 2013	Legislation regulating the disposal of electrical equipment



St Joseph's College IT / Computing Department

Spring term: Systems Architecture, Memory & Storage - Revision



This unit will enable learners to revise for the following topics: Systems Architecture, Memory and Storage

GCSE Computer Science

Computer Systems

Hardware & Software
Hardware: The physical components of a computer system.

Software: The programs and operating information used by a computer.

Peripheral Devices
A computer device that is not part of the essential computer.

Input Devices

- Keyboard
- Mouse
- Microphone
- Touchscreen
- Scanner
- Webcam
- Controller

Output Devices

- Monitor
- Speakers
- Printer

Secondary Storage Devices

Magnetic Storage

- Portable hard drive

Optical Storage

- CD
- DVD
- Blu-Ray

Solid State Drives

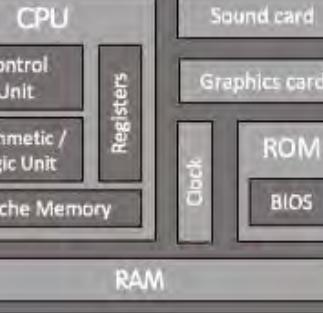
- USB flash drive
- Flash memory card
- SD card



For more ideas, visit
@RobotResources

The Computer

Motherboard



Hard drive

Application Software

Software

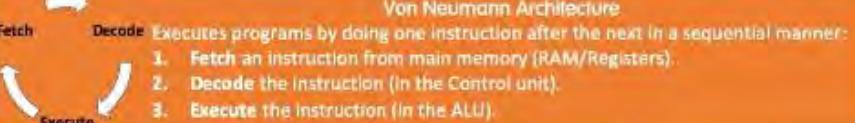
Operating Systems (OS)

Programs that enable the user to complete tasks.

- Office
- Graphic Design
- Music
- Games

System Utility Software
Used to manage the computer.

- Anti virus
- Disk defragmentation
- System clean-up
- Encryption / decryption
- System security



Factors Affecting CPU Performance

Clock speed: The greater the clock speed, the faster instructions will be executed. However, a faster CPU requires more energy and produces more heat.

Cache memory size: Cache memory is an intermediary between the RAM and the CPU. This improves the availability of frequently used data. This means the CPU can work faster and perform better. Level 1 cache is between 2-6KB in size while Level 2 is usually 256KB-2MB. Cache memory is however very expensive in terms of cost per byte.

Number of processor cores: The more cores a computer has, the more tasks that can be performed at the same time. A PC with a multi-core processor, executing many tasks at the same time, will operate faster than a single-core computer.



Embedded Software

Within a hardware machine such as a washing machine, microwave or an alarm clock, this is a piece of inbuilt software which allows the hardware to perform a function. Embedded systems don't usually have much, if any RAM. Instead the embedded software is stored and run from the ROM.

Memory & Storage

Random Access Memory (RAM): Acts as a temporary storage location (known as primary storage) for programs and data. Memory can be written to or read from. RAM is volatile, i.e. it only stores information while the computer is on and is emptied when it is off.

Read Only Memory (ROM): Used to store BIOS/bootstrap loader which is required at the start-up of the computer (boot sequence). Memory can only be read from, not written to. ROM is non-volatile, i.e. data is not lost when the power is turned off.

Storage: Secondary storage devices are non-volatile, permanent storage locations for programs and information. When required, they are copied into the computer's main memory (RAM), known as primary storage, before they are executed.

Secondary storage types: These include the following:

- **Magnetic:** Moving read and write heads charge ion particles on the disk's surface in one of two directions (on or off). Large storage capacity and storage is cheap compared to other storage types. However they can be noisy, easily damaged if dropped and moving parts will eventually fail.
- **Optical:** A disk that uses reflected light to read dents or pits (off) and flat spots or lands (on). To write to the disk, lasers burn pits into the surface of the disk. Easy to store and carry, easy to use and long lasting. However data write-once disks (CD-R, DVD-R) cannot be changed, they are easily scratched and damaged by heat and light.
- **Solid State:** Use special transistors that retain their state even when there is no power to them. Read and write speeds are fast, they are durable, lightweight, free from moving parts and run silently. However, compared to magnetic drives they have a limited storage capacity, and cost per GB stored is higher.

Portable secondary storage devices: Are transportable storage devices used to back up data, add additional storage space to internal secondary storage and to transfer files between computers.

Key Components

Arithmetic & Logic unit (ALU): Carries out the following functions:

- **Logical operations:** Boolean operations, e.g. AND, OR and NOT.
- **Shift operations:** Shifts bits either left or right.
- **Arithmetic operations:** Includes addition, subtraction, multiplication and division.

Control Unit: This coordinates all the activities within the CPU, e.g.

- Ensures instructions are executed in the correct sequence.
- Decodes Instructions.
- Regulates processor timing using system clock pulses.
- Sends & receives control signals to and from other devices within the computer.

Clock: Switching between 0 & 1 at rates exceeding several million times per second, the clock controls processor timing and synchronises all CPU operations.

Clock speed is measured in Hertz (Hz). A CPU with a clock speed of 1GHz can carry out 1 000 000 000 cycles per second.

System Bus: The internal connections within a CPU are known as buses. They connect the ALU, Control Unit and Registers (fast memory locations) through a collection of wires.



St Joseph's College IT / Computing Department

Summer term: Systems Architecture, Memory & Storage - Revision



This unit will enable learners to revise for the following topics: Systems Architecture, Memory and Storage

The **CPU** processes data and instructions in the computer. It does it using the **Von-Neumann** architecture where the CPU runs programs stored in memory. The CPU fetches instructions from RAM, decodes it and then executes. This is done in a sequence and is known as the **fetch-execute cycle**.

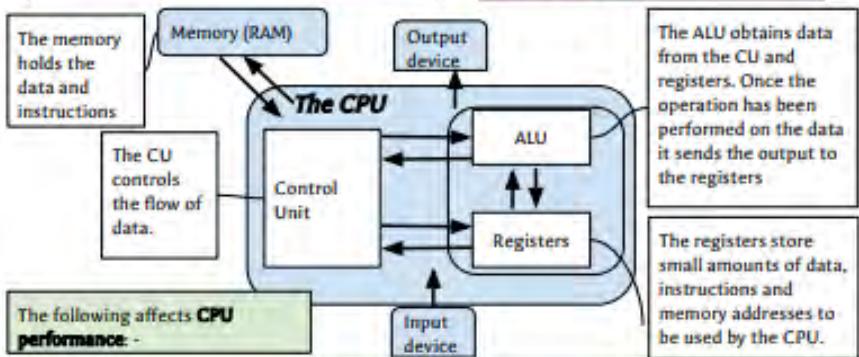
Parts of the CPU

The Control Unit (CU) coordinates the timing and the flow of data in the CPU. Executes program instructions by using the **fetch-execute cycle**.

The Arithmetic Logic Unit (ALU) does the calculations. Includes logical operations (AND, OR, NOT) and arithmetic operations.

The Clock controls the timing. The clock speed is the number of fetch-execute cycles that take place each second. Measured in MHz or Ghz.

There are a series of wires through which data travels around the computer via the motherboard. This is known as the **bus**.



Clock speed - The higher the clock speed on the PC the greater the amount of instructions the CPU can carry out. One clock per cycle = 1Hz 1 billion cycles per second = 1GHz. Most PCs have a clock speed of between 2 and 4 GHz.

Number of processor cores - Each core processes data and instructions independently. If there are more than 1 core, the CPU will process data faster. Most modern devices have 4 cores.

Cache size - Cache is fast memory in the CPU. The CPU accesses regularly used data within the cache. It is an intermediary between the CPU and main memory (RAM) and the CPU, taking away the reliance on the RAM. More cache memory makes the CPU work faster but it is expensive.

Cache type - **Level 1** is close to the CU, ALU and registers. This makes it quicker but only stores a small amount of data (2 - 64KB) and is expensive. **Level 2** is quite fast and medium sized (256 - 2MB). Finally the CPU will try to use **Level 3** cache. This is on the motherboard, so is slower but has the largest capacity.

Secondary storage is used to store data and programs permanently. They are not running in the computer's CPU or RAM memory. This means that secondary storage is non-volatile because it is not lost when the power supply is turned off. Non-volatile memory needs to be reliable and robust.

Primary Storage (reminder)

Cache, CPU in posture, RAM, ROM

Secondary Storage

Hard disk, CD-ROM, DVD, SSD, Pen-drive, Memory card, Cloud

Tertiary Storage (reminder)

Cloud, Hard disk, Tape (back-ups)

Keywords

Secondary Storage: Stores data and programs permanently that are not running in the CPU or RAM. It is non-volatile memory.

Durable: A device that is strong and lasts a long time without becoming damaged.

Reliable: Does it last a long time, can you rely on it to keep working?

Portable: Easily moved around, can be transported easily.

Robust: A device can be moved and handled without it getting damaged.

Questions:

1. Explain what primary storage is.
2. Explain what tertiary storage is.
3. Explain what secondary storage is.
4. What is meant by a device being durable?
5. What is meant by a device being reliable?
6. What is meant by a device being reliable?
7. What is meant by a device being portable?
8. What is meant by a device being robust?
9. List the three TYPES of storage.
10. What is the main device that uses magnetic storage?



This unit will enable learners to revise for the following topics: Systems Architecture, Memory and Storage

Types of Secondary (non-volatile) Storage			
Magnetic Storage: Stores data using magnetic patterns 	Advantages: <ul style="list-style-type: none"> - Data not lost when no power - Can store large amounts of data, high capacity - Low cost 	Disadvantages: <ul style="list-style-type: none"> - Can be damaged due to moving parts - If damaged, can be difficult to recover data - Uses a lot of power 	Example(s) Hard disk 
Optical Storage: Uses a laser to read and write data on optical discs. This creates pits and lands. 	Advantages: <ul style="list-style-type: none"> - Data not lost when no power - Cheap - Robust - Discs can last a long time if cared for - Can be used by many devices such as PCs, DVD players and Music systems. 	Disadvantages: <ul style="list-style-type: none"> - Easily scratched / damaged - Write discs can only be written to once 	Example(s) CDs DVDs Blu-ray discs 
Cloud Storage: Data is uploaded to remote servers via the internet. Servers are owned by companies. 	Advantages: <ul style="list-style-type: none"> - Secure storage if passwords are strong - Low risk of breaking - Anytime / anywhere access - Basic cloud storage is free 	Disadvantages: <ul style="list-style-type: none"> - Upload / download times can be high for large files - Can be hacked - Some cloud storage has to be paid for 	Example(s) One-drive Google drive 

Solid State Disk (SSD): Has many memory chips on it, acts like a hard disk. 	Advantages: <ul style="list-style-type: none"> - Data not lost when no power - Durable and hard wearing - No moving parts, so reliable - Quite fast 	Disadvantages: <ul style="list-style-type: none"> - Number of write's can be limited - Expensive 	Example(s) SSD Drives 
Memory Cards and Flash Drives: Use integrated circuit semiconductor chips to store memory.	Advantages: <ul style="list-style-type: none"> - Data not lost when no power - No moving parts, so reliable - Can be used in lots of devices - Can be used to easily back-up files - Connects to common USB port - Small and lightweight - Durable - Portable - Easy to transfer data and files 	Disadvantages: <ul style="list-style-type: none"> - Can be lost easily - Can be forgotten when left in USB ports on the computer - Number of read/writes is limited, so limited lifespan - Can be affected by electronic corruption and data cannot then be read 	Example(s) USB memory stick Memory cards used in: Mobile phones Digital cameras Games consoles  

Units of information	
Unit	Value
Bit	The smallest unit of data that can be represented by a computer.
Nibble	4 bits (half a byte)
byte	8 bits
kilobyte	1000 bytes
megabyte	1000 kilobytes or 1 million bytes
gigabyte	1000 megabytes or 1 billion bytes
terabyte	1000 gigabytes or 1 trillion bytes
petabyte	1000 terabytes or 1 quadrillion bytes



St Joseph's College IT / Computing Department

Summer term: Systems Architecture, Memory & Storage - Revision



This unit will enable learners to revise for the following topics: Systems Architecture, Memory and Storage

The Need for Secondary Storage

Secondary storage is needed because the main memory in a computer system is lost (volatile) when the power is switched off. It is needed to store programs and data when the power is switched off on a computer. It is also needed to backup data files (backups are tertiary storage).

Data Capacity of Storage Devices and Calculations:

Bit	1 bit
Byte	8 bits
Kilobyte	KB
Megabyte	MB
Gigabyte	GB
Terabyte	TB
Petabyte	PB

The capacity of a device is how much it can store. Capacity is measured in Bytes Megabytes, Gigabytes and Terabytes. Depending on what you are storing, you will need different devices with different capacities. The list shows some typical file sizes of different files.

Videos	.mov	15,347 KB	
Music	.mp3	7,864 KB	
Photos	.jpg	5,654 KB	
Documents	.doc	288 KB	

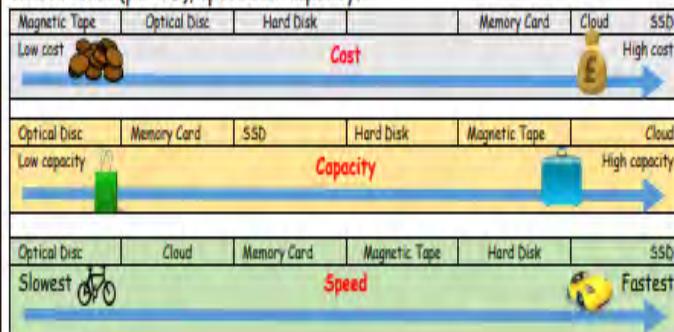
Common Types of Storage

The three main types of storage are optical, magnetic and solid state.



Suitable Storage devices and Storage Media for a Given Application

Selecting a suitable storage device for an application depends on what the device will be used for. Things that will determine which device is suitable include: cost (per GB), speed and capacity.



Further Links and Revision Aids

- [Link to 1.3 Flash cards](#)
- [Link to ChronoDove 1.3a video](#)
- [Link to ChronoDove 1.3b video](#)
- [Link to ChronoDove 1.3c video](#)
- [Link to ChronoDove 1.3d video](#)

Complete the Word Search

Y	E	S	O	Y	Y	U	A	I	V	E	Y	D	D	OPTICAL
S	R	C	O	P	T	E	S	I	D	R	T	E	U	MAGNETIC
B	S	A	E	L	M	I	R	B	A	C	M	V	O	SOLID-STATE
M	A	P	M	R	I	T	L	D	D	A	U	I	L	CAPACITY
T	L	C	D	I	U	D	N	I	G	R	A	C	C	SPEED
S	A	Y	K	A	R	O	S	N	B	I	I	E	A	PORABILITY
O	F	T	L	U	C	P	E	T	R	A	A	V	S	DURABILITY
C	L	I	V	E	P	T	L	T	A	C	R	T	E	COST
D	A	C	S	B	I	I	A	D	B	T	I	O	U	SECONDARY
S	S	A	I	C	S	C	D	S	S	D	E	T	P	PRIMARY
E	H	P	D	U	R	A	B	I	L	I	T	Y	B	FLASH
C	C	A	O	C	E	L	F	U	L	G	R	M		CLOUD
I	R	C	A	R	A	B	C	S	P	E	D	T		DEVICE
T	P	D	S	T	P	V	I	P	A	E	T	C	S	VIRTUAL

Select three words from your word search and write out their definitions.

Keyword	Definition



St Joseph's College Mandarin Department

Autumn Term 1: Health and Education Year 11 Half Term 1



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	shāng	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 bù yào xué huàxué. Dìyì, huàxué hěn nán. Dìèr, wǒ bù xǐhuān huà xué lǎoshī

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 qí	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	xǐ 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	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



St Joseph's College Mandarin Department

Autumn Term 1: My Hometown and Chinese Traditions Year 11 Half Term 2



Learning how to navigate Chinese online life and comparing life and how to interview in Chinese

就:

is a common adverb which is difficult to translate directly.

It has several meanings:

- 1) 就 is used for emphasis:
- 2) 就 is used for something happening sooner than expected
- 3) 就 indicates a small amount or no big deal, like 'just'
- 4) 就 shows that when something happens, another will happen
- 5) 就 shows that if conditions are met, something will happen

Directional complements:

Directional complements are added to a verb.

来 means 'towards the speaker'

去 means 'away from the speaker'

What is the difference between:

回来 huí lái to return and 回去 huí qù to return?

Other verbs that can take directional complements are:

进 jìn enter 出 chū exit

上 shàng go up 下 xià go down

过 guò cross over 起 qǐ rise

才:

It is an adverb, with three common meanings

Only if... then...

你要花很多钱, 才能买 nǐ yào huā hěn duō qián, cái néng mǎi

Something happened later than expected

她六点才来 tā liù diǎn cái lái

Indicates something is a small number

他才花了15元 tā cái huā le yuán

Chinese holidays:

节日 jié rì	holiday
春节 chūn jié	Spring Festival
中秋节 zhōng qiū jié	MidAutumn Festival
端午节 duān wǔ jié	Dragon Boat Festival
圣诞节 shèng dàn jié	Xmas
复活节 fù huó jié	Easter

灯笼 dēng lóng	lantern
庆祝 qìng zhù	to celebrate
礼物 lǐ wù	gift
月饼 yuè bǐng	moon cake
月亮 yuè liàng	moon
龙舟 lóng zhōu	dragon boat
粽子 zòng zi	glutinous rice
唐人街 tāng rén jiē	Chinatown
的时候 de shí hou	when...

Directions:

迷路 mí lù	to be lost
过马路 guò mǎ lù	cross road
往 wǎng	go towards
看见 kàn jiàn	to see
红绿灯 hóng lǜ dēng	traffic lights
十字路口 shí zì lù kǒu	intersection
拐 guǎi	to turn
一直 yī zhí	straight
地图 dì tú	map
小镇 xiǎo zhèn	village
汽车站 qì chē zhàn	bus stop
交通 jiāo tōng	traffic
安静 ān jìng	peaceful
环境 huán jìng	environment
郊区 jiāo qū	suburbs

Weather Forecast:

天气 tiān qì	weather
预报 yù bào	forecast
有雾 yǒu wù	foggy
小雨 xiǎo yǔ	drizzle
暖和 nuǎn huo	warm
晴天 qíng tiān	fine day
阴天 yīn tiān	cloudy day
凉快 liáng kuài	cool
离开 lí kāi	to leave
天空 tiān kōng	sky
无聊 wú liáo	boring
放松 fàng sōng	relax
准备 zhǔn bèi	prepare
生活 shēng huó	to live

Customs:

邀请 yāo qǐng	to invite
感谢 gǎn xiè	thank you
干杯 gān bēi	cheers
晚会 wǎn huì	party
婚礼 hūn lì	wedding
明白 míng bái	to understand

都/也:

The patter is similar to words that begin any- and every-

Subj + Question Word (+ Obj) + 都/也 + Verb

他什么都吃 tā shén me dōu chī He eats everything

我哪儿都去过 wǒ nǎr dōu qù guò I have been everywhere

我谁都不认识 wǒ shuí dōu bù rèn shi I don't know anyone

Time duration with 有:

Use this construction to talk about time:

Subj + Verb + 有 + Time Duration + 了

他学了中文有三年了 tā xué le zhōng wén yǒu sān nián le He has been learning Chinese for 3 years



St Joseph's College Mandarin Department

Spring Term 2 - Going on line and Going to work Year 11 Half Term 3



Learning how to navigate Chinese online life and comparing life and how to interview in Chinese

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 guò...de huà,...jiù + verb

如果穿毛衣的话, 你就不会很冷

rú guò chuān máo yī de huà,nǐ jiù bù 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	déi	must, need to	
必需	bì xū	absolutely must	
愿意	yuàn yì	willing to	

Proof reading:

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 qian	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

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	wǎng yè	web page
复制	fù zhì	copy
下载	xià zài	download
打字	dǎ zì	copy
删除	shān chú	delete
电子邮件	dìan zǐ yóu jiàn	email

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

Interviewing for a job:

面试	miàn shì	interview
面谈	miàn tán	interview
个人简历	gè rén jí	individual CV
目标	mù biāo	objective
义工	yì gōng	volunteer work
理想	lǐ xiāng	ideal
能力	néng lì	ability
机会	jī huì	opportunity
广告	guǎng gào	advertisement
兼职	jíān zhí	part-time work



St Joseph's College Mandarin Department

Spring Term 2 - Global Issues Year 11 Half Term 4



Learning how to talk about the environment and social issues

Passive Sentences

The passive voice is a sentence structure which swaps the position of the subject and the objects of the verb. In English it looks like this:

Active Voice: The cat bit me.

Passive Voice: I was bitten by the cat.

In Chinese, the simplest way to express the passive is with the word 被 *bèi*
Object + 被 + Subject + Verb

Active Voice: 猫咬了我

Passive Voice: 我被猫咬了

Active Voice: 我吃了汉堡包

Passive Voice: 汉堡包被我吃了

Four uses of the grammar particle 了:

了 to indicate a completed action

It is put directly after the verb

Often used when talking about time duration of a past action

Often used with resultative and directional complements in the past

了 to indicate a change of state

Roughly translates as 'now' or 'any more' in English

Can be used with positive and negative sentences

我有时间了 wǒ yǒu shí jiān le

I have time now

我没有时间了 wǒ méi yǒu shí jiān le

I don't have time any more

了 to indicate excessiveness

太...了

可...了

...极了

了 to indicate imminence

Used with 快要...了

我们快要吃饭了 wǒ men kuài yào chī fàn le We are about to eat

Environmental Issues:

附近	fù jìn	nearby
空气	kōng qì	air
天空	tiān kōng	sky
灰色	huī sè	grey
新鲜	xīn xiān	fresh
公里	gōng lǐ	km
钓鱼	diào yú	to fish
污染	wū rǎn	pollution
浪费	làng fèi	waste
政府	zhèng fǔ	govt
志愿者	zhì yuàn zhě	volunteer
协会	xié huì	association
自然	zì rán	natural
河	hé	river
树	shù	tree
山区	shān qū	mountains
动物	dòng wù	animals
气候	qì hòu	climate
变化	biàn huà	change

Social Issues:

网吧	wǎng bā	internet cafe
上瘾	shàng yǐn	addicted to
酒	jiǔ	alcohol
吸烟	xī yān	smoking
戒烟	jiè yān	quit smoking
并	bìng	actually
饮食	yǐn shí	food and drink
超重	chāo zhòng	obese
减肥	jiǎn féi	lose weight
洪水	hóng shuǐ	flood
人口	rén kǒu	population
增加	zēng jiā	to increase
因此	yīn cǐ	consequently
同意	tóng yì	to agree
反对	fān duì	to oppose
厉害	lì害	terrible

Giving Examples:

To make sure you are communicating to a high level - make sure you give examples!

The simplest way to do this is to use:

比如 bǐ rú for example

When speaking, use:

比如说 bǐ rú shuō



St Joseph's College Mandarin Department

Summer Term 3 - Review. Year 11 Half Term 5



Reflect / Review these Units to make sure you know the Key Language Points

Unit 1: 我的爱好 Topic: My Hobbies

- (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'

Recap your vocab, and review activities on www.secondschoolchinese.com

Unit 2: 怎么去 Topic: Getting Around

- (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

Recap your vocab, and review activities on www.secondschoolchinese.com

Unit 3: 我家人 Topic: My Family

- (1) 不太, 非常, 有点儿 to describe opinions (2) Verb+得 to describe how people do things

Recap your vocab, and review activities on www.secondschoolchinese.com

Unit 4: 买东西 Topic: Going Shopping

- (1) ...还是... comparing options (2) adjective + 的 for descriptions (3) 给... + verb for buying gifts (4) 太。。。了 'too'

Recap your vocab, and review activities on www.secondschoolchinese.com

Unit 5: 他怎么样 Topic: Describing People

- (1) 虽然..., 但是... although..., but... (2) 真 for describing personalities (3) Relative clause + 的+ noun for descriptions

Recap your vocab, and review activities on www.secondschoolchinese.com

Unit 6: 出去吃饭 Topic: Eating Out

- (1) Using 了 for completed actions (2) Using 没有 for past negatives (3) 吧 For making suggestions

Recap your vocab, and review activities on www.secondschoolchinese.com

Unit 7: 我的一天 Topic: Daily Routine

- (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.

Recap your vocab, and review activities on www.secondschoolchinese.com

Unit 8: 放假 Topic: On Holiday

- (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)

Recap your vocab, and review activities on www.secondschoolchinese.com



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Summer Term 3 - Review. Year 11 Half Term 6



Reflect / Review these Units to make sure you know the Key Language Points

Unit 9: 观光 Topic: Sightseeing

(1) 离...近/远 talking about proximity (2) Adj+极了; adj+ 的不得了 instead of 很 (3) When to use 了 or 过 in the past

Recap your vocab, and review activities on www.secondaryschoolchinese.com

Unit 10: 健康 Topic: Health

(1) 跟...一样 for making comparisons (2) 了 for a change in state

Recap your vocab, and review activities on www.secondaryschoolchinese.com

(3) 对 as a coverb to mean 'for,to,towards'

Unit 11: 教育 Topic: Education

(1) 第 with ordinal numbers (2) Resultative complements eg 说完 and 看到 (3) Using adverbs

Recap your vocab, and review activities on www.secondaryschoolchinese.com

Unit 12: 我的家乡 Topic: Hometown

(1) Question word + 都/也 (2) Directional complements (来/去) (3) Using 就'

Recap your vocab, and review activities on www.secondaryschoolchinese.com

Unit 13: 中国传统 Topic: Festivals & Customs

(1) Time duration with 有... (2) 还是 or 或者

Recap your vocab, and review activities on www.secondaryschoolchinese.com

(3) When using 时候

Unit 14: 上网 Topic: Internet & Social Trends

(1) 如果...就... (2) 越... 越...

Recap your vocab, and review activities on www.secondaryschoolchinese.com

(3) Overview of all modal verbs

Unit 15: 上班 Topic: Going to Work

(1) Potential complements (2) 是...,的... because..., so...

Recap your vocab, and review activities on www.secondaryschoolchinese.com

(3) Importance of proof reading

Unit 16: 在家 Topic: At Home

(1) 着 for describing a continuous state (2) 把 the closest Chinese gets to 'the'

Recap your vocab, and review activities on www.secondaryschoolchinese.com

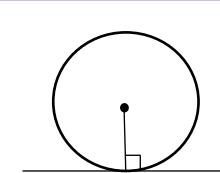


St Joseph's College Math Department

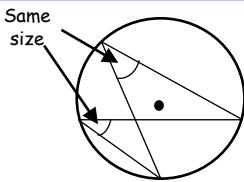
Autumn Term 1 Unit 16 - Circle Theorems



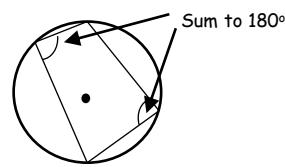
Discovering and using the fundamental theorems regarding circles



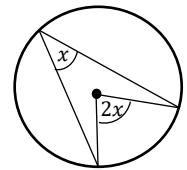
The angle between a radius and a tangent is 90°



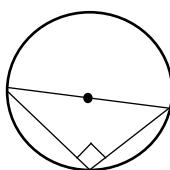
Angles at the circumference are equal



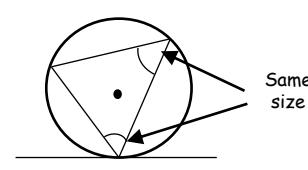
Opposite angles in a cyclical quadrilateral sum to 180°



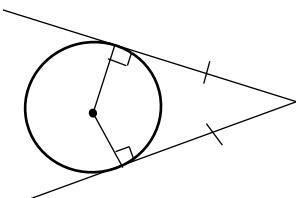
The angle at the centre is twice that at the circumference



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

Key Words

Radius
Centre
Tangent
Circumference
Right angle

QUESTIONS

Calculate the length of the radius for each of the following equations of circles:

$$1) x^2 + y^2 = 25$$

$$2) x^2 + y^2 = 49$$

$$3) x^2 + y^2 = 256$$

$$4) x^2 + y^2 = 22$$

Example

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.

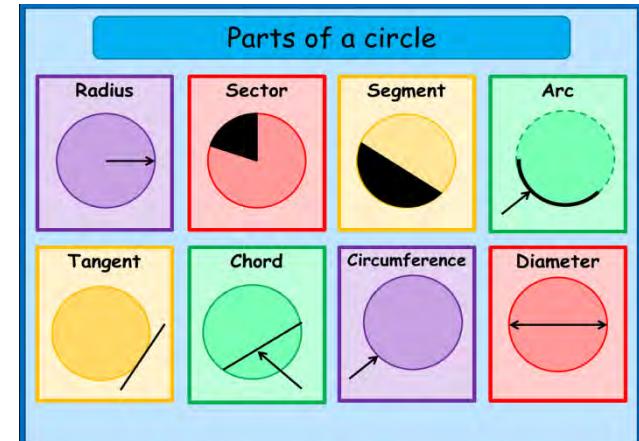
$$\begin{aligned} \text{gradient of tangent} &= \text{negative reciprocal of } \frac{1}{2} \\ &= -2 \end{aligned}$$

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



ANSWER 1) 5 2) 7 3) 16 4) $\sqrt{22}$



Arranging formulae, Brackets, Algebraic Fractions, graphs, surds, factorising and solving

Key Concepts

A **formula** involves two or more letters, where one letter equals an **expression** of other letters.

An **expression** is a sentence in algebra that does NOT have an equals sign.

An **identity** is where one side is the equivalent to the other side.

When **substituting** a number into an expression, replace the letter with the given value.

Expanding brackets

Single: Where each term inside the bracket is multiplied by the term on the outside of the bracket.

Double: Where each term in the first bracket is multiplied by all terms in the second bracket.

Factorising expressions

Putting an expression back into brackets.

To "factorise fully" means take out the HCF.

Difference of two squares

When two brackets are repeated with the exception of a sign change. All numbers in the original expression will be square numbers.

Key Words

Substitute
Equation
Formula
Identity
Expression
Expand
Factorise
Simplify
Product
Solve

Examples

- 1) $5(y + 6) \equiv 5y + 30$ is an identity as when the brackets are expanded we get the answer on the right hand side
- 2) $5m - 7$ is an **expression** since there is no equals sign
- 3) $3x - 6 = 12$ is an **equation** as it can be solved to give a solution
- 4) $C = \frac{5(F - 32)}{9}$ is a **formula** (involves more than one letter and includes an equal sign)
- 5) Find the value of $3x + 2$ when $x = 5$ $(3 \times 5) + 2 = 17$
- 6) Where $A = b^2 + c$, find A when $b = 2$ and $c = 3$ $A = 2^2 + 3$
 $A = 4 + 3$
 $A = 7$

Linear expressions

Expand and simplify where appropriate

- 1) $7(3 + a) = 21 + 7a$
- 2) $2(5 + a) + 3(2 + a) = 10 + 2a + 6 + 3a$
 $= 5a + 16$
- 3) Factorise $9x + 18 = 9(x + 2)$
- 4) Factorise $6e^2 - 3e = 3e(2e - 1)$

Quadratic expressions

Expand and simplify:

$$\begin{aligned} 1) \quad & (p + 2)(2p - 1) \\ &= 2p^2 + 4p - p - 2 \\ &= 2p^2 + 3p - 2 \end{aligned}$$

$$\begin{aligned} 2) \quad & (p + 2)^2 \\ &= (p + 2)(p + 2) \\ &= p^2 + 2p + 2p + 4 \\ &= p^2 + 4p + 4 \end{aligned}$$

Factorise:

$$3) \quad x^2 - 2x - 3 = (x - 3)(x + 1)$$

Factorise and solve:

$$4) \quad x^2 + 4x - 5 = 0 \quad (x - 1)(x + 5) = 0$$

Therefore the solutions are:

$$\begin{aligned} \text{Either } x - 1 = 0 & \quad x = 1 \\ \text{Or } x + 5 = 0 & \quad x = -5 \end{aligned}$$

Questions

1) Identify the equation, expression, identity, formula from the list

(a) $v = u + at$ (b) $u^2 - 2as$ (c) $4x(x - 2) = x^2 - 8x$ (d) $5b - 2 = 13$

2) Find the value of $5x - 7$ when $x = 3$

3) Where $A = d^2 + e$, find A when $d = 5$ and $e = 2$

$$3) \quad A = 27$$



St Joseph's College Math Department

Autumn Term 1 Unit 17 More algebra



Arranging formulae, Brackets, Algebraic Fractions, graphs, surds, factorising and solving

Surds

Surds are expressions which contain an irrational square root

$$\sqrt{a} \times \sqrt{b} = \sqrt{a \times b}$$

$$\frac{\sqrt{a}}{\sqrt{b}} = \sqrt{\frac{a}{b}}$$

$$\sqrt{a} + \sqrt{b} \neq \sqrt{a+b}$$

Writing in the form $a\sqrt{b}$

Think square numbers $\sqrt{200}$ Square Factors = 4, 25, 100 Choose the largest square factor

$$\sqrt{100 \times \sqrt{2}} = 10\sqrt{2}$$

Rationalising the denominator

Rationalising the denominator involves removing all of the roots from the bottom of a fraction.

$$\frac{6}{\sqrt{3}} \Rightarrow \frac{6}{\sqrt{3}} \times \frac{\sqrt{3}}{\sqrt{3}} \quad \text{Multiply top and bottom by irrational root} \Rightarrow \frac{6\sqrt{3}}{\sqrt{9}} \Rightarrow \frac{6\sqrt{3}}{3}$$

A more complex denominator

$$\begin{aligned} \frac{5}{3+\sqrt{2}} &\Rightarrow \frac{5}{3+\sqrt{2}} \times \frac{3-\sqrt{2}}{3-\sqrt{2}} \quad \text{Multiply top and bottom by Conjugate (opposite root)} \\ &= \frac{5(3-\sqrt{2})}{(3+\sqrt{2})(3-\sqrt{2})} \quad \text{Expand and simplify} \\ &= \frac{15-5\sqrt{2}}{9-3\sqrt{2}+3\sqrt{2}-2} = \frac{15-5\sqrt{2}}{7} \end{aligned}$$

Key Words

Common denominator
Root
Irrational
Surd
Conjugate
Root
Reciprocal
Simplify
Factorise numerator

Examples

Addition and Subtraction

Make sure the denominators are the same

$$\frac{x^2+5}{y^2} + \frac{x \times y}{y \times y} \Rightarrow \frac{x^2+5}{y^2} + \frac{xy}{y^2} \Rightarrow \frac{x^2+5+xy}{y^2}$$

$$\frac{x^2}{9(x-5)} - \frac{x+4 \times 9}{x-5 \times 9} \Rightarrow \frac{x^2}{9(x-5)} - \frac{9(x+4)}{9(x-5)}$$

$$\text{Same rules apply in Subtraction}$$

$$\frac{x^2-9x-36}{9(x-5)}$$

$$\frac{2}{x+1} - \frac{5x}{x-4} \Rightarrow \frac{2(x-4)}{(x-4)(x+1)} - \frac{5x(x+1)}{(x-4)(x+1)}$$

$$\frac{2(x-4)-5x(x+1)}{(x-4)(x+1)} \Rightarrow \frac{-8-5x^2-3x}{(x-4)(x+1)}$$

Multiplication and Division

Multiply across the numerators and denominators

Cross cancel terms where possible

$$\frac{2}{x} \times \frac{x^2}{y} \Rightarrow \cancel{2} \times \frac{\cancel{x}^2}{y} \Rightarrow \frac{2x}{y}$$

$$\frac{6a+6b}{2} \times \frac{1}{a+b} \Rightarrow \frac{6(a+b)}{2} \times \frac{1}{a+b} = 3$$

To divide, multiply by reciprocal of 2nd fraction

$$\frac{4yz}{x} \div \frac{yz^2}{10} \Rightarrow \frac{4yz}{x} \times \frac{10}{yz^2}$$

$$\frac{4yz}{x} \times \frac{10}{yz^2} \Rightarrow \frac{40}{xz}$$

1) (a) Factorise $x^2 - 8x + 15$ (b) Factorise and solve $x^2 + 7x + 10 = 0$

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) $(2 + \sqrt{5})(3 - \sqrt{5})$

ANSWERS: 1) (a) $(x-3)(x-5)$ (b) $x = -2$ or $x = -5$, 1) $6\sqrt{3}$ 2) 36 3) $6\sqrt{2}$ 4) $2\sqrt{7}$ 5) $15\sqrt{2}-24$ 6) $1+\sqrt{5}$



Content: Arranging formulae, Brackets, Algebraic Fractions, graphs, surds, factorising and solving

Key Concepts

The **equation of a circle** will be in the format:

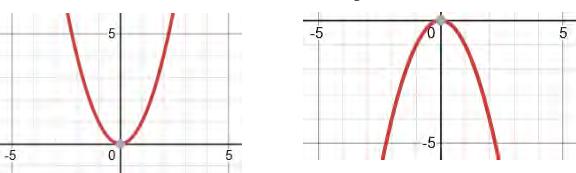
$$x^2 + y^2 = \text{radius}^2$$

The **centre** of each circle will be at the coordinate **(0,0)**.

A quadratic graph will always be in the shape of a parabola.

$$y = x^2$$

$$y = -x^2$$



The roots of a quadratic graph are where the graph crosses the x axis. The roots are the solutions to the equation.

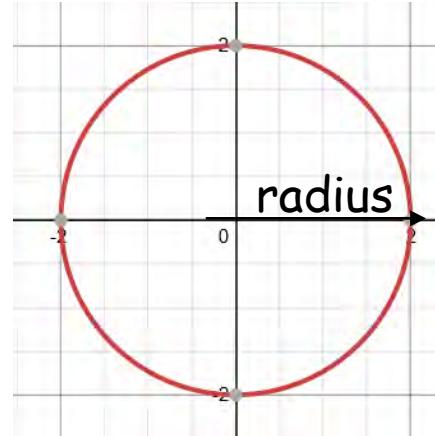
Calculate the length of the radius for each of the following equations of circles:

$$1) x^2 + y^2 = 25$$

$$3) x^2 + y^2 = 256$$

Key Words

Radius
Centre
Sketch
Square root
Quadratic
Roots
Intercept
Turning point
Line of symmetry

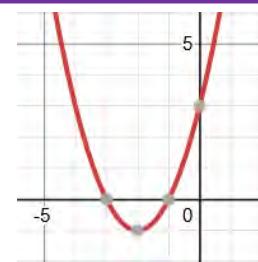


Examples

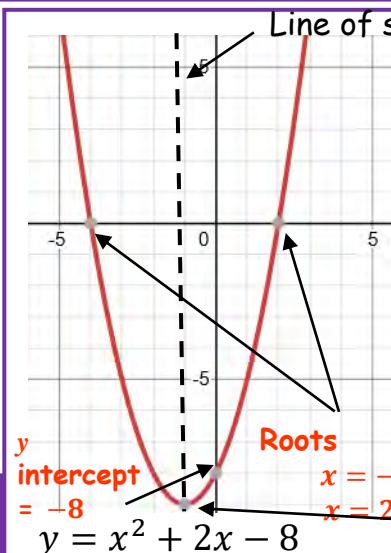
$$x^2 + y^2 = 4$$

$$\text{Radius} = \sqrt{4} \\ = \pm 2$$

Therefore we can plot the following coordinates to support us sketching our graph: $(0,2)$, $(0,-2)$, $(2,0)$, $(-2,0)$



- Identify from the graph of $y = x^2 + 4x + 3$:
- 1) The line of symmetry
 - 2) The turning point
 - 3) The y intercept
 - 4) The two roots of the equation



A quadratic equation can be solved from its graph. The roots of the graph tell us the possible solutions for the equation. There can be 1 root, 2 roots or no roots for a quadratic equation. This is dependant on how many times the graph crosses the x axis.

Turning point $(1, -9)$

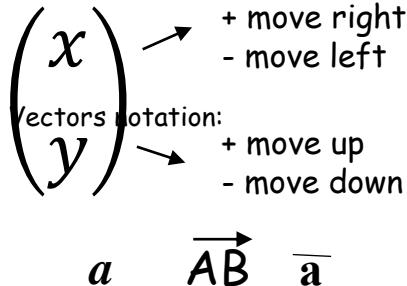
ANSWER 1) 5 2) 7 3) 16 4) $\sqrt{22}$



Using vector notation, solving geometric problems, similarity, enlargement and congruency

Key Concepts

Vectors describe translations.



- Magnitude:** Length of the arrow
- Direction:** Where the arrow is pointing
- Parallel lines of equal length have the same vector.**
- Parallel lines of different lengths have a multiple of the vector.**
- Travelling against an arrow changes the sign of the vector.**

Adding vectors:

$$\begin{pmatrix} 2 \\ 3 \end{pmatrix} + \begin{pmatrix} 5 \\ -4 \end{pmatrix} = \begin{pmatrix} 2+5 \\ 3+(-4) \end{pmatrix} = \begin{pmatrix} 7 \\ -1 \end{pmatrix}$$

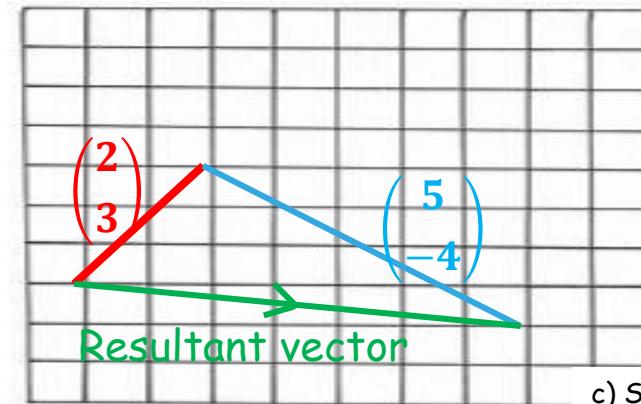
Subtracting vectors:

$$\begin{pmatrix} 3 \\ 9 \end{pmatrix} - \begin{pmatrix} 2 \\ -3 \end{pmatrix} = \begin{pmatrix} 3-2 \\ 9-(-3) \end{pmatrix} = \begin{pmatrix} 1 \\ 12 \end{pmatrix}$$

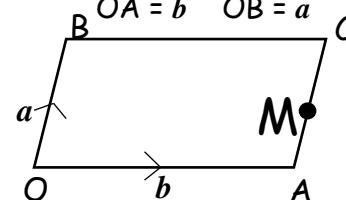
Vectors and scalar multipliers:

$$2 \begin{pmatrix} 8 \\ -3 \end{pmatrix} = \begin{pmatrix} 2 \times 8 \\ 2 \times -3 \end{pmatrix} = \begin{pmatrix} 16 \\ -6 \end{pmatrix}$$

Examples



OABC is a parallelogram. M is the midpoint of AC.



- a) State the vector of \overrightarrow{OC} .
As BC is parallel and equal in length to OA, it has the vector value of b.
Therefore $\overrightarrow{OC} = a + b$

- b) State the vector of \overrightarrow{AO} .
As we are travelling against the arrow, the vector changes sign.
Therefore $\overrightarrow{AO} = -b$

- c) State the vector of \overrightarrow{OM} .
As AC is parallel and equal in length to OB, it has the vector value of a. M is the midpoint of AC.
Therefore $\overrightarrow{OM} = b + \frac{1}{2}a$

Key Words

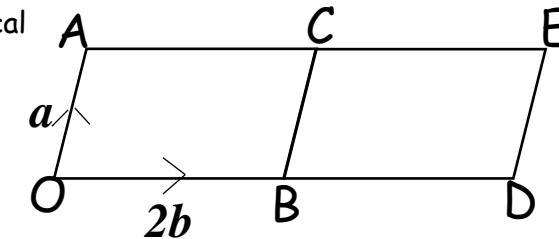
Column
Vector
Translation
Resultant
Vector
Magnitude
Direction
Parallel

1. Calculate the resultant vector:

a) $\begin{pmatrix} 3 \\ 2 \end{pmatrix} + \begin{pmatrix} 2 \\ -7 \end{pmatrix}$ b) $\begin{pmatrix} 5 \\ 2 \end{pmatrix} - \begin{pmatrix} 4 \\ -3 \end{pmatrix}$ c) $3 \begin{pmatrix} 3 \\ -2 \end{pmatrix}$

2. OABC and BCDE are two identical parallelograms.

- a) State the vector of \overrightarrow{OD}
b) State the vector of \overrightarrow{OC}
c) State the vector of \overrightarrow{AB}
d) State the vector of \overrightarrow{OE}



ANSWER a) $\begin{pmatrix} -5 \\ 5 \end{pmatrix}$ b) $\begin{pmatrix} 5 \\ 1 \end{pmatrix}$ c) $\begin{pmatrix} 9 \\ 6 \end{pmatrix}$ d) $4b + a$



Unit 18 includes using vector notation, solving geometric problems, similarity, enlargement and congruency

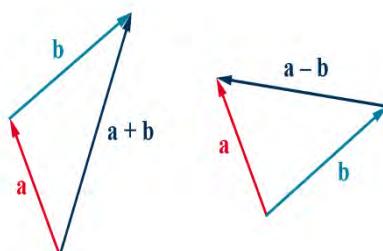
Key Concepts

Parallel lines of different lengths have a multiple of the vector.

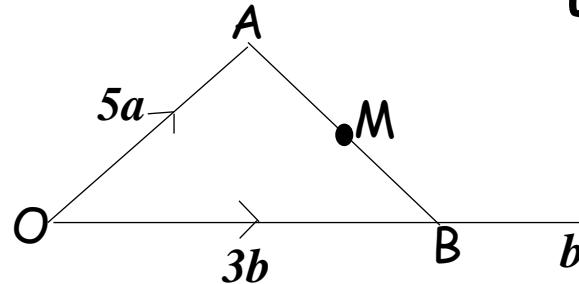
For two vectors to form a **straight line** they must have vector values which are **multiples of one another** and must have a **common point**.

Key Words

Vector
Ratio
Midpoint
Multiples



Examples

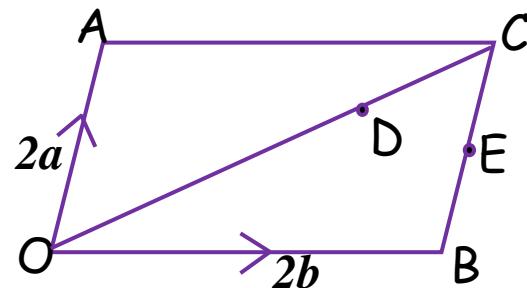


$$\begin{aligned}\vec{CA} &= \frac{1}{5}\vec{OA} \\ &= \frac{1}{5}(5a) \\ &= a\end{aligned}$$

$$\begin{aligned}\vec{CM} &= \vec{CA} + \vec{AM} \\ &= a + \frac{1}{2}(-5a + 3b) \\ &= a - 2.5a + 1.5b \\ &= -1.5a + 1.5b\end{aligned}$$

$$\begin{aligned}\vec{MD} &= \vec{MB} + \vec{BD} \\ &= \frac{1}{2}(-5a + 3b) + 4b \\ &= -2.5a + 1.5b + b \\ &= -2.5a + 2.5b\end{aligned}$$

C, M and D are on a **straight line** as CM and MD are **multiples of one another** and have the **common point** of M.



D is the point on OC such that OD:DC = 2:1.
E is the midpoint of BC.
Show that A, D and E are on the same straight line.

ANSWER a) 4b b) $a + 2b$ c) $-a + 2b$ d) $4b + a$



St Joseph's College Math Department

Autumn Term 2 Unit 18 Vectors, Proof, congruency and similarity



Unit 18 includes using vector notation, solving geometric problems, similarity, enlargement and congruency

Key Concepts

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.

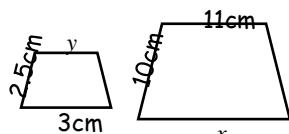
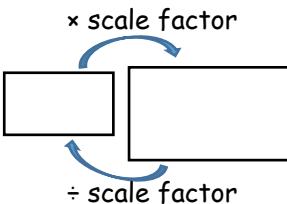
There are four rules of congruency that prove whether a triangle is congruent or not

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.

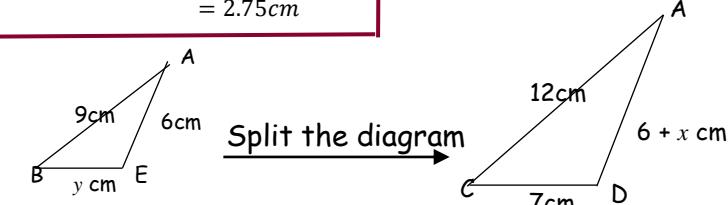
When finding a missing length on the smaller shape we **divide** by the scale factor.



$$\text{Scale factor} = \frac{10}{2.5} = 4$$

$$x = 3 \times 4 = 12\text{cm}$$

$$y = 11 \div 4 = 2.75\text{cm}$$



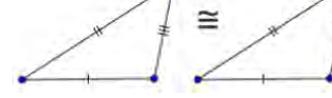
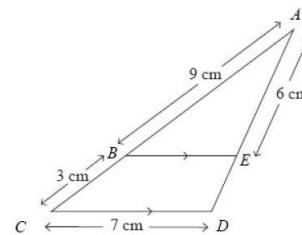
$$\text{Scale factor} = \frac{12}{9} = \frac{4}{3}$$

$$x + 6 = 6 \times \frac{4}{3}$$

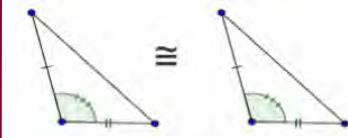
$$x + 6 = 8$$

$$x = 8 - 6$$

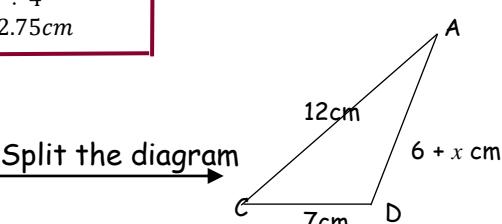
$$x = 2\text{cm}$$



SSS = 3 sides 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

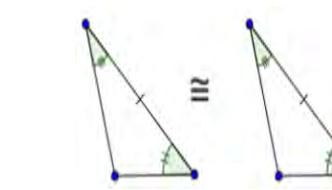


$$x + 6 = 6 \times \frac{4}{3}$$

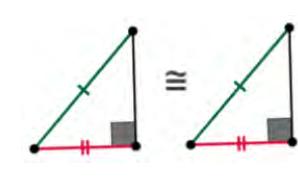
$$x + 6 = 8$$

$$x = 8 - 6$$

$$x = 2\text{cm}$$

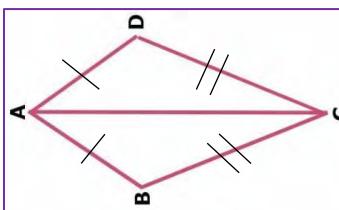


ASA = 2 angles with the included side on triangle A are equal to those on triangle B

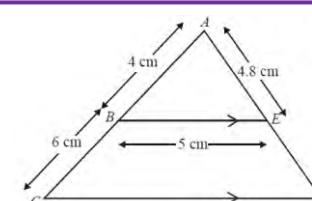


RHS = When the hypotenuse and another side on triangle A are equal to those on triangle B

Key Words
Congruent
Angle
Side
Similar
Scale factor
Enlarge
Length



1. Prove that triangle ACD and ABC are congruent to one another.



- 2) Calculate the length of:
a) CD
b) ED

ANSWERS 1. $AD = AB$, $CD = BC$, AC is common to both triangles, therefore they are congruent proved by the SSS rule. 30cm $2a)$ 12.5cm $b)$ 7.2cm



Direct and inverse proportion, Functions and graphs, ratios and measures.

Key Concepts

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.

α is the symbol we use to show that one variable is in proportion to another.

Direct proportion: $y \propto x$

Inverse proportion: $y \propto \frac{1}{x}$

Key Words

Direct
Inverse
Proportion
Divide
Multiply
Constant

Direct proportion

$$y = kx$$

k is a constant

Inverse proportion

$$y = \frac{k}{x}$$

k is a constant

Direct proportion:

g is directly proportional to the square root of h

When $g = 18$, $h = 16$

Find the possible values of h when $g = 2$

$$g \propto \sqrt{h}$$

$$g = k\sqrt{h}$$

$$18 = k\sqrt{16}$$

$$18 = 4k$$

$$4.5 = k$$

$$g = 4.5\sqrt{h}$$

$$g = 4.5\sqrt{h}$$

When $g = 2$

$$2 = 4.5\sqrt{h}$$

$$\frac{2}{4.5} = \sqrt{h}$$

$$\left(\frac{4}{9}\right)^2 = h$$

$$\frac{16}{81} = h$$

Examples

Inverse proportion:

The time taken, t , for passengers to be checked-in is inversely proportional to the square of the number of staff, s , working.

It takes 30 minutes passengers to be checked-in when 10 staff are working. How many staff are needed for 120 minutes?

$$t \propto \frac{1}{s^2}$$

$$t = \frac{k}{s^2}$$

$$30 = \frac{k}{10^2}$$

$$3000 = k$$

$$t = \frac{3000}{s^2}$$

$$t = \frac{3000}{s^2}$$

$$120 = \frac{s^2}{3000}$$

$$s^2 = \frac{3000}{120}$$

$$s^2 = 25$$

$$s = \sqrt{25}$$

$$s = 5$$

Key Words

Direct
Inverse
Proportion
Divide
Multiply
Constant

Direct proportion

$$y = kx$$

k is a constant

Inverse proportion

$$y = \frac{k}{x}$$

k is a constant

1) e is directly proportional to f

When $e = 3, f = 36$

Find the value of f when $e = 4$

2) x is inversely proportional to the square root of y .

When $x = 12, y = 9$

Find the value of x when $y = 81$

ANSWERS 1) $f = 48$ 2) $x = 4$



Unit 19 includes Direct and inverse proportion, Functions and graphs, ratios and measures.

Key Concepts

To calculate the value for a single item we can use the **unitary method**.

When working with best value in monetary terms we use:

$$\text{Price per unit} = \frac{\text{price}}{\text{quantity}}$$

In recipe terms we use:

$$\text{Weight per unit} = \frac{\text{weight}}{\text{quantity}}$$

If 20 apples weigh 600g. How much would 28 apples weigh?

$$600 \div 20 = 30\text{g} \quad \text{weight of 1 apple}$$

$$28 \times 30 = 840\text{g}$$

Box A has 8 fish fingers costing £1.40.
Box B has 20 fish fingers costing £3.40.

Which box is the better value?



$$A = \frac{\text{£1.40}}{8} \quad B = \frac{\text{£3.40}}{20}$$

$$= \text{£0.175} \quad = \text{£0.17}$$

Therefore Box B is better value as each fish finger costs less.

Key Words

Unitary
Best Value
Proportion
Quantity

Ingredients to make 16 gingerbread men

180 g flour
40 g ginger
110 g butter
30 g sugar

1) How much will we need to make 24 gingerbread men?

2) Packet A has 10 toilet rolls costing £3.50. Packet B has 12 toilet rolls costing £3.60. Which is better value for money?

3) If 15 oranges weigh 300g. What will 25 oranges weigh?

Examples

The recipe shows the ingredients needed to make 10 Flapjacks. How much of each will be needed to make 25 flapjacks?

Method 1: Unitary

$$80 \div 10 = 8 \quad 30 \div 10 = 3$$

$$8 \times 25 = 200\text{g} \quad 3 \times 25 = 75\text{g}$$

$$60 \div 10 = 6 \quad 36 \div 10 = 3.6$$

$$6 \times 25 = 150\text{g} \quad 3.6 \times 25 = 90\text{g}$$

Method 2: 5 flapjacks

$$80 \div 2 = 40 \quad 30 \div 2 = 15$$

$$40 \times 5 = 200\text{g} \quad 15 \times 5 = 75\text{g}$$

$$60 \div 2 = 30 \quad 36 \div 2 = 18$$

$$30 \times 5 = 150\text{g} \quad 18 \times 5 = 90\text{g}$$

ANSWERS 1) 270g flour, 60g ginger, 165g butter, 45g sugar 2) Packet B 30p per roll 3) 500g



St Joseph's College Math Department

Spring Term 3 Unit 19 Proportion and Graphs



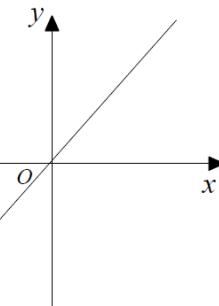
Unit 19 includes Direct and inverse proportion, Functions and graphs, ratios and measures.

Key Concepts

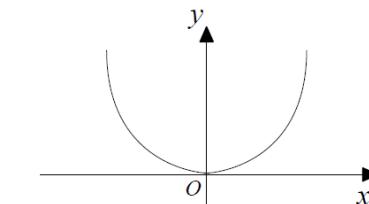
Variables are **directly proportional** when the ratio is constant between the quantities.

Variables are **inversely proportional** when one quantity increases in proportion to the other decreasing.

Direct and inverse proportion can also be represented on **graphs**.



$$y \propto x$$

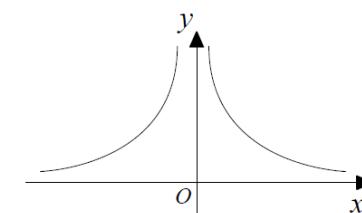


$$y \propto x^2$$

y is directly proportional to x^2

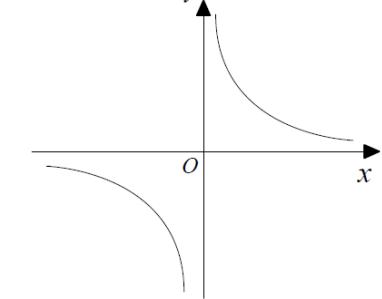
Examples

$$y \propto \frac{1}{x}$$



y is inversely proportional to *x*

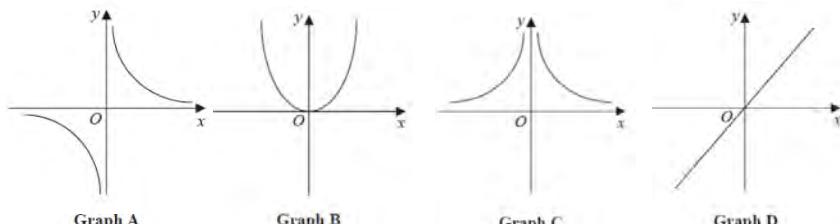
$$y \propto \frac{1}{x^2}$$



y is inversely proportional to x^2

Key Words

Direct
Inverse
Proportion
Graph



Match the correct graph to each statement:

Proportionality relationship	Graph letter
<i>y</i> is directly proportional to <i>x</i>	
<i>y</i> is inversely proportional to <i>x</i>	
<i>y</i> is proportional to the square of <i>x</i>	
<i>y</i> is inversely proportional to the square of <i>x</i>	



Unit 19 includes Direct and inverse proportion, Functions and graphs, ratios and measures.

Key Concepts

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.

Direct proportion:

Value of A	3	P	56	20	7
	2				2
Value of B	2	3	35	R	4
	0	0			5

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 $\frac{5}{8}$.

$$P = 30 \div \frac{5}{8} = 48$$

$$R = 20 \times \frac{5}{8} = 12.5$$

Examples

Inverse proportion:

Value of A	10	20	14	R	28
Value of B	14	P	10	70	5

$$P = 7$$

$$\times 5$$

$$R = 2$$

Key Words

Direct
Inverse
Proportion
Divide
Multiply
Constant

Complete each table: 1) Direct proportion

Value of A	5	P	22
Value of B	9	28	Q

2) Inverse proportion

Value of A	4	P	18
Value of B	9	3	Q

ANSWERS 1) P = 16, Q = 39.6 2) P = 12, Q = 2



St Joseph's College Music Department

Autumn Term 1: AOS4 Popular Music



This term we will learn about musical features of Rock and Pop music and musical fusion

Keywords:

Power chords- the name given to a chord that uses the root and the 5th (i.e. no 3rd)- used by rock guitarists

M.I.D.I. - Musical Instrument Digital Interface: a digital and technical system that allows electronic instruments and computers communicated with each other

Theremin- instrument that picks up hand movements through antennae- pitch is controlled with one hand and volume with the other

Mellotron- an electronic keyboard instrument where each key plays back a single pre-recorded sound.

Moog- an analogue synthesiser, some of these are incredibly complicated pieces of equipment

Remixing- change a musical piece stylistically through electronic manipulation

Panning- adjusting the sound levels between the left-and right-hand speakers

Delay/Reverb- commonly used effects that are added to recorded sounds

Phasing- a delay effect in music technology

Looping- part of the music is repeated indefinitely

Chest voice- the lower, more powerful part of the voice

Falsetto- male vocal technique used to extend the voice range into a higher range than usual

Head voice- one of the higher registers of the voice when singing

Range- the distance between the highest and lowest note that can be played or sung in a particular voice or found in a composition

Melisma- is the singing of a single syllable of text while moving between several different notes in succession.

Vocal Riff- is a fancy run or embellishment that is added to the melody line by the singer, to add to the intensity of the song

Parallel movement- when chords/triads move by step

Fusion- describes what happens when musical styles are combined together to make something new. **Fusion music** usually combines two different styles.

The Electric Guitar



The Drum Kit



Theremin

an electronic musical instrument controlled without physical contact by the thereminist (performer). It is named after its inventor, Léon Theremin, who patented the device in 1928.



Mellotron

an electro-mechanical musical instrument developed in Birmingham, England, in 1963.



Moog

a synthesiser developed by the American engineer Robert Moog in 1964. It was the first commercial synthesiser, and is credited with creating the analog synthesiser as it is known today.



St Joseph's College Music Department

Autumn Term 1: AOS4 Popular Music



Popular Music Structure

The main sections of a rock/pop song are identified in the table below.

Song Section	Explanation
Intro or Introduction	Comes at the beginning of the piece, and sets the mood and style. Usually, this is an instrumental section, creating a sense of anticipation. It may vary in length.
Pre-verse	A short link between the intro and the first verse. Not often used, though popular in the 60s
Verse	Gives the message of the song and puts the main idea into context. Each consecutive verse probably develops the story/theme further, so the lyrics change for every verse, but the melody remains the same
Refrain	Something used as the last part of the verse, often containing the 'hook' or the title of the song. Music and lyrics remain unchanged when it returns throughout the song.
Pre-chorus	Not always used. Referred to as the 'climb' as it prepares for the build-up to the chorus
Chorus	Contains the main message of the song, and the music and the lyrics are repeated. This is the section that sells the song- it is memorable and usually contains the hook and/or the main title.
Bridge/middle 8/solo break	<p>The bridge section is a transition or link section which provides a contrast or a new idea, to avoid monotony. Often found just before the last chorus.</p> <p>The middle 8 also includes different musical ideas, and is so-called because it is eight bars long.</p> <p>A solo break will be a section which features a solo instrument, such as a lead guitar, piano, sax, etc. the soloist may play the melody of the song, or improvise above a chord progression, usually from the verse.</p>
Outro or Coda	An optional addition, sometimes referred to as a 'tag'; it 'finishes off' the piece.

12 Bar Blues

This structure has already been introduced in AOS2 Music for Ensemble. It has remained a very popular structure in its original form in rock and pop, and uses the same harmony for the verse and the chorus.

F	F	F	F7
Bb7	Bb7	F	F
C7	C7	F	F

Hook

A great pop melody needs to be catchy and easy to remember- so one typical feature of this style is that the melody consists of shorter phrases that link up to form longer lines. Shorter phrases of, say, five-eight notes are easier to remember, and two or three phrases manipulated and repeated can be really effective. The main short melodic idea is known as the 'hook': the part of the song that plays on your mind, which you just cannot stop humming or singing. It delivers the main message and is usually found in the chorus.

Disjunct movement

In popular music, a melodic leap of **disjunct motion** is often present in the **chorus** of a song, to distinguish it from the verses and captivate the audience.

Diagram illustrating disjunct movement in musical notation:

- Conjunct ascending: F - G - A
- Conjunct descending: A - G - F
- Disjunct ascending: F - A - C
- Disjunct descending: C - A - F



St Joseph's College Music Department

Autumn Term 2: Toto 'Africa' (set work)



This term we will learn in depth about the Eduqas set work: Toto 'Africa'

Keywords:

Rock Band- drum kit, lead guitar, bass guitar, keyboard, lead singer and backing vocals

Homophonic- a texture in which all the voices or parts move together in chordal fashion, or where one part has the melody and the other parts accompany

Diatonic- music based on the major and minor scale system. Opposite to chromatic

B major- a major scale based on B and it has 5 sharps. F#, C#, G#, D#, A#

A major- a major scale base on A and it has 3 sharps. F#, C#, G#

Home Key- the main key of a piece of music, i.e. the key in which the music starts, and ends

Accented notes- when additional stress or emphasis is placed on particular notes

Melismatic- singing a single syllable of text while moving between several different notes in succession.

Tenor- a singing voice that sings the highest of the adult male range

2/2 (simple duple)- 2 minim beats per bar

Riff- a short repeated phrase in popular music and jazz, typically used as an introduction or refrain in a song.

Syncopation- off beat (accented notes on the weak beats)

Imperfect Cadence- the progression to chord V at the end of a phrase of music. It sounds incomplete.

Moderate- the tempo of music is at a moderate pace

Pentatonic Scale- a musical scale that has 5 notes



The Band and Composers:

Africa is a song recorded by the American rock band Toto in 1981 for their fourth studio album entitled **Toto IV**. It is a soft-rock love song with features of African music. • The song was written by band members **David Paich** (born June 25th 1954) and **Jeff Porcaro** (born April 1st 1954 and died August 5th 1992). Africa was released as the third single from the album on September 30th 1982 through Columbia Records. It reached number one in America for a single week on February 5th 1983. It also achieved a place in the top ten in the UK, Canada, Ireland, Netherlands, New Zealand and Switzerland.

Instrumentation (timbre)	Tempo	Dynamics	Tonality
drum kit with additional percussion, lead and bass guitars, synthesizers, male lead vocals and male backing vocals.	Moderately fast	Most of the song is mezzo-forte whilst the choruses are forte .	The majority of the song is in B major whilst the choruses are all in A major .
Rhythm and Metre	Texture	Melody and pitch	Harmony
Ostinato rhythms, consisting almost totally of quavers, with constant use of syncopation . The time signature is 2/2 (split common time) throughout.	Homophonic	The melody is mostly conjunct (moving in step) and includes occasional use of the pentatonic scale. The pitch range of the vocal line is just less than two octaves on the printed score, but it is wider on the recording with the vocal improvisations towards the end of the song.	Diatonic throughout



The home key of this song is in B major. Their key structure look like this:

Intro	Verse 1/2	Chorus 1/2/ 3	Link 1/2 (8 bars)	Instrumental	Outro
Bars 1-4 B Major	Bars 5-39 B Major	Bars 40-57 Bars 40-57 Bars 40-90 A Major	Bars 58-65 B Major	Bars 66- 82 B Major	Bars 93-96 B Major

Intro Bars 1 - 4 4 bars B major



The introduction contains only three chords - B^{VII} , vi and ii (*A*, *G#m* and *C#m*) - and consists of two riffs, both of which last for two bars each.

The first (Riff a - bars 1 & 2) is a distinctive syncopated rhythm pattern mostly repeating chord $\frac{5}{4}$ VII and concluding with chords vi and ii:

A

G[#]m C[#]m

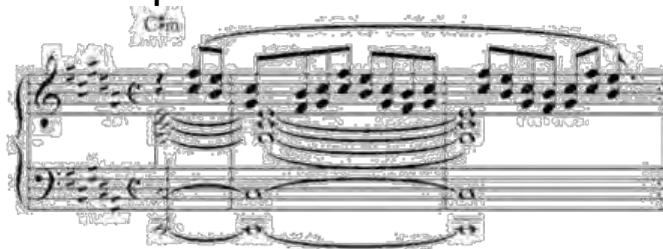
mf

Riff a



The second (**Riff b** - bars 3 & 4 with an anacrusis) uses an ostinato pattern of five notes - based on the E major pentatonic scale - over a sustained chord ii:

Riff b →



Verse 1 Bars 5 - 39 35 bars

B major

The verse falls into four phrases:

Phrase 1 Bars 5 - 13 9 bars

I hear the drums echoing tonight. She hears only whispers of some quiet conversation.

Phrase 2 Bars 14 - 22 9 bars

She's coming in twelve thirty flight. Moonlit wings reflect the stars that guide me t'ward salvation.

Phrase 3 Bars 23 - 31 9 bars

I stopped an old man along the way, hoping to find some old forgotten words or ancient melodies.

Phrase 4 Bars 32 - 39 8 bars

He turned to me as if to say, "Hurry boy, it's waiting there for you."

*A nine-bar phrase is an unusual length. The reason for this is that Riff a begins as the vocal line ends in bar 8 each time.

Bar 5	Bar 6	Bar 7	Bar 8	Bar 9	Bar 10	Bar 11	Bars 12 & 13	9 bars chord sequence
I (B)	iii (D#m)	vi (G#m)	Ic (B/F#)	IVIic (A/E)	IVd (E/F#)	vi (G#m)	Riff a	
Bar 32	Bar 33	Bar 34	Bar 35	Bar 36 & 37	Bar 38	Bars 39		8 bars chord sequence
I (B)	iii (D#m)	vi (G#m)	vi (G#m)	Riff a	ii (C#m)	ii (C#m)		



Chorus 1

Bars 40 - 57

18 bars

A major

4 bars chord sequence

Bar 40	Bar 41	Bar 42	Bar 43
vi (F#m)	IV (D)	I (A)	V (E)

The chorus also falls into four phrases:

Phrase 1 Bars 40 - 43 4 bars

It's gonna take a lot to drag me away from you.

Phrase 2 Bars 44 - 47 4 bars

There's nothing that a hundred men or more could ever do.

Phrase 3 Bars 48 - 51 4 bars

I bless the rains down in Africa.

Phrase 4 Bars 52 - 57 6 bars

Gonna take some time to do the things we never had.

Bar 52	Bar 53	Bar 54	Bar 55	Bar 56	Bar 57
vi (F#m)	IV (D)	I (A)	iii (C#m)	V (E)	vi (F#m) / Vb (E/G#)

Instrumental **Bars 66 - 82 17 bars B major**

This section is based on the accompaniment heard during the verse; however, the vocal melody is almost entirely replaced with an instrumental melody based on **Riff b**. Where Verse 2 was a shortened version of Verse 1, this section presents an even shorter statement of the verse with only one nine-bar phrase this time before the final eight bar phrase brings the section to a close as before. Bars 66 - 69 4 bars (the first half of the nine-bar phrase) A descending melody using a B major pentatonic scale with the notes falling into groups of three and ending with a triplet:

Triplet



St Joseph's College Music Department

Spring Term 3: J. S. Bach, Badinerie (set work)



This term we will learn in depth the Eduqas set work J. S. Bach's Badinerie from Orchestral Suite No. 2

Keywords:

Badinerie- a name given in the 18th to a type of quick, light movement in a suite

Allegro- play fast, quickly and bright

String quartet- an ensemble for two violins, a viola and a cello

B minor- a minor scale based on B and it has two sharp F# and C#

F# minor- a minor scale based on F# and it has three sharps, F#, C# and G#

Duple time 2/4- a time signature that has 2 crotchet beats per bar

Homophonic- a texture in which all the voices or parts move together in chordal fashion, or where one part has the melody and the other parts accompany

Diatonic- music based on the major and minor scale system

Dominant key- is the 5th note on a diatonic scale (e.g. the dominant key of B is F#)

Binary Form- a structure of music with two contrasting sections A B

Trill- a rapid alternation between an indicated note and the one above it

Sequence- the repetition of a motif at a higher or lower pitch in the same voice or instrument

Transverse flute- an instrument which is held horizontally to the side when played rather than vertically to the front like a recorder

Basso Continuo- notated as figured bass, is a system of partially improvised accompaniment played above a bass line, usually by a keyboard instrument

Appoggiatura- a grace note which delays the next note of the melody, taking half or more of its written time value

Form and Structure:

Binary form (AB), with each section repeated once (AABB):

Section A: Bars 1 - 16 (16 bars)

Section B: Bars 16 - 40 (24 bars)



The Composer: Wolfgang Amadeus Mozart?

Johann Sebastian Bach was a German composer and musician of the Baroque era. He was born on the 31st of March 1685 and died at the age of 65 on the 28th of July 1750. He is known for instrumental compositions such as the Brandenburg Concertos and the Goldberg Variations. He is generally regarded as one of the greatest composers of all time.

Badinerie:

Composition Date 1738-1739

Instrumentation (timbre)	Tempo	Dynamics	Tonality
String orchestra, harpsichord (basso continuo), flute (transverse)	Allegro	Mostly forte	Section A: starts in B minor and ends in F# minor Section B: starts in F# minor and ends in B minor
Rhythm	Texture	Melody and pitch	Harmony
Simple ostinato rhythms, forming the basis of the two short musical ideas (X and Y), consisting almost totally of quavers and semi-quavers. The time signature is 2/4 throughout.	Homophonic: melody (on the flute) plus accompaniment (strings and harpsichord)	The movement is based on two short musical ideas (X and Y). The flute part has a two-octave pitch range. The movement includes ornaments and compositional devices typical of the Baroque era	Diatonic throughout. Section A modulates from the tonic to the dominant minor and Section B does the opposite. Imperfect and perfect cadences are clearly presented throughout.



St Joseph's College Music Department

Spring Term 3: J. S. Bach, Badinerie (set work)



The entire movement is based on two musical motifs: X and Y.

Section A

Bars 0² – 16¹ Sixteen bars

Bars 0² – 2¹

The movement opens with the first statement of motif X, which is played by the flute. The motif is a descending B minor arpeggio/broken chord with a characteristic quaver and semiquaver(s) rhythm.

X

Bars 2² – 4¹

The melodic material remains with the flute for the first statement of motif Y. This motif is an ascending semiquaver figure consisting of both arpeggios/broken chords and conjunct movement.

Y

Bars 6² – 8¹

Motif X is presented by the cellos in a slightly modified version in which the last crotchet of the motif is replaced with a quaver and two semiquavers. This motif moves the tonality to A major and is also the initial phrase in a musical sequence.

X

Bars 8² – 10¹

Motif X remains with the cellos with a further modified ending in which the last crotchet is replaced with four semiquavers. It moves the tonality to the dominant minor, F# minor, and is the answering phrase in a musical sequence that began in bar 6².

X

Bars 10² – 12¹

Motif Y returns in the flute part with a modified ending in which the last two quavers are replaced by four semiquavers.

Y

Bars 12² – 16¹

The flute continues to present the main melodic material. Motif Y is both extended and developed, and Section A is brought to a close in F# minor.

Y1

Melodic Analysis

Section B

Bars 16² – 40¹ Twenty-four bars

Bars 16² – 18¹

Motif X is stated by the flute in F# minor.

X

Bars 18² – 20¹

Motif X is modified with two quavers to end instead of one crotchet whilst moving the tonality to E minor. The motif is divided between two instruments and is inverted so that it ascends rather than descends.

XI

Bars 20² – 22¹

Motif X is presented by the flute, moving the tonality to D major, the relative major.

X

Bars 20² – 22¹

Motif X is presented by the flute, moving the tonality to D major, the relative major.

X

Bars 22² – 24¹

Motif Y returns in the flute part with a modified ending in which the last two quavers are replaced by four semiquavers. This is a transposed copy of bars 10² – 12¹.

Y

Respect for OTHERS

Bars 24² – 28¹ The flute continues to present the main melodic material which is a transposed copy of motif Y1 from bars 12² – 16¹. The key of D major which was introduced in bars 20² – 22¹ is confirmed with a perfect cadence to close.

Y1

Bars 28² – 30¹ Motif X is presented by the cellos in a slightly modified version in which the last crotchet of the motif is replaced with a quaver and two semiquavers. This motif was initially presented in bars 6² – 8¹ and, as before, is the initial phrase in a musical sequence.

X

Bars 30² – 32¹ Motif X remains with the cellos with a further modified ending in which the last crotchet is replaced with two quavers. It returns the tonality to the tonic key, B minor, and is the answering phrase in a musical sequence that began in bar 28².

Bars 32² – 34¹ Motif X is developed further at this point to become part of a musical conversation between the flute and the 1st violin. It has an altered pitch shape and is decorated by both an appoggiatura and rapid demisemiquaver movement.

X2

Respect for SELF

Respect for FAITH

Respect for LEARNING

Respect for COMMUNITY



St Joseph's College Music Department

Spring Term 4: AOS4 Popular Music (Bhangra)



This term we will learn about musical features of Bhangra music

Keywords:

Embellishments- decorations or ornamentations by an instrument of a voice

Microtonal- when the music consists of intervals smaller than a semitone

Scratching- a type of turntablism technique used by DJs, sometimes referred to as "scrubbing"

Chaal- a type of rhythm found in Bhangra music played by the dhol

Dhol- double headed barrel drum played by two sticks

Conjunct- a melody that moves mainly in steps

Sitar- an Indian stringed instrument with two sets of strings. One plays a drone and the other a melody.

Call and Response- where a melody is answer by another

Dholki or Dholak- a smaller hand drum compared to the Dhol

Tumbi- a single-stringed instrument associated with Punjabi folk music

Syncopation- when the music is off beat (emphasised on the weak beat)

Falsetto- male vocal technique used to extend the voice range into a higher range than usual

Riff- a prominent, recurring pattern of notes

Range- the distance between the highest and lowest note that can be played or sung in a particular voice or found in a composition

Melisma- is the singing of a single syllable of text while moving between several different notes in succession.

Vocal Riff- is a fancy run or embellishment that is added to the melody line by the singer, to add to the intensity of the song

Fusion- describes what happens when musical styles are combined together to make something new. **Fusion music** usually combines two different styles.

BHANGRA

In the 80s, **Bhangra** emerged in the UK as a type of fusion which features music for the Punjab region of India combined with other popular styles of music. Most of the music is associated with the unmistakeable sound of the dhol drum. The melodies were Punjab folk tunes passed down through generations, with lyrics taken from poems known as **boliyan**.

Dhol

A two-sided percussion instrument played with two wooden sticks, one thin, long, flexible for the higher end and one fatter wooden stick with a slight bend for the lower bass end.



Dholki or Dholak

A smaller version for the dhol played by hand. Often pitched with an interval of about a 4th or a 5th between the two heads.



Sitar

A plucked, stringed instrument with very distinctive sound. It is large with a long neck. It has movable frets and the performer uses a wire pick to pluck the strings.

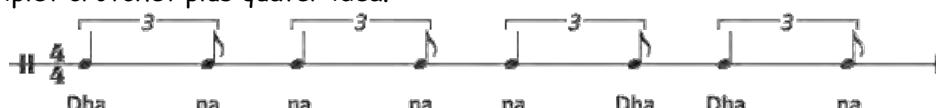


Tumbi

A single-stringed instrument associated with Punjabi folk music. This is made of wood with a bell resonator that is covered with skin. The metallic string is plucked with the forefinger.

Chaal

A rhythm played by the dhol in almost all types of bhangra music and is a kind of swing rhythm. It is a straightforward pattern which feels like a dotted pattern or a triplet crotchet plus quaver idea.





St Joseph's College Music Department

Spring Term 4: AOS4 Popular Music (Bhangra)



Popular Characteristics of Bhangra Music

Elements	Explanation
Tempo	Fast/moderate, lively, upbeat
Structure	Uses the traditional verse/chorus structure , also common in pop songs
Melody	Quite repetitive, simple, limited in range, uses embellishments to decorate, often dips at the ends of phrases, uses microtonal intervals Ideas are sung and/or played (e.g. on a synth, accordion, harmonium or guitar). Often add phrases which are shouted, such as 'Hoi!'
Rhythm	Use of the chaal rhythm , syncopation , four beats per bar 4/4
Instruments	Use of Indian instruments mixed with Western instruments, sometimes with drum machines replacing, or added to, traditional instruments.
Technology	Uses drum machines, synthesisers, samples from other music, mixing, scratching
Lyrics	Punjabi language, often mixed with English, covering social subjects such as love, relationships, marriage
Style	Changed from simple folk music to club dance music; pop music styles include disco, reggae, hip-hop, rap

Instrumentation and timbre

Bhangra music has embraced music technology as well as maintaining its traditional Indian roots. Many Bhangra songs feature:

- both lead female and male **vocals**
- traditional Indian instruments such as **dhol**, **tumbi** and **sitar**
- electronic instruments and contemporary music production techniques, eg **synthesisers**, **drum machines** and **sampling**

Texture and dynamics

The textures in Bhangra music can be complex and interesting. The points to take note of include:

- the texture is generally **melody and accompaniment**
- often there is **call and response** between the lead vocalist and backing singers

Melody and harmony

If asked to discuss the melodic devices, remember the following points:

- the melodies are **conjunct** and **melismatic**
- rather than whole-tone scales, Bhangra music will often be divided into **microtones**
- the lyrics are sung in the Punjabi language
- simple **harmonies** are played

Rhythm, metre and tempo

There are lots of examples of different time signatures and complex rhythms in Bhangra music. However, these are the most common features:

- a **chaal rhythm**
- a time signature of **4/4**
- a fast and steady tempo that is appropriate to dance to
- the percussion accents on first beat of the bar to emphasise the downbeat

Structure

Modern Bhangra music follows a similar form to popular music. This means that the following points need to be considered:

- the structure is usually in form **verse-chorus**
- Bhangra music is often instrumental with a **sitar solo**



St Joseph's College RE Department

Autumn Term 1: Unit 1 Islam Practises



To understand and evaluate the key practises found within Islam.

Keywords:

Shahada: Belief in the oneness of Allah and Mohammad as his messenger.

Salat: Praying five times a day.

Sawm: Fasting during Ramadan

Zakah: Charity for the poor.

Hajj: Pilgrimage To Mecca.

Jihad: Struggle to practise your faith and defend Islam.

Amr-bil-Maruf: Encouraging people to do good.

Nabil-anil Munkar: Discouraging people from doing wrong.

Tawallah: To be loving towards the friends of God, including Mohammad and the Imams

Tabarra: Disassociation from the enemies of God.

Id-ul-Fitr: Muslim festival celebrating the end of Ramadan.

Id-ul Adha: Muslim festival remembering and honouring Ibrahim who was willing to sacrifice his son Ishmael on God's command.

Ashura: A Shia Muslim festival which remembers the Battle of Karbala and the death of Imam Husayn.

Mosque: Islamic place of worship.

Imam: A person who leads daily prayers at the Mosque.

Adhan: The call to prayer from the Mosque.

Wudhu: To clean yourself before prayer.

Qiblah Wall: The wall in the Mosque which faces Mecca.

Mihrab: Where prayers are delivered from.

Minaret: A tower attached to the Mosque where the Adhan is read from.

Five Pillars of Islam/ 10 Obligatory Acts:

5 PILLARS OF ISLAM		
	SHAHADAH	<i>Belief that there is only one Allah and that Muhammad is Allah's messenger.</i>
	SALAH	<i>Prayer are to be given Allah five times each day</i>
	ZAKAT	<i>Giving of alms, charity, to the poor 2.5% of income</i>
	HAJJ	<i>Making pilgrimage to the House of Allah in Mecca</i>
	FASTING	<i>Fasting sunrise to sunset during the Month of Ramadan</i>

Additional Shia Obligatory Acts:

6) Jihad: Struggle to practise your faith and defend Islam.

7) Amr-bil-Maruf: Encouraging people to do good.

8) Nabil-anil Munkar: Discouraging people from doing wrong.

9) Tawallah: To be loving towards the friends of God, including Mohammad and the Imams

10) Tabarra: Disassociation from the enemies of God.

Salah:

Rak'ah: A sequence of movements in ritual prayer.

Jummah: Communal prayers on Friday.

- Prayer is significant as it is what Allah commanded Muslims to do.
- It creates a greater awareness of God and motivates Muslims to do the will of Allah.
- Ummah: all Muslims pray the same way bowing and prostrating remind them that God is greater and more important than they are.
- Many Muslims will use a prayer matt while praying and require ritual washing before prayer called Wudhu.

Questions:

- 1) What is an Imam (1 mark)
- 2) Explain two Obligatory Acts in Shia Islam (4 marks)
- 3) "The Shahada is the most important Pillar of Islam" Evaluate this statement. (12 marks)



St Joseph's College RE Department

Autumn Term 1: Unit 1 Islam Practise



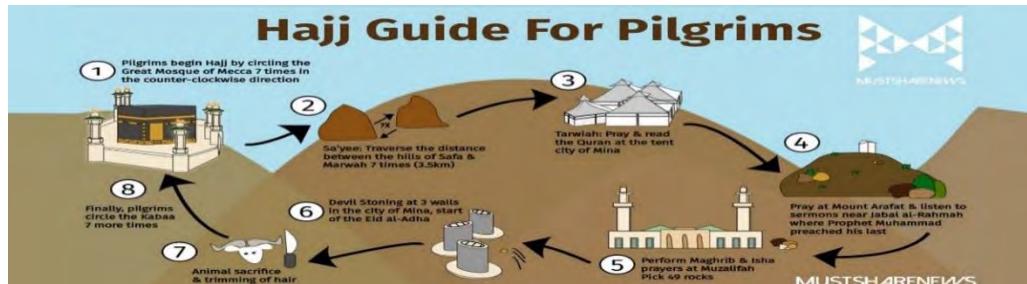
To understand and evaluate the key practises found within Islam.

Sawm:

- Fasting happens in an Islamic month called Ramadan. The Qu'ran was revealed to Mohammad during this month which is why Muslims use it for careful study and fasting.
- Fasting lasts during the hours of daylight where Muslims abstain from food, drink, smoking and sex.
- Fasting is significant as it teaches Muslims empathy for the poor and respect for other people.
- Fasting is about sacrifice and submission to Allah. It makes your mind and body stronger.

Hajj:

- Ka'aba: The black, cube-shaped building in the centre of the Grand Mosque in Makkah; the holiest place in Islam.
- The significance of Hajj is that it creates a deep spiritual transformation, it teaches sincerity and humility and cultivates inner peace and discipline.
- The origins of Hajj is from the story of the Prophet Ibrahim's journey to Arabia where God saved him and his family from dehydration.
- Mohammad travelled from Medina to Makkah to complete the first pilgrimage.



Zakah:

- "Believers are like bricks of a building; each part supports the others" (Hadith)
- "All people are equal... as teeth of a comb. No Arab can claim over a non-Arab, nor white over black person, nor male over female" (Hadith)
- "He who eats and drinks while his brother is hungry is not one of us" (Hadith)
- Sunni Muslims are required to give 2.5% of all their annual earnings to charity.
- Shia Muslims are required to give 20% of all their annual earnings to charity.
- Charity is fulfilling the duty of Muslim. Zakah is the sign of a true Muslim.

Festivals:

- The festivals of Eid (Id) started by Muhammad after he arrives in Madinah, having fled from persecution in Makkah.
- Mohammad told the people that God had set aside two days for festivities: Id-ul-Adha and Id-ul-Fitr.
- Muslims gather together in Mosques or large outdoor areas to say special prayers. The Imam usually delivers a powerful sermon.
- Many Muslims decorate their homes and wear new clothes, visit the cemeteries of their ancestors and get time off of work to celebrate.
- The festival allows Muslims to celebrate at the end of a month of fasting.



St Joseph's College RE Department

Autumn Term 2: Unit 2 Life and Religion



During this half term you will have a solid understanding of important ideas about life and religion.

Keywords

Abortion-the deliberate termination of a human pregnancy usually performed in the first 28 weeks of the pregnancy.

Adaption -A process of change where an organism or species becomes better suited to its environment.

Akirah - means the afterlife.

Barzakh - means barrier. You cannot come back to earth from this state.

Big Bang -A massive expansion of space which set in motion the creation of the Universe.

Dominion- human power over all nature and animals.

Euthanasia -The act of killing someone painlessly, especially to relieve suffering from an incurable illness - Sometimes this is known as mercy killing.

Evolution -The process by which living organisms are thought to have developed and diversified from earlier forms of life during the history of the earth.

Heaven -a place regarded as the place of God and the angels, and of the good after death, depicted as being above the sky.

Hell -a place regarded as a spiritual realm of evil and suffering, where the wicked are punished after death.

Hospice- A home providing care for the sick or terminally ill.

Involuntary Euthanasia - The person wants to live but is killed for some social or medical justification,

Keywords:

Jahannam - hell.

Jannah - paradise.

Judgement Day - the time when people believe the world will end and all the dead people will return to life so that God can judge everyone.

. **Non-Voluntary Euthanasia** - The person cannot make a decision or cannot make their wishes known - in a coma.

Palliative Care

aim to make the patient comfortable and keep severe pain under control.

Purgatory: The Catholic Church believes in purgatory, where souls undergo purification in order to achieve the holiness necessary to approach God and enter heaven.

Quality of life: the well-being of a person and their happiness.

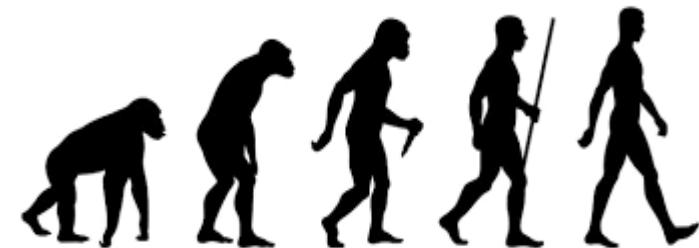
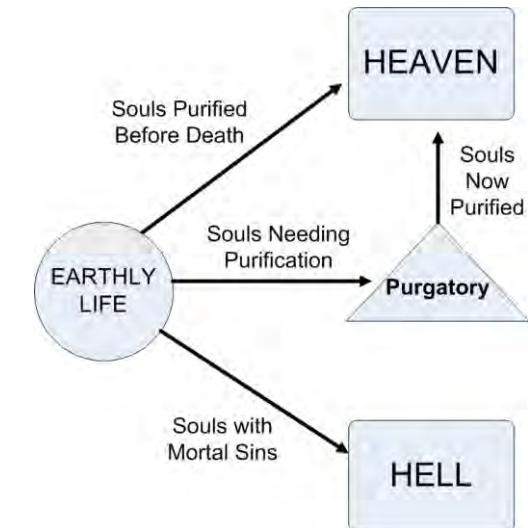
Sanctity of life: the theory that life is holy and given by God, therefore only God can take it away.

Stewardship:- belief that humans have a responsibility to look after the environment on behalf of God.

Universe-All of time and space and its contents; includes planets, stars, galaxies and including the smallest subatomic particles, and all matter and energy of life during the history of the earth.

Voluntary Euthanasia - The person wants to die and says so.

Catholic views on life after death



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St Joseph's College RE Department

Autumn Term 2: Unit 2 Life and Religion



During this half term you will have a solid understanding of important ideas about life and religion.

Origins of life and evolution

Science believes that the Universe began with the Big Bang and the universe began in an extremely dense and hot condition and has expanded.

Fundamentalist Christians believe that God created the Universe and all species in seven days. Most Muslims understand the original Creation text to mean six phases, or distinct periods of time. The Qur'an does not specify exactly what took place during each period.

Scientists believe that evolution and natural selection has resulted in different species on the earth. st Muslims understand the original text to mean **six phases, or distinct periods of time**.

Unlike the Bible, the Qur'an does not specify exactly what took place during each period.

No day of rest - creation never ends (new birth and new seeds)

The Environment

Christians believe that the Earth belongs to God and that humans are stewards in charge of its care and use the Creation story to support this idea.

Animal rights

Christians believe that animals should be treated humanely but believe that animal experimentation is permissible if it results in benefits for human beings. There are no laws about eating meat and diet is a personal choice. According to Islam, human beings are allowed to use **animals**, but only if the **rights of the animals** are respected. Meat can only be eaten if it is halal and has been killed in the traditional manner. Pork however is haram.

Death and the afterlife

Islam teaches that there is life after death, and this is known as **Akhirah**. In Islam, it is **Allah** who decides when a person dies and most Muslims believe that when they die, they will stay in their graves until **Yawm al-din, the Day of Judgement**. The good will go to **Jannah, or Paradise** and the bad to **Jahannam** or Hell. Christians also believe in the afterlife, judgement and heaven and hell. Jesus resurrection is seen as victory over death.

Hospice care

Hospice care aims to improve the quality of life and quality of life with life limiting or terminal conditions. It helps people live as fully and as well as they can until the end of their life no matter how long that might be. The emphasis is on keeping the person comfortable and the idea of curing them has gone.

Abortion and Euthanasia

To Christians, human life is **sacred** and is a gift from God to be respected and protected. This teaching is called **The Sanctity of Life**. The Bible teaches that human beings are created in the image of God and that murder is forbidden. Catholic and Orthodox Christians are opposed to abortion. Some liberal Christians believe that women should have the right to choose. Muslims regard **abortion** as haram (forbidden), but many accept that it may be permitted in certain cases. The Islamic teaching on **euthanasia** is clear. Life is **sacred**, and only **Allah** can give life or take life away. Most Christians believe that life is **sacred** and given by God, and therefore only God can decide when life ends.

Questions:

- 1) What is the key word which means human life is sacred and precious? (1mk)
- 2) Give two reasons why religious people do not eat meat. (2mks)
- 3) Explain two contrasting religious views on euthanasia. (4mks)
- 4) Explain two religious beliefs about how people's actions while alive influences what happens to them in the afterlife. (5mks)
- 5) Abuse of the environment is impossible to stop. Evaluate. (12)



St Joseph's College Science Department

Autumn Term: Biology - Cells and Transport



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



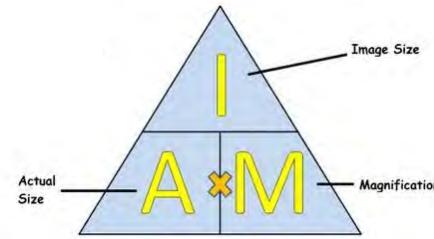
To work out total magnification in a microscope:

The eyepiece x the objective lens you are using.

Eg: work out the magnification $10 \times 4 = 40$

Answer: the magnification is x40

Magnification Equation Triangle:



Cell Diagrams:

ANIMAL CELL

Cell wall

Cell membrane

Ribosomes

Nucleus

Vacuole

Cytoplasm

Mitochondria

Chloroplast

PLANT CELL

Cell wall

Chromosomal DNA

Cell membrane

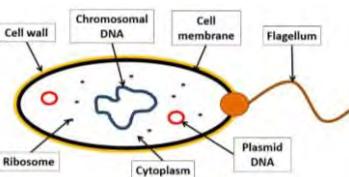
Flagellum

Ribosome

Cytoplasm

Plasmid DNA

Bacteria Cell (Prokaryote):



← Animal and Plant Cells are both Eukaryotic Cells

Required Practical 3 Osmosis:

Independent Variable:

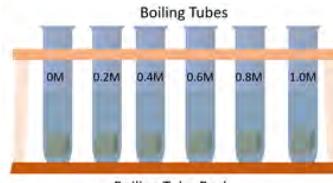
The concentration of each solution

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:





St Joseph's College Science Department

Autumn Term: Biology - Organisation



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

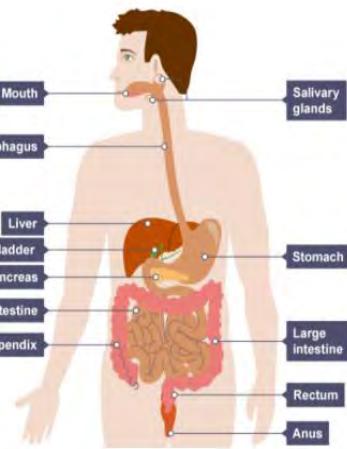
Cancer: Uncontrollable cell division

Malignant Tumour: Tumour that can break and form secondary tumours

Benign Tumour: Less serious do not spread

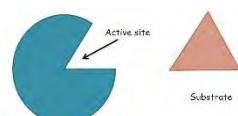
Digestive System:

The food we eat has to be broken down into other substances that our bodies can use.

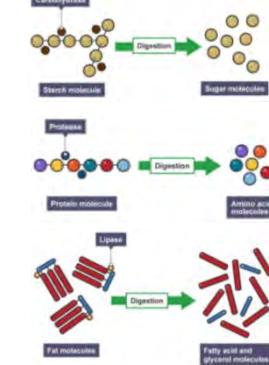


Enzymes:

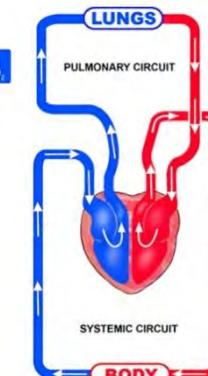
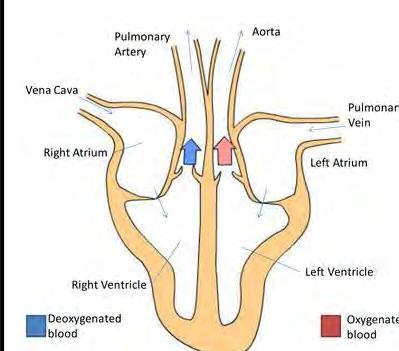
Enzymes are biological catalysts that break down substances.



Examples:



The Heart:

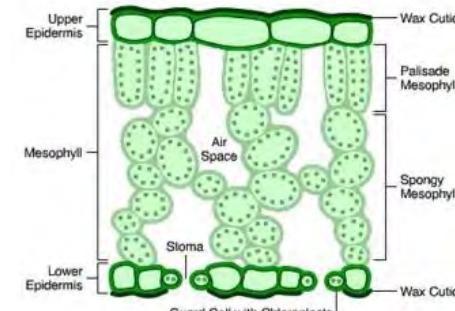


Blood Vessels:

Artery	thick, elastic wall small lumen
Vein	thin wall large lumen valve
Capillary	single cell wall

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



St Joseph's College Science Department

Autumn Term: Biology - Infection and Response



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.

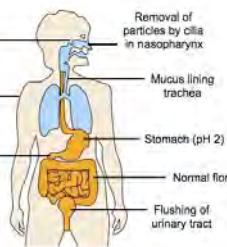
Placebo: A substance that is like the drug but doesn't do anything

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 can't 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

Helps to control diseases that used to be prevalent

Cons

They don't always work

Epidemics can be prevented

Some people have bad reactions



St Joseph's College Science Department

Autumn Term: Biology - Photosynthesis



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 form the leaves to the rest of the plant.

Stomata: Small openings on leaves to allow gas exchange.

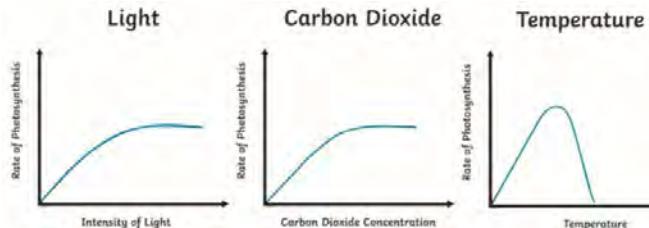
Chlorophyll: Green pigment found in chloroplasts, responsible for absorbing light for photosynthesis.

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:

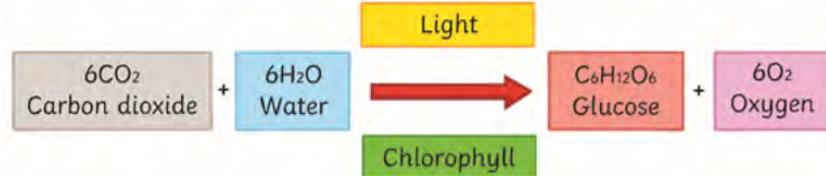


Increasing the light intensity will increase the rate of reaction because there is more energy to carry out the reaction.

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:



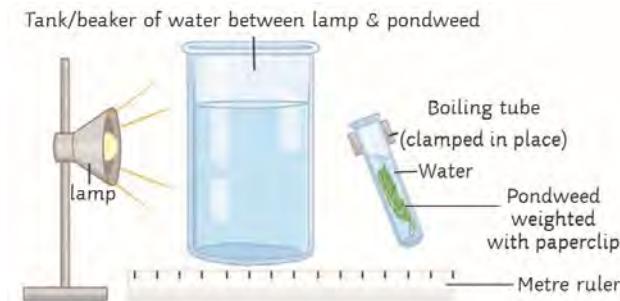
The effect of light intensity on the rate of photosynthesis:

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 bubbles 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



St Joseph's College Science Department

Spring Term: Biology - Respiration



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

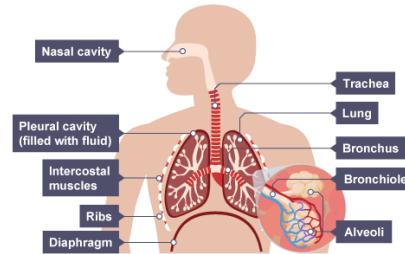
Metabolism:

Energy released during respiration is used during metabolic process to synthesis new molecules;

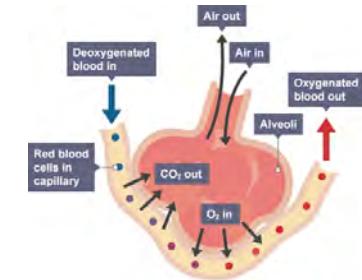
- Glucose is converted to starch, glycogen and cellulose
- Glycerol and 3 fatty acid molecules join to form a lipid
- Glucose and nitrate ions are joined to make amino acids
- Amino acids bond to form proteins
- Excess proteins are broken down and released as urea during excretion

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.



St Joseph's College Science Department

Spring Term: Biology - Homeostasis and Response



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)

Nervous System:



Typical Neuron.

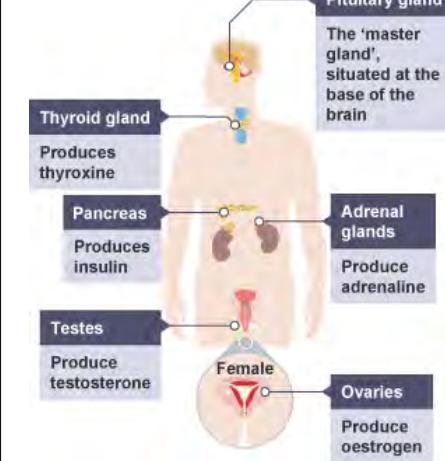
There are 3 types of neuron;

- Sensory Neuron
- Relay Neuron
- Motor Neuron

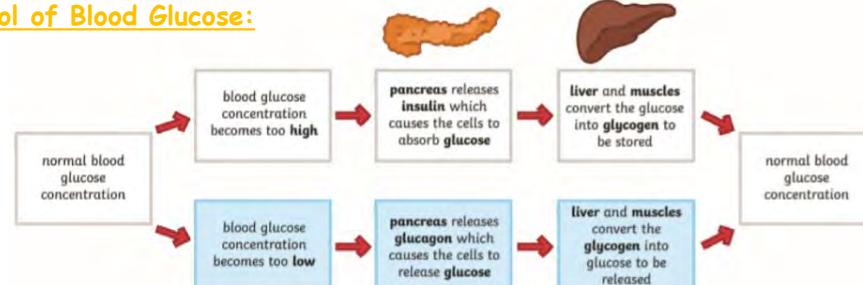
Reflex Arc:



Endocrine System:

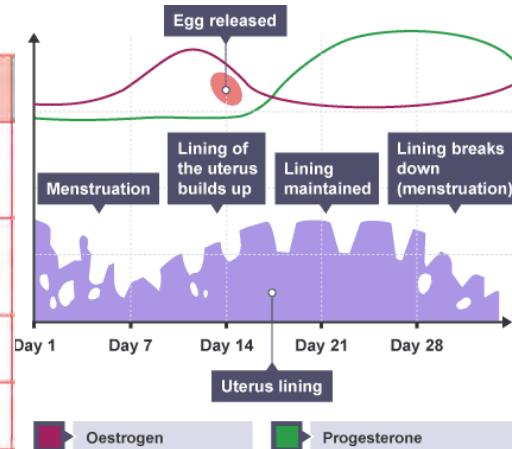


Control of Blood Glucose:



The Menstrual Cycle:

Hormone	Where It Is Produced	Response Caused
FSH	pituitary gland	An egg to develop in one of the ovaries.
oestrogen	ovaries	The lining of the uterus builds up and thickens.
LH	pituitary gland	Ovulation (at around day 14 of the cycle).
progesterone	ovaries	The uterus lining to maintain.



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.

Nervous Pathway:

[stimulus] → receptor → sensory neuron → CNS → motor neuron → effector → [response]



St Joseph's College Science Department

Spring Term: Biology - Reproduction



Understand how the processes of sexual and asexual reproduction, and be able to complete genetic cross diagrams.

Keywords:

Chromosome: The structure that contains the DNA of an organism, found in the nucleus

DNA: A polymer made up of 2 strands, in a double helix

Mutation: A change in DNA

Allele: An alternative form of a gene

Dominant: An allele that is always expressed, even with only one copy

Recessive: An allele that is only expressed if there are 2 copies of it

Asexual Reproduction: the production of offspring from a single parent by mitosis. The offspring are clones of the parent

Sexual Reproduction: The production of offspring by combining genetic information from the gametes of 2 parents. Leads to variation.

Sexual Reproduction vs Asexual Reproduction:

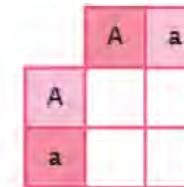
	Sexual Reproduction	Asexual Reproduction
Advantages	<ul style="list-style-type: none"> High genetic variation Allows diversity for evolution Adapt to changes in the environment 	<ul style="list-style-type: none"> Less energy used Only needs one parent Rapid reproduction
Disadvantages	<ul style="list-style-type: none"> Takes longer to reproduce offspring Mutations can occur Must locate a mate to reproduce 	<ul style="list-style-type: none"> Low genetic variation Species surviving environmental change is much less likely

Completing a Punnet Square:



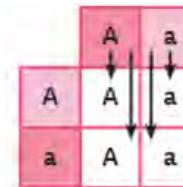
Step 1:

Put the two alleles from one parent into the boxes at the top. This parent is a heterozygote. This means they have one dominant and one recessive allele.



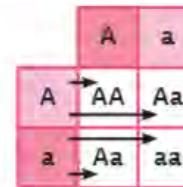
Step 2:

Put the two alleles from the second parent into the boxes on the left. This parent is also a heterozygote.



Step 3:

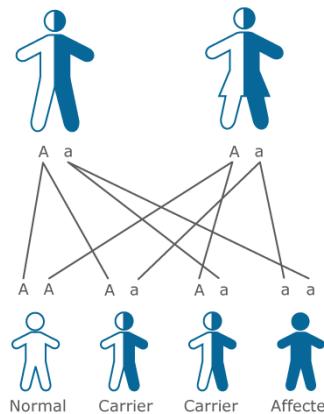
Put the alleles from the first parent into the two boxes underneath them.



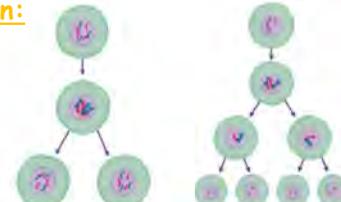
Step 4:

Put the alleles from the second parent into the two boxes to the right of them.

Inherited Disorders:



Cell Division:



Mitosis

Produces two daughter cells.

Daughter cells are genetically identical.

The cell divides once.

The chromosome number of the daughter cells is the same as the parent cells. In humans, this is 23 chromosomes.

Used for growth and repair, and asexual reproduction.

Meiosis

Produces four daughter cells.

Daughter cells are not genetically identical.

The cell divides twice.

The chromosome number is reduced by half. In humans, this is 23 chromosomes.

Produces gametes for sexual reproduction.



St Joseph's College Science Department

Summer Term: Biology – Variation and Evolution



Understand the process of evolution, the evidence that we have supporting it, and how organisms are classified.

Keywords:

Evolution: A change in the inherited characteristics of a population over a long period of time, through natural selection

Extinction: The permanent loss of all members of a species

Genetic Engineering: the process by which scientists manipulate and change the genotype of an organism

Selective Breeding: Humans selecting animals or plants for desired characteristics, through breeding.

Variation: Differences in characteristics between individuals

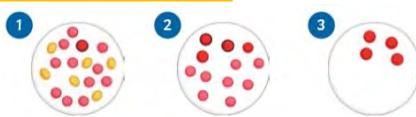
Fossils:

Fossils could be:

- Remains of an organism that hasn't decayed
- Mineralised forms of the hard parts of an organism (i.e. bones)
- Traces of organisms, such as footprints.

Fossils help us understand how much organisms have changed as life developed on earth.

Resistant Bacteria:



- 1: There is variation in the bacterial population. One develops a mutation by chance meaning it is resistant to antibiotic.
- 2: The antibiotic kills some bacteria, the resistant one survives and reproduces.
- 3: The antibiotic kills the rest of the non resistant bacteria. The resistant bacteria continues reproducing having survived the antibiotic.

Evolution:

1. Variation exists in a population/species
2. This means some individual are better suited to their environment (selective advantage)
3. Those with the advantageous allele survive and reproduce
4. Those without it die and don't reproduce
5. More offspring are born with the allele
6. Over a long period of time all members of the species will have the trait

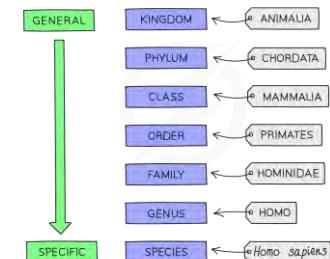
Classification:

Linnaeus classified living things into the categories shown in the diagram opposite.

Organisms are named using the binomial system of genus and species.

Due to evidence from chemical analysis there is now a 3 domain system, which was developed by Carl Woese (see below).

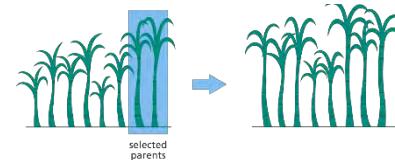
LINNAEUS'S SYSTEM OF CLASSIFICATION



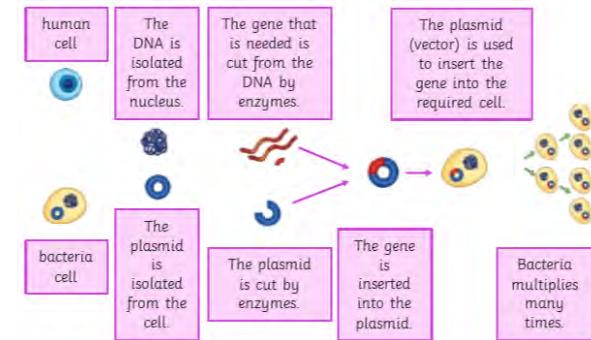
Domain	bacteria	archaea	eukaryota			
Kingdom	eubacteria	archaeabacteria	protista	fungi	plantae	animalia

Selective Breeding:

1. Choose parents with a desired characteristic
2. Select the best offspring and breed them to make the next generation
3. These offspring are then bred again and again, over many generations until the desired result is achieved.



Genetic Engineering:





St Joseph's College Science Department

Summer Term: Biology - Ecology



Understand the interdependence of organisms and the natural world.

Keywords:

Biodiversity: The variety of living organisms

Producer: Organisms that convert the sun's energy into useful compounds through photosynthesis. I.e. green plants and algae

Consumer: Organisms that feed on other organisms for energy

Decomposer: Organisms which feed on dead or decaying matter

Ecosystem: Organisms and their non living environment

Community: Populations of different species

Population: The number of individuals of a particular species

Species: Organisms that can interbreed and produce fertile offspring

Deforestation: The removal and destruction of trees in forests and woodlands

Abiotic factor: A non-living factor of an environment. E.g. Moisture, light, temperature, CO_2 , wind, O_2 or ph

Biotic factor: A living factor of an environment. E.g. Predators, competition, pathogens, availability of food

Adaptations:

There are 3 types of Adaptation:



Structural Adaptations
Sharp quills for protection from predators
Protruding snout (for accessing termite mounds)
Sharp claws for digging / burrowing

Behavioural Adaptations
Curls into ball when threatened (exposes quills)
Digs burrows in which to nest and rest
May hibernate during winter in very cold regions

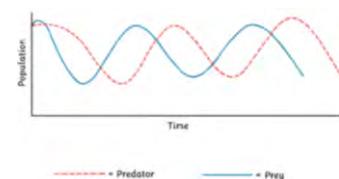
Physiological Adaptations
Ears sensitive to low frequencies (detect ant sounds)
Well developed olfactory system (used for detection)
Tongue can stiffen and penetrate soil due to blood flow

Food Chains:

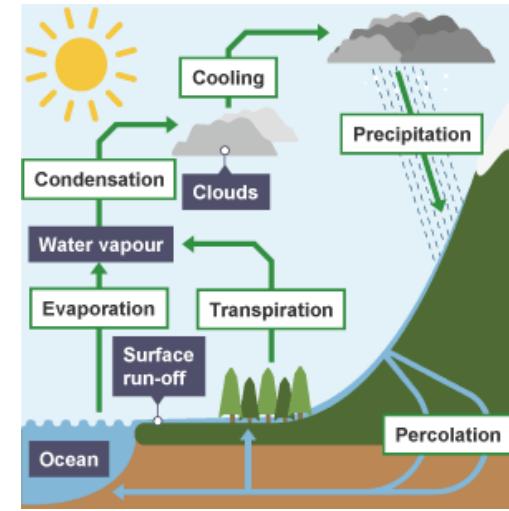


The arrow shows the transfer of energy

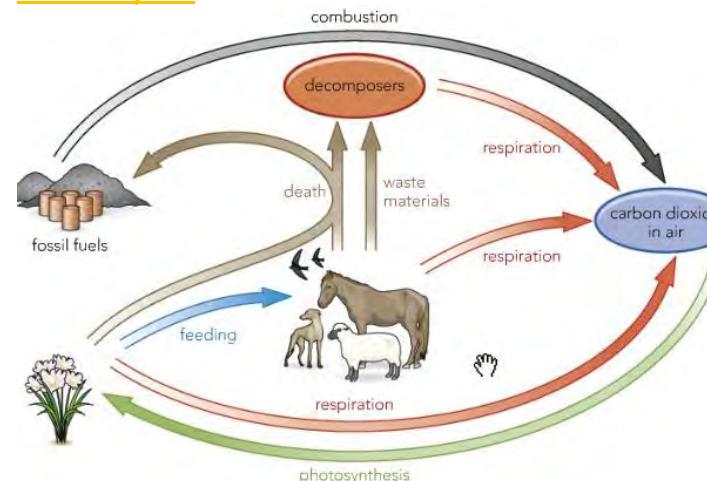
Predator Prey Cycle:



Water Cycle:



Carbon Cycle:



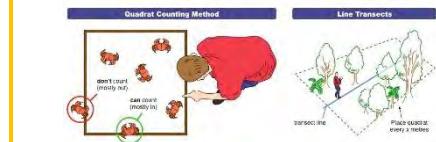
Field Techniques:

Quadrats:

- Quadrats are used to measure the frequency of an organism in a given area.
- You count the number of organisms found in the quadrat.
- Quadrats should be placed randomly

Transects:

- Transects are used to measure the change in distribution across an area.



Conservation:

- Breeding programmes
- Conservation projects for habitats
- Reintroduction of hedgerows
- Sustainable forestry
- Recycling

Problems:

Difficult to manage, Costly, and hard to regulate



St Joseph's College Science Department

Autumn Term: Chemistry - Atomic Structure



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

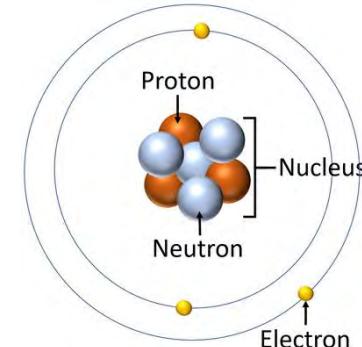
Isotope: atoms of an element with the same number of protons and electrons, but a different number of neutrons

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.

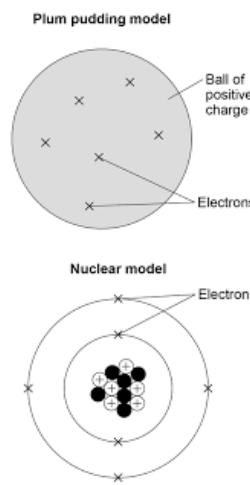
Subatomic particle	Relative mass	Relative charge
Proton	1	+1
Neutron	1	0
Electron	Very small	-1



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

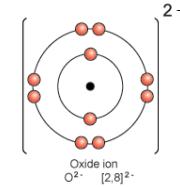
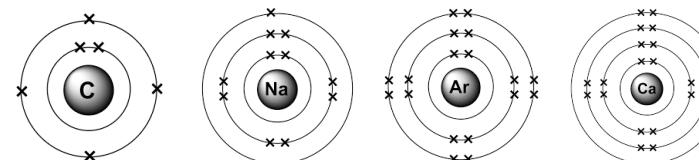
1 H hydrogen 1

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.





St Joseph's College Science Department

Autumn Term: Chemistry - Periodic Table



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.

Periodic Table of the Elements																	
H	Li	Be	B	C	N	O	F	Ne	Na	Mg	Al	Si	P	S	Cl	Ar	
He									K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co
									Rb	Fr	Y	Zr	Nb	Ta	W	Ds	Fr
									Cs	Fr	Lu	Db	Sg	Bh	Mt	Fr	

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:

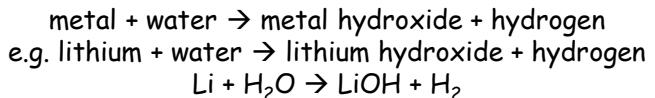
Metals
 Found on the left of the Periodic table, form positive ions.
 Strong, malleable, good conductors of heat and electricity.

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 it's further from the nucleus.
 React with water producing hydrogen and oxygen to make metal oxides.



Halogens (Group 7):

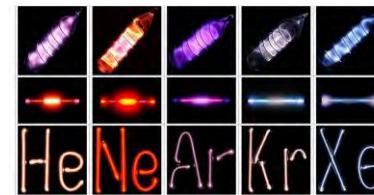
Non-metal molecules with 2 atoms (diatomic molecules).
 All have 7 electrons in their outer energy level.
 Reactivity decreases as you go down the group and it is harder for atoms to attract an electron when the outer energy level is so far from the nucleus.

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.





St Joseph's College Science Department

Autumn Term: Chemistry - Types of Bonds



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

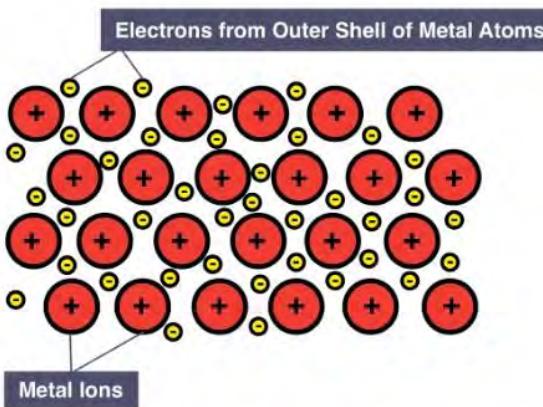
Electrostatic attraction: attraction between oppositely charged particles

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.

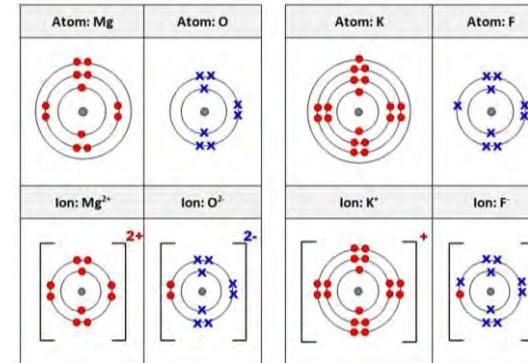


The ions are tightly packed and in neat rows

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.

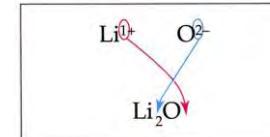


The charge of the ion goes outside the brackets.
If an ion loses 1 electron it becomes +, if it loses 2 electrons it becomes 2+.

Ions will have a full outer electron energy level.

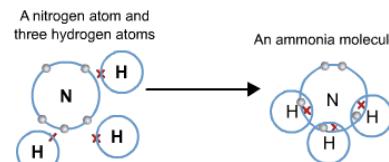
Writing ionic formula:

You can use the charges to write ionic formula as seen here:

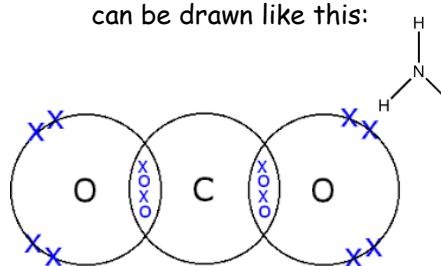


Covalent bonding:

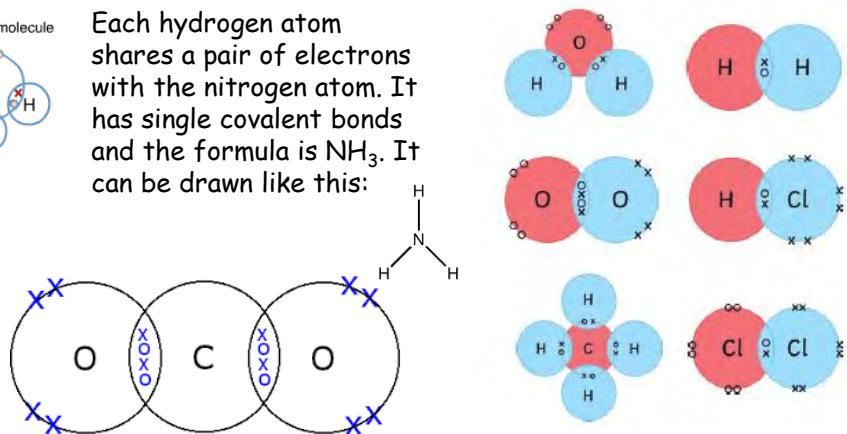
Non-metal atoms share a pair of electrons, the energy levels overlap and the shared electrons mean that both atoms have a full outer electron energy level. Common examples are shown below:



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.





St Joseph's College Science Department

Autumn Term: Chemistry - Properties of Substances



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)

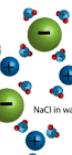
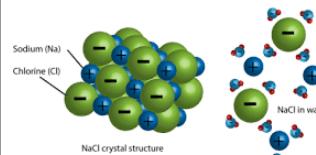
Boiling point: the temperature at which a substance boils from a liquid to a gas (or condenses from a gas to a liquid)

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:

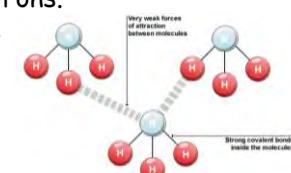
- Conduct electricity as ions are free and can carry charge

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.

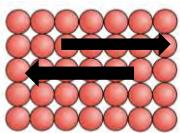
To boil covalent molecules you only need to break the weak intermolecular forces, which doesn't need much energy.



Metals and Alloys:

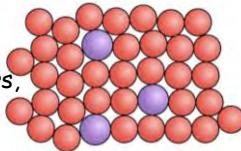
Metals conduct electricity because they have delocalised electrons.

Metals are malleable and ductile because the ions are in neat rows so can easily slide over each other.



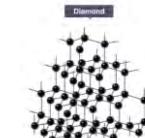
Because of this metals are too soft for many uses, so are mixed with other metals to make alloys.

The different sized atoms disrupt the layers, stopping them from sliding over each other.



Giant Covalent structures

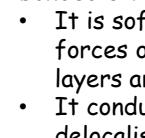
Both diamond and graphite are made from carbon.



In diamond each carbon atom is bonded 4 times.

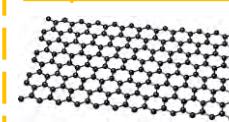
- It is very hard
- It does not conduct electricity as has no free electrons
- Has a very high melting point

In graphite each carbon atom is bonded 3 times

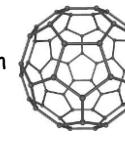


- It is soft and slippery because forces of attraction between the layers are weak
- It conducts electricity as it has delocalised electrons

Graphene, Fullerenes and Nanotubes:



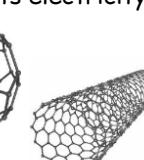
Graphene is a single layer of graphite. It is very hard and conducts electricity.



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.



St Joseph's College Science Department

Autumn Term: Chemistry - Quantitative Chemistry



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 :

$$Ar = \frac{(\% \text{ abundance} \times \text{mass}) + (\% \text{ abundance} \times \text{mass})}{100}$$

Mass of isotope	% Abundance
${}^6\text{Li}$	7.5
${}^7\text{Li}$	92.5

Calculating M_r :

Use the formula to multiply the A_r of each element by the number of atoms present.

$$\begin{aligned} \text{e.g. } H_2SO_4 & \quad (2 \times 1) + 32 + (4 \times 16) \\ &= 2 + 32 + 64 \\ &= 98 \end{aligned}$$

Calculating percentage mass of an element in a compound:

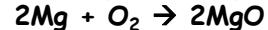
Percentage mass of an element in a compound =

$$\frac{A_r \times \text{number of atoms of that element}}{M_r \text{ of the compound}}$$

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.

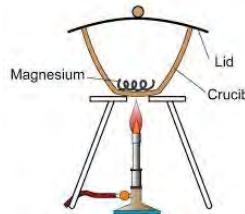
When writing symbol equations they must be balanced to represent this:



When reactions involve gases, the mass can seem to increase/decrease because we cannot measure the mass of the gas.

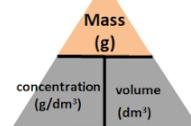
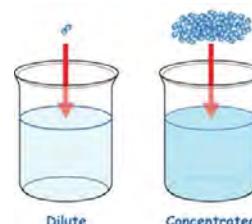
e.g. adding oxygen to magnesium shows an increase, while thermal decomposition of copper carbonate shows a decrease.

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 dm^3

$$1000\text{cm}^3 = 1\text{dm}^3$$

So to get dm^3 , take the volume in cm^3 and \div by 1000

The Mole

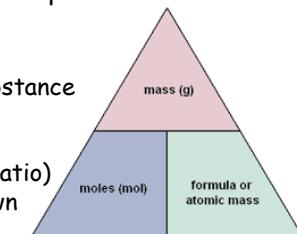
HT only
The mole is a unit used to measure the amount of substance in Chemistry.

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. Use balanced equation to calculate number of moles of unknown substance (look at ratio)
3. Calculate the mass of unknown substance



Limiting Reactants:

HT only
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.



St Joseph's College Science Department

Spring Term: Chemistry - Acids, Bases and Salts



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^+)

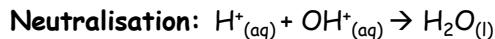
Alkali: a soluble base that releases hydroxide ions (OH^-)

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

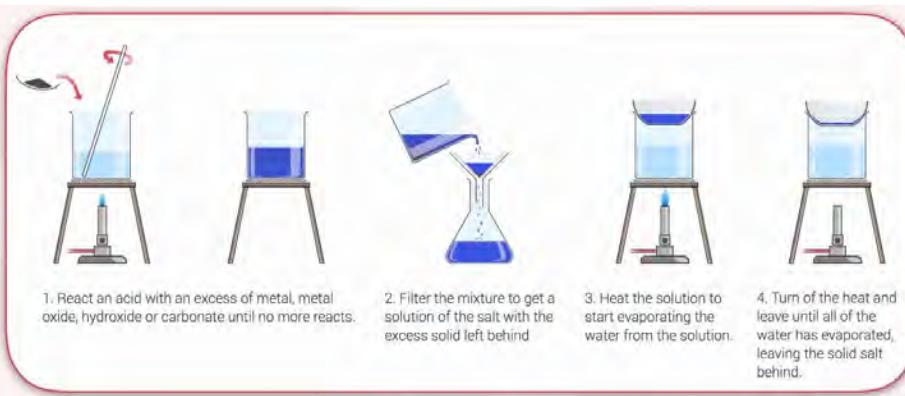
Salt: ionic compound produced in reactions with acids

Soluble salt: a salt that dissolves in water



Acid used	Salt produced
hydrochloric	metal chloride
nitric	metal chloride
sulfuric	metal sulfate

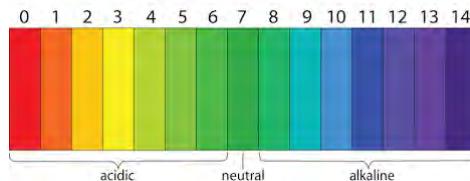
Making a soluble salt:



The pH Scale:

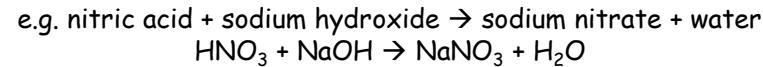
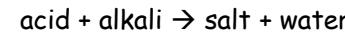
HT Only: As the pH decreases by one unit, the hydrogen ion concentration increases by a factor of 10.

So you go from pH 1 to pH 2, you need to dilute 10cm^3 in 90cm^3

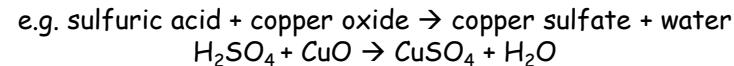


Reactions of acids:

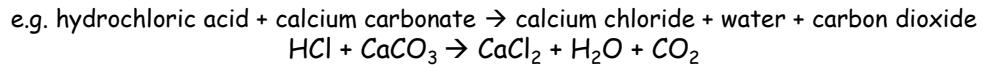
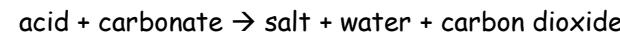
With alkalis:



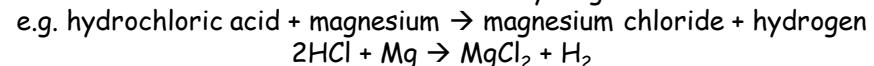
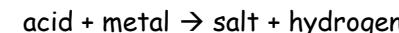
With bases:



With carbonates:



With metals:



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:

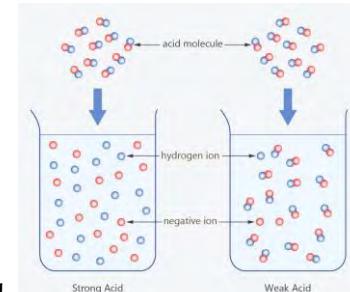
A strong acid completely dissociates in a solution.

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.





St Joseph's College Science Department

Spring Term: Chemistry - Electrolysis



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

Predicting products of electrolysis:

If compound is molten (shown by a (l) after the formula):

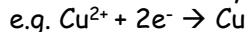
- positive metal ions will move to the cathode and form solid metal
- negative non-metal ions will move to the anion and form, normally a halogens

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

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:



HT only

Electrolysis:

A current is passed through the solution.

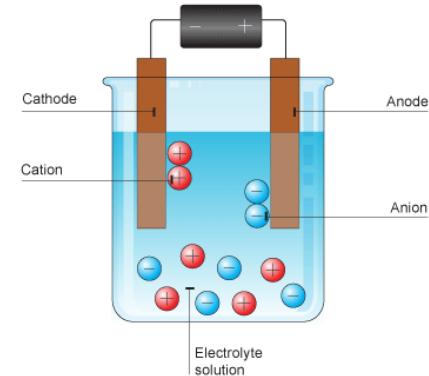
Ionic compounds need to be either molten or dissolved so their ions can move.

Opposite charges attract:

Cations (positive) are attracted to the cathode (negative).

Anions (negative) are attracted to the anode (positive).

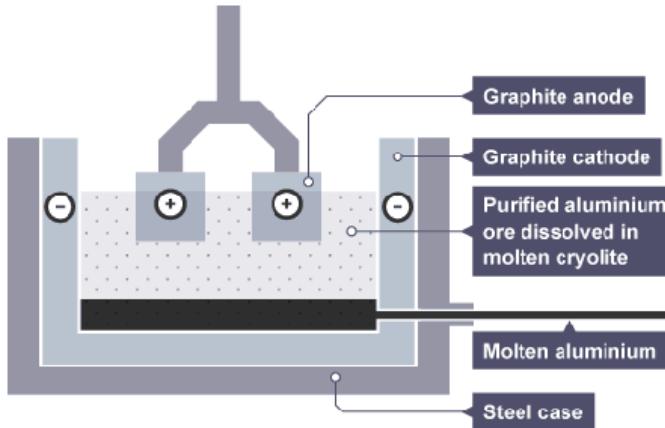
The products at each electrode depend on the substance being electrolysed and the state it is in.



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.

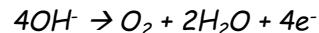
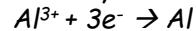


Aluminium is extracted from aluminium oxide, more commonly known as bauxite.

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.

HT Only: Relevant half equations





St Joseph's College Science Department

Spring Term: Chemistry - Energy Changes



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

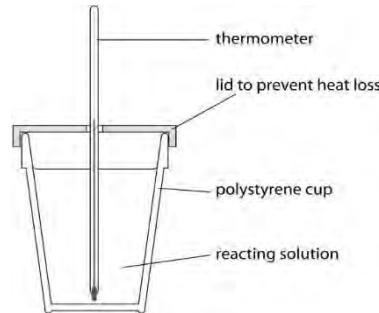
Energy level diagram: shows the energy change occurring in a reaction

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

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

Exothermic Reactions:

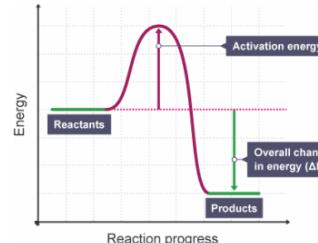
Energy is transferred from the reacting chemicals to the surroundings, Temperature increases as the reaction takes place.

Examples:

- Combustion
- Neutralisation
- Respiration
- Oxidation

Uses:

- Hand warmers
- Self heating cans



Endothermic Reactions:

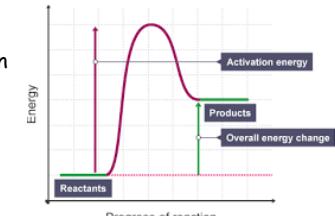
Energy is transferred from the surroundings to the reacting chemicals Temperature decreases as the reaction takes place.

Example:

- Thermal decomposition

Use:

- Instant ice packs



The direction of arrows on energy profile diagrams is really important!

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.

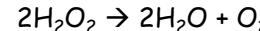
The energy change can be shown as ΔH

HT only

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

$$2148 - 2354 = -206 \text{ kJ/mol} \quad (\text{because } \Delta H \text{ is negative, reaction is exothermic})$$

Bond	Bond Energy kJ/mol
H-O	464
O-O	146
O=O	498



St Joseph's College Science Department

Spring Term: Chemistry - Rates of Reactions



Explain how to speed up the rate of chemical reactions, describing how to measure this change and calculate the rate of a reaction.

Keywords:

Rate of reaction: how quickly a product is formed or how quickly a reactant is used up

Collision theory: particles must collide with enough energy to react

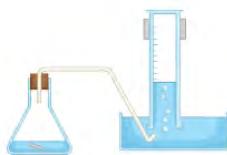
Concentration: the number of particles in a given volume of solution

Pressure: the number of gas particles in a given volume

Catalyst: a substance that speeds up a chemical reaction by offering an alternative pathway with a lower activation energy, it is not used up

RP - Production of a gas:

To measure the rate of a reaction that produces a gas, the volume of the gas is measured at regular intervals. Use either a gas cylinder or the equipment set up above.



Variables:

Independent: concentration, mass of solid or temperature

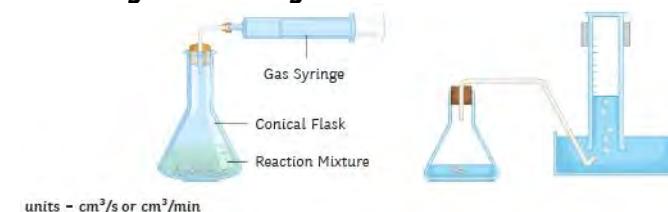
Dependent: volume of gas produced

Control: volume of solution, concentration, mass of solid or temperature (if not used as independent)

Units: cm^3/s

Measuring and calculating rate of reaction:

Measuring volume of gas:



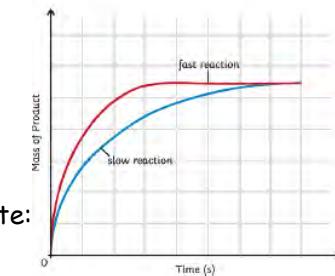
Calculating rate of reaction:

$$\frac{\text{quantity of reactant used or product made}}{\text{time}}$$

Measuring mass change (heavy gases e.g. CO_2):



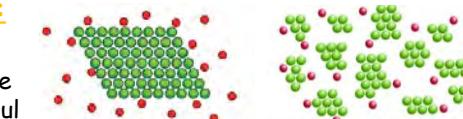
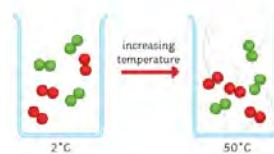
plot a graph to compare rate:
HT only: draw tangent and calculate its gradient ($= \frac{y}{x}$)



Increasing the rate of a reaction:

Increase the temperature

This increases the kinetic energy of the particles, so the frequency of successful collisions increases.



Increase the surface area

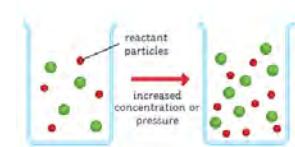
Large lumps = small surface area to volume ratio

Smaller lumps/powder = increased surface area to volume ratio

More of the solid is exposed to increases the frequency of successful collisions.

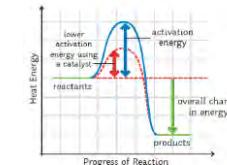
Increase the pressure or concentration

Increasing the number of particles in a given volume increases the frequency of successful collisions.



Use a catalyst

Frequency of collisions is unchanged
But more particles have energy greater than that of the activation energy so increase in rate of successful collisions.



RP - Investigating a colour change:

The reaction between sodium thiosulfate and hydrochloric acid produces a precipitate - sulfur. The precipitate causes the reaction mixture to become cloudy which is used to measure reaction time.

Variables

Independent: concentration or temperature

Dependent: time taken for cross to disappear

Control: volume of solutions, temperature

or
concentration
(if not used as independent)





St Joseph's College Science Department

Spring Term: Chemistry - Equilibrium



Describe examples of reversible reactions, writing their equations and giving the observations that would be made.

Keywords:

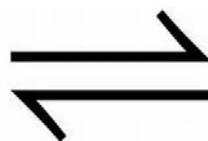
Reversible reaction: a chemical reaction that can occur in both directions

Closed system: no substances can enter or leave

Dynamic equilibrium: forward and reverse reactions are occurring at the same rate, so concentration of all substances remain constant

Hydrated salt: contains water

Anhydrous salt: does not contain water



Symbol for a reversible reaction:

Changing conditions and the effect on Position of Equilibrium:

The position of equilibrium = how much of reactant and product is present when a reversible reaction reaches equilibrium
HT only

The position of equilibrium can be altered by changing the conditions of the reaction - it changes to counteract the change.

Increasing the **concentration** of the reactants causes the equilibrium position to move towards the products, making more products.

Decreasing the **concentration** of the products also causes the equilibrium position to move towards the products.

Increasing the **temperature** causes the equilibrium to shift in the endothermic direction to reduce the temperature.

Decreasing the **temperature** causes the equilibrium to shift in the exothermic direction to increase the temperature.

Increasing the **pressure** causes the equilibrium position to move towards the side with the least gas molecules to reduce the pressure.
Decreasing **pressure** causes the equilibrium position to move towards the side with more gas molecules to increase the pressure.

Reversible Reactions:

This is when reactants form products, but the products can then react together to reform the reactants.

e.g. A reacts with B to form C and D.
C and D are able to react to form A and B



The amount of energy transferred is the same for both the forward and backwards reactions, just opposite.

Do if the forward reaction is exothermic, the backwards reaction will be endothermic, and vice versa.

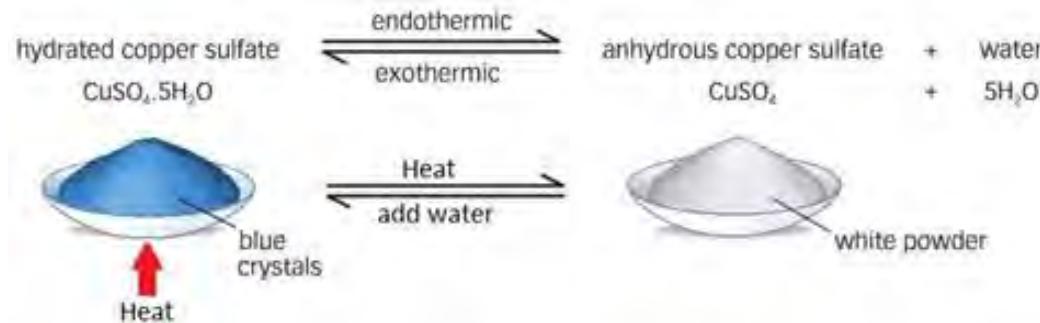
If the forward reaction has an energy change of +213kJ/mol, the backward reaction will have an energy change of -213kJ/mol,

Copper Sulfate as an example:

Blue hydrated copper sulfate crystals can be converted into white anhydrous copper sulfate crystal through heating.

The water in the crystals evaporates.

If done in a test tube, water droplets condense on the side of the glass.
To reform hydrated copper sulfate add water drop by drop.





St Joseph's College Science Department

Summer Term: Chemistry - Hydrocarbons



Describe the types of compounds found in crude oil, including their properties, and explain how we process them to make them more useful.

Keywords:

Hydrocarbon: a molecule made from hydrogen and carbon only

Crude oil: a non-renewable fossil fuel

Alkanes: hydrocarbons held together by single bonds, saturated compounds

Alkenes: hydrocarbons that contain carbon-carbon double bonds, unsaturated compounds

Fractional distillation: separates the mixture of hydrocarbons in crude oil into smaller, more useful fractions

Viscosity: how easily a substance flows, how thick it is

Flammability: how easily a substance burns

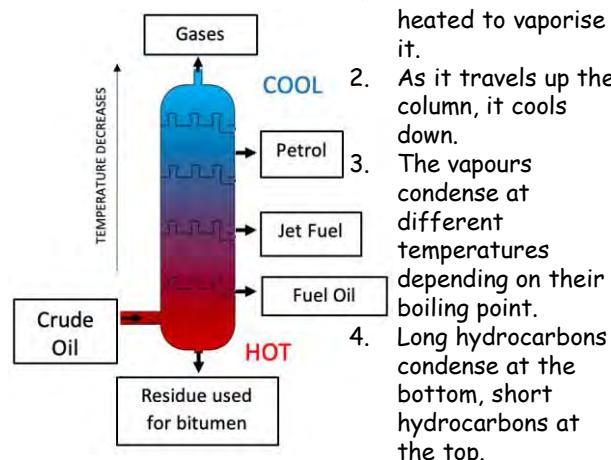
Combustion: chemical reaction where a substance is burnt in oxygen

Cracking: thermal decomposition reaction where long hydrocarbons are broken down into shorter, more useful hydrocarbons

Polymers: long chains of monomers, often the monomer is an alkene

Fractional Distillation:

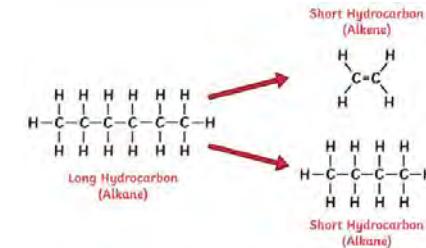
Fractional distillation is used to separate the mixture of hydrocarbons into useful fractions. Hydrocarbons of similar chain length will be in a fraction due to their boiling points being similar.



1. The crude oil is heated to vaporise it.
2. As it travels up the column, it cools down. The vapours condense at different temperatures depending on their boiling point.
3. Long hydrocarbons condense at the bottom, short hydrocarbons at the top.
4. Short Hydrocarbon (Alkene)

Cracking:

Cracking is used to break down long hydrocarbons into shorter, more useful ones.



Catalytic cracking involves heating a hydrocarbon to high temperatures and passing it over a hot catalyst.

Steam cracking involves heating a hydrocarbon to high temperatures and mixing it with steam.

Both are **thermal decomposition** reactions - they use heat to break down a substance.

Alkanes

Alkanes are hydrocarbons held together by single bonds.

You need to be able to draw and write the formula for the first four alkanes.

The general formula is C_nH_{2n+2}

Alkanes have similar chemical properties, but physical properties depend on their chain length.

- Longer molecules have:
- higher boiling points
 - more viscous/gloopy
 - less flammable
- Shorter molecules have:
- lower boiling points
 - less viscous/runny
 - more flammable

Name of Alkane	Structural Formula	Molecular Formula
methane	H H-C-H H	CH ₄
ethane	H H H-C-C-H H H	C ₂ H ₆
propane	H H H H-C-C-C-H H H H	C ₃ H ₈
butane	H H H H H-C-C-C-C-H H H H H	C ₄ H ₁₀

Alkenes:

Alkenes are hydrocarbons that have a carbon-carbon double bond - they are described as unsaturated.

The general formula is C_nH_{2n}

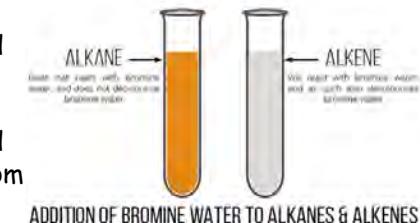
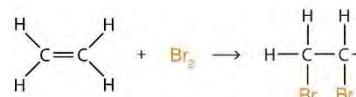
In chemical reactions the double bond can break, meaning other atoms can bond to it.

Testing for alkenes

When bromine is added to an alkane, it stays orange.

When bromine is added to an alkene it goes from orange to colourless.

The double bond breaks and bromine atoms bond.



Making polymers

Alkenes can be used as monomers to make polymers. Polymers are used in plastic bottles, plastic bags etc.



St Joseph's College Science Department

Summer Term: Chemistry - Chemical Analysis



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

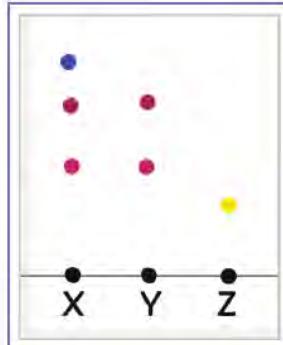
$$R_f = \frac{\text{distance travelled by substance}}{\text{distance travelled by solvent}}$$

Paper Chromatography:

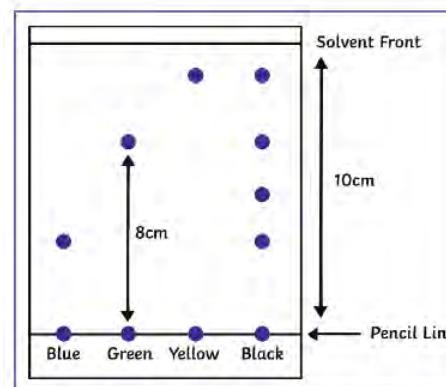
There are two phases:
The **mobile phase** (the solvent) moves through the paper carrying different substances with it.

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



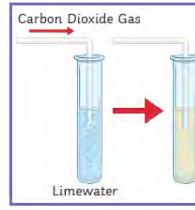
Testing for O₂:

- 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





St Joseph's College Science Department

Summer Term: Chemistry - Chemistry of the Atmosphere



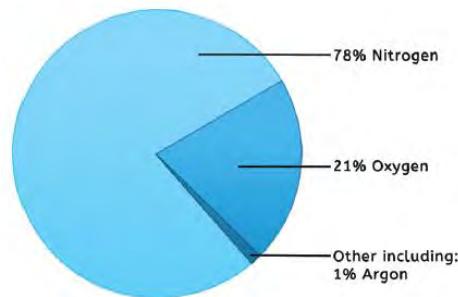
Understanding how the Earth's atmosphere has developed and explaining how human activity has resulted in Global Warming.

Keywords:

Atmosphere: the gases that surround a planet
Photosynthesis: the process plants perform that captures sunlight, producing glucose and oxygen
Combustion: burning fuels in the presence of oxygen, releasing CO₂ (incomplete combustion occurs when there isn't enough oxygen)
Carbonate compounds: compounds containing carbon and oxygen in the form of CO₃²⁻.
Deforestation: removal of trees on a large scale
Climate change: change in weather patterns over time
Greenhouse effect: greenhouse gases (CO₂, CH₄, H₂O) stop all the sun's energy escaping, keeping the Earth warm
Global warming: warming of the Earth's climate over the past 200 years due to increased greenhouse gases
Carbon footprint: the total amount of carbon dioxide and other greenhouse gases emitted over the full life cycle of a product, service or event

Earth's atmosphere:

The abundance of each gas in our atmosphere



Carbon footprint:

Individuals, companies and governments can all make choices to reduce carbon footprints. E.g.

- Use alternative energy sources/carbon neutral fuels
- Waste less energy
- Put a carbon tax on using fossil fuels

However these choices are often expensive and difficult to get multiple parties to agree.

Development of the Earth's atmosphere:

Early atmosphere: Intense volcanic activity made the atmosphere similar to Mars and Venus. Mainly made of carbon dioxide, very little oxygen. Nitrogen was released from volcanoes and built up. Water vapour condensed to form seas and oceans - carbon dioxide could then dissolve in these.

Oxygen increase: 2.7 billion years ago, algae first produced oxygen through photosynthesis. Levels of oxygen increased as plants evolved. Evolution of animals followed as higher oxygen levels could sustain more complex life.

Carbon dioxide decrease: Carbon dioxide dissolved in oceans formed carbonate compounds e.g. limestone. Carbon was trapped in fossil fuels - crude oil, coal and gas all contain carbon.

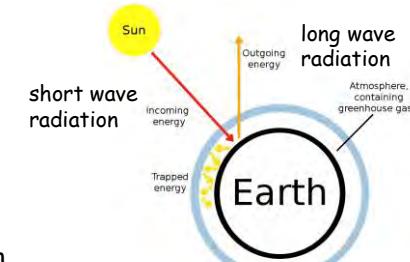
Carbon dioxide increase: Human activity has resulted in burning fossil fuels releasing carbon that has been trapped for millions of years

Causes:

Releasing CO₂ through deforestation and burning fossil fuels. Releasing CH₄ through intensive farming and decomposition in landfill. These greenhouse gases stop radiation leaving, making the Earth warmer.

Global warming

Effects:
 Change in weather patterns including extreme weather events e.g. storms
 Rising sea levels
 Ocean acidification



Pollutants:

Name	Caused by:	Problems:
Carbon _(s) / Soot	Incomplete combustion	Global dimming and asthma
Carbon monoxide	Incomplete combustion	Poisonous to humans
Sulfur dioxide	Combustion of sulfur in fossil fuels	Acid rain
Nitrous oxides	Combustion of nitrogen in the air	Acid rain and smog



St Joseph's College Science Department

Summer Term: Chemistry - Using Resources



Explaining how to evaluate the products we use in everyday life in terms of their sustainability and environmental impacts.

Keywords:

Sustainable development: development that meets the needs of current generations without compromising the ability of future generations to meet their own needs

Finite resources: resources where there is a limited supply

Renewable resources: resources that will not run out

Synthetic products: man-made products

Potable water: water that is safe to drink

Pure: a substance that contains only one element or compound

Sterilisation: killing any microbes that may be present

Metal ore: compound of metal found in rock

LCA: Life Cycle Assessment, used to assess the environmental impact of a product across its lifetime

Recycling:

Many materials are made from natural resources so we have limited supplies.



Reusing items saves energy and reduces environmental impact. Some items need to be recycled before they can be reused. This has advantages and disadvantages.

Life Cycle Assessments (LCAs):

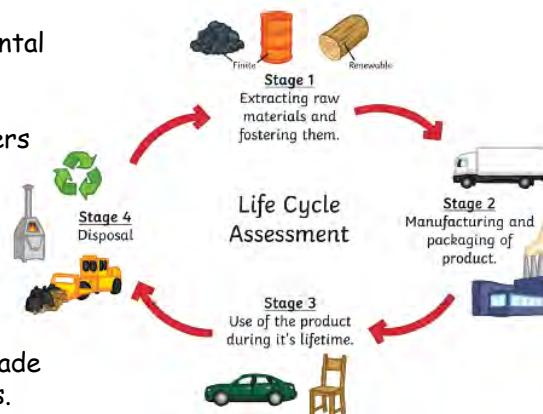
LCAs allow us to start to assess the environmental impact of products.

We need to look at the 4 key stages in detail.

Some elements are easy to quantify/put numbers to e.g. water use, energy source use and production of waste.

Giving numerical values to something such as pollutant effects is less straightforward and requires judgements, meaning it's not a purely objective process.

We can compare LCAs e.g. for shopping bags made from plastic and paper, to help us make choices.



Potable Water:

Potable water must contain low levels of microbes and salts for it to be safe to consume. The method of making water safe depends on where the water is coming from.

Fresh water/Ground water

- Insoluble particles removed when water is passed through filter beds
- Microbes are killed by sterilising water using chlorine, ozone or UV light
- Chlorine and ozone needs to be in specific amounts as they are harmful to human health

Seawater

- Undergoes desalination to remove salt (2 methods)
- This uses large amounts of energy
- Distillation involves evaporating then condensing water, but leaves behind salty wastewater
- Reverse osmosis involves forcing water through a membrane at high pressure, but the membrane is expensive



RP Analysis and Purifying water

- Analyse the pH using a pH meter or universal indicator
- Analyse the mass of dissolved substances by heating water in an evaporating basin and measuring the mass of the basic before and after
- Distil a water sample to produce pure water

Treating waste water

Wastewater from industry, agriculture and homes needs to be treated before its released into the environment.

This is to remove pollutants such as bacteria, nitrogen compounds, toxic metal compounds, fertilisers and pesticides.

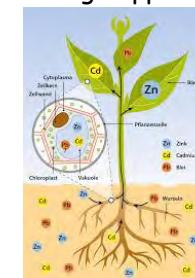
Step 1 - screen water

Step 2 - sedimentation to form sludge

Step 3 - aerobic digestion
This is not potable water, but can now be released.

HT only Alternative methods to extract metals:

These are used when extracting copper from low-grade ores.



Phytomining:

- Uses plants to absorb metal compounds
- Plants are harvested and burnt
- This produces ash that contains the metal compounds

Bioleaching:

- Uses bacteria to produce leachate solutions containing metal compounds

Metal compounds are then processed.

e.g. copper obtained through displacement by scrap iron or electrolysis



St Joseph's College Science Department

Autumn Term: Physics - Energy



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

$$E_k (J) = \frac{1}{2} \times \text{mass (kg)} \times (\text{velocity})^2$$

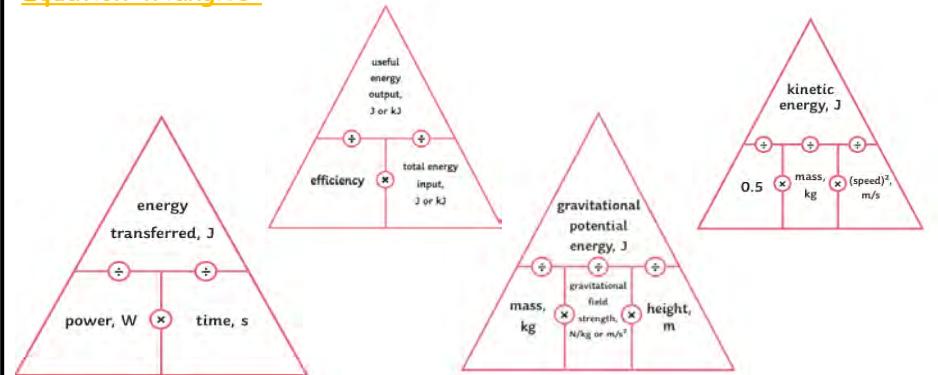
Gravitational Energy: Energy store if an object is above the ground.

$$E_p (J) = m (\text{kg}) \times g (\text{N/kg}) \times h (\text{m})$$

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.

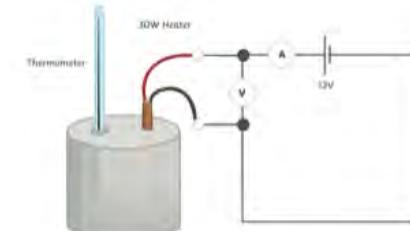


RP Specific Heat capacity:

Independent variable: material

Dependent variable: specific heat capacity

Control variables: insulating layer, initial temperature, time taken



$$\Delta E = m \times c \times \Delta \theta$$

$$(J) (kg) (J/kg \text{ } ^\circ\text{C}) (^\circ\text{C})$$

change in thermal energy = mass \times specific heat capacity \times temperature change

1. Record the mass of the copper block in kg (using a balance).
2. Set up the equipment as shown above.
3. Put the thermometer into the small hole and measure the temperature.
4. Switch the power pack to 12V and turn it on.
5. Read and record the voltmeter and ammeter readings 3 times during the experiment.
6. Turn on the stop clock and record the temperature every minute for 10 minutes.
7. Record the results in the table.
8. Calculate work done and plot a line graph of work done against temperature.



St Joseph's College Science Department

Autumn Term: Physics - Electricity



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:

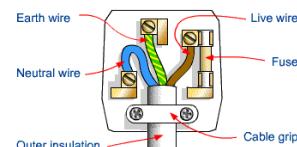
$$Q=It \quad P=IV$$

$$V=IR \quad P=I^2 R^2$$

$$E=Pt$$

$$E=QV$$

Electricity in the home:



Earthing a safety device: Earth wire joins the metal case of appliance

Live - Brown
Carries p.d from mains supply.
p.d between live and earth = 230V

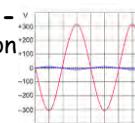
Neutral - Blue
Completes the circuit.
p.d. = 0V

Earth - Green and Yellow stripes
Only carries current if there is a fault.
p.d. = 0V

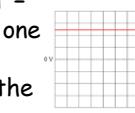
Fuse
Melts when current is too high
Always choose correct fuse for current flowing

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



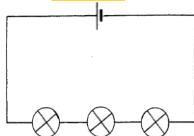
Direct current -
p.d. remains in one direction, current flows the same direction Eg cells and batteries



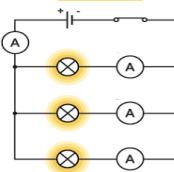
Series and parallel Circuits:

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

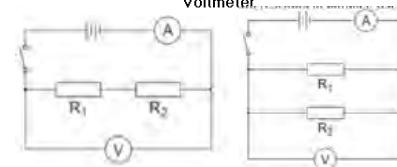
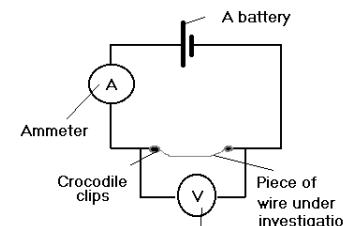
Investigating Series and Parallel circuits with resistors

Independent Variable - Circuit type (Series or Parallel)

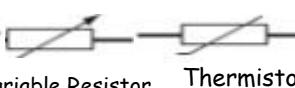
Dependent variable - Resistance

Control Variable - Number of resistors

Conclusion - Adding resistors in series increases total Resistance. In Parallel the more resistors you add the smaller the resistance



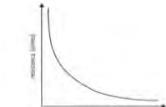
Circuit Symbols



Resistors and IV graphs:

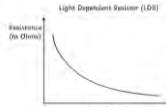
Thermistor

Resistance low at high temperature



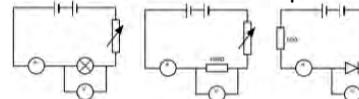
LDR

Resistance low in bright light



Required practical

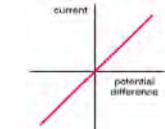
Independent variable - Pd
Dependent variable - Current
Control - number of components



Ohmic

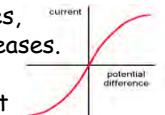
Ohmic Conductor

At a constant temperature, current is directly proportional to the p.d. across the resistor



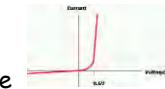
Filament lamp

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.





St Joseph's College Science Department

Autumn Term: Physics - Atomic Structure



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.

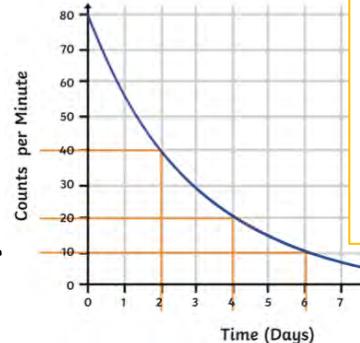
Irradiation: Shining gamma radiation on an object. This process kills bacteria and does not make the object radioactive.

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.

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!**



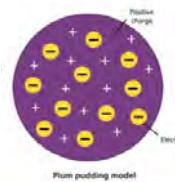
Model Example

- 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!

Development of the Model of the atom:

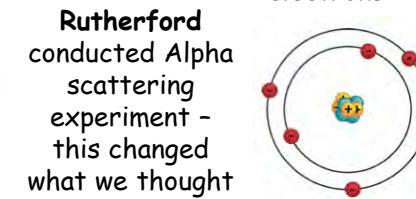


1. 19th century
John Dalton
Atoms were solid spheres



2. 1887
JJ Thomson
Plum Pudding model

3. 1909
Ernest Rutherford
conducted Alpha scattering experiment - this changed what we thought atoms looked like!



4. 1911
Niels Bohr
Bohr Model of atom - orbiting electrons

5. 1940
James Chadwick
Discovered neutrons existed inside the nucleus

Radioactive Decay:

Decay Type	Radiation Emitted	Generic Equation	Model
Alpha decay	$\frac{4}{2} \alpha$	$\frac{A}{Z} X \rightarrow \frac{A-4}{Z-2} X' + \frac{4}{2} \alpha$	 Parent → Daughter α Particle
Beta decay	$\frac{0}{-1} \beta$	$\frac{A}{Z} X \rightarrow \frac{A}{Z+1} X' + \frac{0}{-1} \beta$	 Parent → Daughter β Particle
Gamma emission	$\frac{0}{0} \gamma$	$\frac{A}{Z} X^* \xrightarrow{\text{Relaxation}} \frac{A}{Z} X'$	 Parent (excited nuclear state) → Daughter γ ray

Note: There is no change to the nucleus when a radioactive source emits gamma radiation. It is the nucleus getting rid of excess energy.



St Joseph's College Science Department

Spring Term: Physics - Particle model of matter



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:

$$\text{Density} = \text{mass} \div \text{volume.} \quad P = m \div V$$

$$\text{Energy needed} = \text{mass} \times \text{specific latent heat.} \quad \Delta E = m \times L$$

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

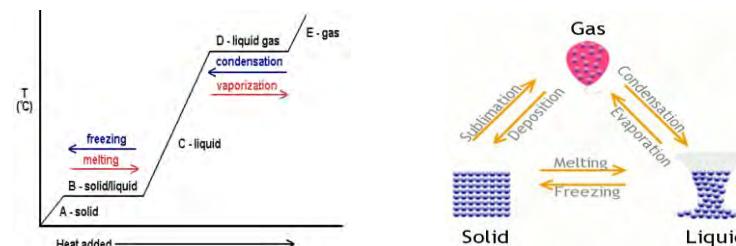
A more dense material will have more particles in the same volume when compared to a less dense material

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	Packed in a regular structure. Strong forces hold in place so cannot move.	Difficult to change shape.
Liquid	Close together, forces keep contact but can move about.	Can change shape but difficult to compress.
Gas	Separated by large distances. Weak forces so constantly randomly moving.	Can expand to fill a space, easy to compress.

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:

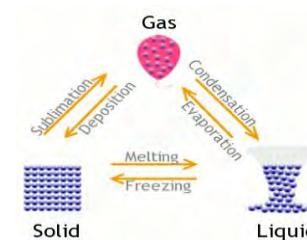
Energy is being put in during melting and boiling. This increases the amount of internal energy. The energy is being used to break bonds so the temperature does not increase. This is shown by the parts of the graph that are flat. The energy needed to change the state of a substance is called the **latent heat**.

Solid → Liquid **Specific latent heat of fusion**

Liquid → Gas **Specific latent heat of vaporisation**

Latent heat is the amount of energy needed /released when a substance changes state

$$\text{Energy needed} = \text{mass} \times \text{specific latent heat}$$





St Joseph's College Science Department

Spring Term: Physics - Forces



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:

$$\text{Weight (N)} = \text{mass (kg)} \times \text{gravitational field strength (N/kg)}$$

$$\text{Work done [energy transferred] (J)} = \text{force (N)} \times \text{distance moved (in the direction of the force) (m)}$$

$$\text{Resultant force (N)} = \text{mass (kg)} \times \text{acceleration (m/s}^2)$$

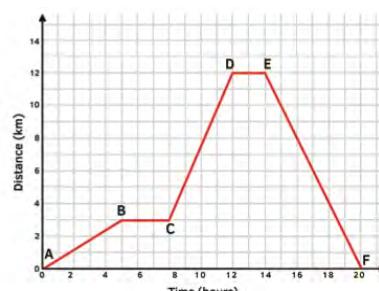
$$\text{Acceleration (m/s}^2) = \text{change in velocity (m/s)} / \text{time taken (s)}$$

$$\text{Stopping distance} = \text{thinking distance} + \text{braking distance}$$

$$\text{HT only: Momentum (N)} = \text{mass (kg)} \times \text{velocity (m/s)}$$

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



RP Hooke's Law $F=kx$

1. Set up the equipment as show



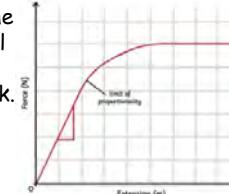
2. Measure the original length of the elastic object, e.g. a spring, and record this.

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 .



Vector and Scalar:

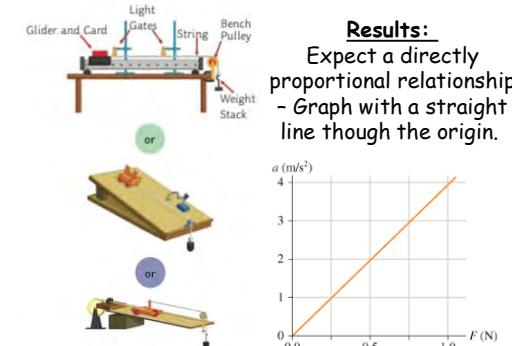
A scalar quantity has magnitude only. E.g. include temperature and mass.

A vector quantity has both magnitude and direction. E.g. include velocity and force.

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



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 Science Department

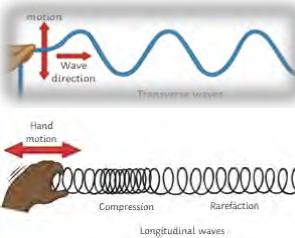
Spring Term: Physics - Waves



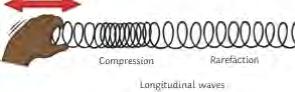
In this topic you will categorise waves into longitudinal and transverse and then go on to explore the properties of transverse waves in a vacuum, water and glass.

Keywords and equations:

Transverse wave: A wave where the particles oscillate perpendicular to the direction of energy transfer.



Longitudinal wave : A wave were the particles oscillate parallel to the direction of energy transfer.



Law of reflection: Angle of incidence = Angle of reflection

Wavelength: The distance from one peak to the next peak in (m).

Frequency: The number of waves that pass a point in a second.

Amplitude: The distance from the peak to the rest position in (m).

Period: The time taken for one wave to pass a point

Vacuum: Place with no particles.

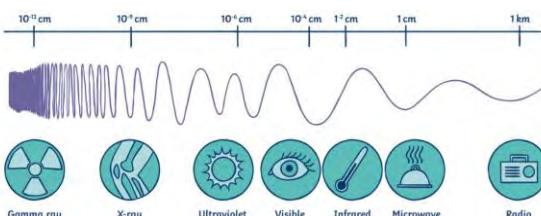
$$\text{Time period (s)} = 1 \div \text{frequency (Hz)}$$

$$T = 1 \div f$$

$$\text{wave speed (m/s)} = \text{frequency (Hz)} \times \text{wavelength (m)}$$

$$v = f \times \lambda$$

Electromagnetic waves:



Key Facts:

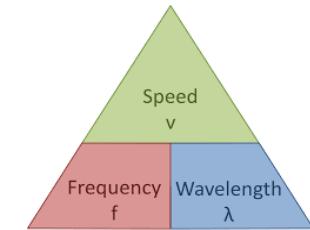
- Travel at the speed of light ($3 \times 10^8 \text{ m/s}$)
- Can travel in a vacuum
- Type of transverse wave
- Can be polarised

Calculating Wave Speed using a ripple tank:

Method:

- Set up the ripple tank as shown in the diagram.
- Turn on the power and observe the waves. Make any necessary adjustments to the equipment so that the waves are clear to observe
- To measure the wavelength, use the meter ruler and make an estimate quickly. You may want to use a strobe light and freeze the wave patterns to make measurements.
- Record 10 wavelengths and calculate the average value.
- To measure the wave frequency, mark a given point onto the white paper and count the number of waves which pass the point within 10 seconds. Divide your answer by 10 to find the number of waves per second. Record 10 frequencies and calculate the average value.
- To calculate the wave speed, use this formula:

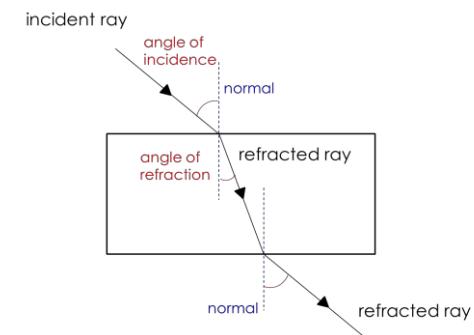
$$\text{speed} = \text{frequency} \times \text{wavelength}$$



Refraction:

When a light ray moves from one medium to another its **speed changes**. For example if you shine a ray of light from air into a glass block (or water).

The air travels faster in the air but slows down in glass (or water). When the light ray hits the glass (or water), the ray slows down and **changes direction**. This is called **Refraction**.



Light refracted in a glass block



St Joseph's College Science Department

Spring Term: Physics - Magnetism



Explore the properties of induced and permanent magnets exploring how to make a electromagnet and a motor.

Keywords:

Field lines: Points in space where a force could act.

Induced magnet: A material that only becomes magnetic when placed in a magnetic field.

Permanent magnet: A material with its own magnetic field (it cannot be turned on/off)

Solenoid: Coil of wire

Electromagnet: Current carrying solenoid with an iron core

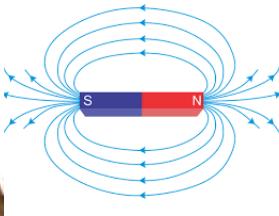
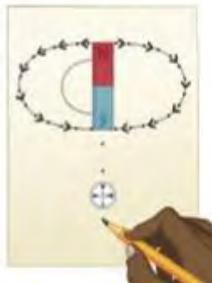
Current: Rate of flow of charge + to - ve

Magnetic field: a field showing the direction a north pole would move N to S

Compass: device that measures magnetic fields to determine North, South, East and West poles of the Earth.

Drawing Magnetic field Lines:

- Place the bar magnet in the centre of a sheet of plain paper.
- Using a magnetic compass, position it on the paper somewhere around the magnet.
- Observe the direction of the needle and carefully draw a dot at the circumference of the magnet, in line with each end of the needle. Make sure you include an arrow to indicate the direction of north.
- Repeat steps 2 and 3 for several positions around the magnet.
- Join the arrows to complete the magnetic field lines and whole



Facts:

Three materials are magnetic: IRON, COLTALT and NICKEL

Like poles repel (e.g N - N)
Different poles attract (e.g N - S)

Magnetic force is NON CONTACT

Making an electromagnet:

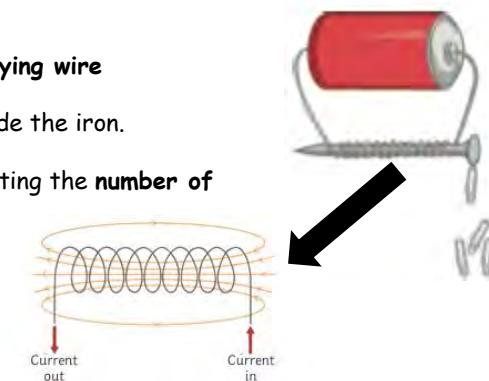
To make an electromagnet you wrap a current carrying wire around an iron core.

The current induces a changing magnetic field inside the iron. This makes an induced magnet/ electromagnet.

The strength of the magnet can be tested by counting the number of paper clips it can pick up.

Electromagnets have two advantages over permanent magnets

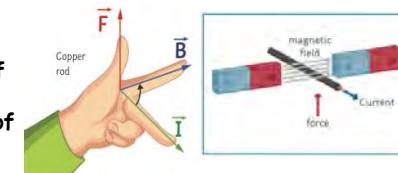
- turned on and off
- change the strength of the magnet by increasing the current or increasing the number of turns of wire.



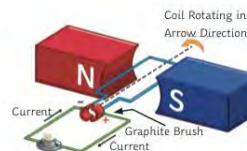
HT - Left hand rule + the motor effect:

FBI

- F = Your thumb represents the direction of the force.
- B = Your index finger represents the direction of the magnetic field (N → S)
- I = Your middle finger represents the direction of the current flowing through the wire (+ → -)



The Motor Effect:



Model Example Calculation:

$$\text{Force (N)} = \text{magnetic flux density (T)} \times \text{current (A)} \times \text{length (m)}$$

A current of 8A is flowing through a wire that is 75cm long. The magnetic field acting at a right angle on the wire is 0.5T.

$$\text{Calculate the force: } F = B \times I \times l$$

Remember: the equation uses length measured in m. The question gives you the length in cm so you need to convert it before you calculate your answer.

$$F = 0.5 \times 8 \times 0.75 \text{ F} = 3\text{N}$$



St Joseph's College Spanish Department

Autumn Term 1: Ser voluntario: el medioambiente y la pobreza (F) Year 11 Half Term 1



This half term we will be talking about how we can help fight poverty and environmental problems

Keywords:

6.1G ¿Quieres ser voluntario/a?

El banco de alimentos - food bank
El comedor social - soup kitchen

El concurso - the competition

La gente mayor - old people

El hogar - home

Los necesitados - the needy

La organización benéfica - charitable organisation, charity
La residencia de ancianos - old people's home

Los "sin techo" - the homeless

El Tercer Mundo - the Third World
La tienda con fines benéficos / tienda solidaria - the charity shop

El voluntario - the volunteer (masc)

La voluntaria - the volunteer (fem)

Ecologista - environmental

Necesitado - needed, required

Arreglar - to tidy, to fix, to arrange

Ayudar (a) - to help (to)

Charlar - to chat

Cultivar - to grow to cultivate

Disfrutar - to enjoy

Limpiar - to clean

Marcar (un gol) - to score (a goal)

Participar (en) - to take part (in)

Pasarlo bien - to have a good time

Proteger - to protect

7.1G Reutilizar, reducir, reciclar

La basura - rubbish

La bolsa de plástico - plastic bag

El cartón - cardboard

El contenedor - the container

La lata - the tin, the can

El malgasto - the waste

El papel (reciclado) - (recycled) paper

La papelera - the paper bin

La pila - the battery
El plástico - the plastic
Los productos químicos - chemicals, chemical products
El proyecto - the project
La Tierra - the Earth
El vidrio - the glass
Recargable - rechargeable
Ahorrar - to save
Cerrar - to shut, close, turn off (tap)
Intentar - to try to
Ponerse - to put on (clothes)
Reciclar - to recycle
Reutilizar - to reuse
Tirar - to pull, to throw away
Tratar de - to try to
En vez de - instead of

7.2G Los necesitados
La alimentación - feeding, nourishment, food
La asistencia médica - medical care
La creencia - belief
La culpa - blame, fault
La enfermedad - illness
La libertad (de pensamiento) - freedom (of thought)
El subsidio de desempleo - unemployment benefit
La vivienda - housing, accommodation
Fresco - fresh
Perezoso/a - lazy
Asistir a - to attend
Buscar - to look for
Contribuir - to contribute
Faltar - to be lacking, to be missing
Hacen(f) falta - it is (they are) necessary
Merceder - to deserve
Necesitar - to need

Perder - to lose
Querer - to love
A favor (de) - in favour (of)
En contra - against

6.1F Me gustaría ayudar
El asombro, amazement, surprise
El curso - school year, course
Los / las demás - the others, the rest
El centro de menores (tutelados) - children's home
El idioma - the language
El propósito - aim, purpose, objective
La tienda solidaria - charity shop
Inútil - useless
Útil - useful
Agradecer - to thank
Aprender - to learn
Contar (que) - to tell, to relate
Esperar - to wait for, hope, expect
Formar parte - to be part of
Hacer la cama - to make the bed
Repartir - to deliver, to hand out
Tener sueño - to be sleepy

7.1F Protegiendo el medio ambiente
La basura - rubbish
La bombilla (de bajo consumo) - (low energy) light bulb
El combustible - fuel
La contaminación atmosférica - air pollution
El desastre - the disaster
Los desperdicios/los residuos - rubbish, refuse, waste
La especie - species
La medida - measure, means
El motor - engine
Inquietante - worrying
Medioambiental - environmental

Combatir - to fight, combat
Desaparecer - to disappear
Desconectar - to disconnect, unplug, switch off
Deshacer - to undo
Luchar - to struggle, fight
Salvar - to save
Incluso - even

7.2F Los "sin techo"
El destrozo - damage, destruction
La falta - lack
El / la gamberro/a - the hooligan, lout, troublemaker
Los niños de la calle - street children
La ONG (organización no gubernamental) - NGO (non-governmental organisation)
La pobreza - poverty
El vertedero - rubbish dump, tip
La violencia - violence
Violento/a - violent
Escoger - to choose
Formar parte de - to be part of
Maltratar - to mistreat, ill-treat
Recoger - to pick up
Robar - to steal, rob

Using "me gustaría"
"Me gustaría" means "I would like" or "I'd like" and is used in a similar way to "me gusta". If you want to say "I'd like to do something, use "me gustaría followed by an infinitive.
Me gustaría contribuir - I would like to contribute

Verbs followed by the infinitive
Some verbs are generally followed by an infinitive. The most common ones are:
Poder - to be able to Querer - to want
Esperar - to hope Pensar - to think
I want to help - quiero participar I can help - puedo ayudar I'm thinking of working as a volunteer - pienso ser voluntario

TIME PHRASES

Siempre - always
Casi siempre - almost always
A menudo - often
Normalmente - normally, usually
De vez en cuando - now and again
Casi nunca - almost never
Nunca - never

Hoy - today
Ayer - yesterday
Mañana - tomorrow
Generalmente - generally
Ya no - no longer
Cada vez más - more and more

CONNECTIVES

Y/e - and Pero - but
Sin embargo - however
O/u - or También - also
Además - besides
Ya que/porque - because
Por eso - therefore
Cuando - when

OPINIONS

Pienso que - I think that
Creo que - I believe that
Opino que/A mi modo de ver - I am of the opinion that
Me parece que - It seems to me that

Using "IF" SENTENCES

Use "if" sentences to talk about possibilities in the future.
Si + present tense → future tense
Si + present tense → immediate future tense

Si sigues estos consejos, podrás ahorrar mucha agua - If you follow this advice, you will be able to save a lot of water
Si sigues estos consejos, vas a salvar uno o más árboles - If you follow this advice, you are going to save one or more trees

Using "algo" and "alguien"

Algo - something, anything
Alguien - somebody, someone, anyone, anybody
Since these words do not refer to a specific thing or person, they do not change to indicate masculine or feminine. They are not used in negative sentences - use nada (nothing, not...anything) and nadie (no one, nobody, not ... anyone) instead.

¿Conoces a alguien aquí? - Do you know anyone here?
¿Quieres comer algo? - Do you want anything to eat?

Reflexive constructions

To express possibility or obligation in an impersonal way, we use the reflexive pronoun "se" followed by "puede" or "debe".
¡Qué val / ¡Qué mal! - Rubbish!
¡Qué lata! - What a nuisance/drug!
¡Qué rollo! - What a bore!
¡Qué penal! - What a pity!
¡Basta ya! - That's enough!
¡Claro! - Of course!
¡Cuidadol! - Watch out!, Careful!

Se puede + infinitive - one can
Se debe + inf. - one must
Se necesita + inf. - one needs to

Using "me preocupa"
To say "I am worried/concerned" about something, use "Me preocupa(n)". Me preocupa el medio ambiente - I am worried about the environment
Me preocupa el humo de los coches - I'm concerned about car fumes.

GCSE Questions:

¿Te gustaría trabajar como voluntario? - Sí, me gustaría trabajar de voluntario porque /No, no me gustaría trabajar de voluntario porque.../Trabajo de voluntario en y creo que...

¿Qué haces para proteger el medio ambiente?.... Para proteger el medio ambiente, siempre reciclo.../reuso.../ahorro energía y agua/evito el uso de productos químicos.

¿Qué opinas de los "sin techo"? Opino que la sociedad/el gobierno tiene que... ¿Qué piensas de los necesitados? - Pienso que hay que...

¿Cuáles son los problemas más importantes en tu barrio? - El problema más importante es el medio ambiente/el crimen/los "sin techo"/la pobreza / el botellón porque...



St Joseph's College Spanish Department

Autumn Term 1: Ser voluntario: el medioambiente y la pobreza (H) Year 11 Half Term 1



This half term we will be talking about how to help fight poverty and environmental problems

Keywords:

6.1H La importancia de hacer obras benéficas
 El bolsillo - the pocket
 El dibujo drawing
 La exposición - exhibition
 El ganador - the winner
 Las instalaciones - facilities
 El medio ambiente - the environment
 Las obras benéficas - charity, charitable works
 La pérdida - the loss
 El/la político/a - politician
 Los recursos - resources
 El sida - AIDS
 Seropositivo - HIV positive
 Pertenciente a - belonging to
 Escaso/a - scarce
 Andar - to walk
 Contribuir - to contribute
 Dar asco - to nauseate
 Donar - to donate
 Ganar - to win
 Gastar - to spend
 Temer - to fear
 En vías de extinción - threatened (with extinction)

Keywords:

7.1H Problemas ecológicos
 El agujero - hole
 La aldea - (small) village
 El atasco - traffic jam, hold-up
 El ave (marina) - the sea bird
 El calentamiento global - global warming
 La capa de ozono - ozone layer
 El casco - the helmet, hull (of ship)
 El centenar - about a hundred
 La circulación - traffic

La central eléctrica - power station
 El efecto invernadero - greenhouse effect
 El humo - smoke
 El huracán - hurricane
 El incendio - fire
 La lluvia - rain
 La mancha - the stain
 La marea negra - oil slick
 La muerte - the death
 El nivel - level
 El petrolero - the oil tanker
 El pescador - the fisherman
 La pescadora - the fisherwoman
 El planeta - planet
 El riesgo - the risk
 La salud - health
 La selva - tropical forest, jungle
 La sequía - drought
 El viento - the wind
 Constituir - to constitute
 Cortar - to cut, to cut off
 Extender - to spread, to stretch
 Frenar - to brake, put a stop to
 Prever - to foresee
 Rescatar - to rescue
 Señalar - to indicate
 Vagar - to wander about, to float around

7.2H Es importante ayudar a los demás
 El agua corriente - running water
 La comisaría - police station
 La corriente - (electric) current, electricity supply
 La criminalidad - crime
 El empleo - job
 El/la encargado/a - person in charge
 El éxito - success
 El frigorífico - the fridge

El funcionamiento - operation, working
 El índice de criminalidad - crime rate
 El/la propietario/a - owner, proprietor
 Bastar - to be enough
 Consumir - to consume
 Crear - to create
 Llenar - to fill
 Terminar - to finish, end up
 Vaciar - to empty
 Cualquier(a) - any
 Hasta cierto punto - to a certain extent

CONVERSATION FILLERS

Conversation fillers (below) give you time to think and help you to avoid a long pause before you speak:
 Bueno... / Pues... - Well...
 Vamos a ver... - Let's see...
 Mira... - Look...
 No sé... - I don't know...
 Creo que... / Pienso que... - I think (that)...
 Supongo que ... - I suppose (that)...
 Yo diría... - I'd say that ...

The Conditional Tense

It translates as "would" or "should" in English.
 To form the conditional, just put the following endings onto the infinitive:

I - ía
 You - ías
 He/she - ía
 We - íamos
 You (pl) - íais
 They - ían

Mi hermano
ayudaría si
 pudiera -
 My brother would
help if he could

TIME PHRASES

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 A menudo - often
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Pienso que - I think that
 Creo que - I believe that
 Opino que/A mi modo de ver - I am of the opinion that
 Me parece que - It seems to me that



PLUPERFECT TENSE

It tells you what had happened or what someone had done. Formed like the perfect tense: haber + past participle, but with the imperfect tense of haber.
 Había Habíamos
 Habías Habíais + past participle
 Había Habían
 Ya había terminado el trabajo

Using MODAL VERBS for recommendations/obligations

Modal verbs include PODER (to be able/can) and DEBER (to have to/must), always followed by an infinitive.

- Debes apagar el cigarrillo - You must put out your cigarette.
- Podemos hacer mucho más - We can do a lot more.
 When used in the conditional, they have slightly different meanings:
Deberías hacer más para proteger el medio ambiente - you ought to do more to help the environment.
Podríamos reciclar las latas y el vidrio - We could recycle cans and glass.

IMPERFECT SUBJUNCTIVE and its use in "IF" clauses

To form the perfect subjunctive, start with the 3rd person plural form of the preterite (ending in -aron, -ieron, -eron), take off -ron and add the following endings (the same for all verbs):

-ra
 -ras
 -ra
 -ramos
 -rais
 -ran
 Si fueras rico, compraría un coche - If I were rich, I would buy a car
 Si tuvieras dinero, iría a Chile - If I had money, I would go to Chile
 (*accent on the letter before)

USING "Me encanta, me preocupa, etc. with the subjunctive."

You have already used these expressions with nouns and infinitives. "Me preocupa no llevar una vida sana" - It worries me not to have a healthy life."

They can also be used with "que": Me encanta que... - and since these expressions convey emotions or wishes they are always followed by the subjunctive.
 Me molesta que haya... (pobreza) - It bothers me that there is so much (poverty)
 Me preocupa que haya... - It worries me that there is...
 Me fastidia que sea... / Me irrita que sea... - It annoys me that it be...

GCSE Questions:

¿Qué harías si tuvieras mucho dinero/si te tocara la lotería/si fueras famoso? - Si tuviera mucho dinero/Si me tocara la lotería/Si fuera famoso, compraría/ayudaría/viviría/sería voluntario/trabajaría/defendería...
 ¿Cuál de estos problemas te parece más grave/importante, el del cambio climático o el de la deforestación? - Creo que el cambio climático/la deforestación es el problema más grave porque...
 ¿Cuáles son los problemas ecológicos que te parecen más importantes? ¿Por qué?- Creo que los problemas ecológicos más importantes son la deforestación/el tráfico/el cambio climático/las mareas negras porque...
 En tu opinión, ¿Cómo será el medio ambiente del planeta en cincuenta años?- En mi opinión, el medio ambiente será peor/mejor/igual porque...
 ¿Qué haces/vas a hacer para ayudar/recaudar fondos?- Normalmente trabajo/recaudo/soy voluntario en.../ayuda/reciclo... - Ahora no hago nada pero pienso ayudar/recaudar fondos/trabajar/ser voluntario...



St Joseph's College Spanish Department

Autumn Term 1: Mi insti y las asignaturas (F) Year 11 Half Term 2



This half term we will be talking about school life and studies

Keywords:

9.1G El instituto y las asignaturas
La asignatura - subject
La carrera - career, uni course
La clase - class
La selección - choice
Los deberes - homework
Próximo/a - next

Continuar - to continue, carry on
 Dejar - to drop
 Estudiar - to study
 Escoger - to choose

El arte dramático - drama
El dibujo - art
El español - Spanish
El francés - French
El inglés - English
La cocina - cooking, food tech
La educación física - PE
La geografía - geography
La historia - history
Las ciencias - sciences
Las matemáticas - maths

Difícil - difficult, hard
 Divertido/a - fun
 Fácil - easy
 Práctico - practical
 Útil - useful

QUANTIFIERS/INTENSIFIERS

Mucho /poco/ bastante / demasiado
 If used as an adverb (extra info about verbs) = no agreement.

• **Estudio mucho** - I study a lot.

If used as an adjective (adding info about nouns) = agreement.
 • **Hay muchos alumnos** - there are lots of students.

10.1G El día en el instituto

El aire libre - the open air
El/la alumno/a - pupil
El bachillerato - A-level equivalent
El bocadillo - sandwich
El campo de deportes - sports field
El/la compañero/a - classmate
El equipo - team, equipment
El estante - the shelf
La evaluación - assessment
El juego de mesa - board game
La hora de comer - lunch hour
El laboratorio - laboratory
La obra de teatro - theatre play
La opción - option
La oportunidad - opportunity
El producto químico - chemical
La prueba - test
El rato - while, time
El recreo - break
El ruido - noise

Aislado/a - isolated
Bonito/a - lovely, pretty
Corto/a - short
Tranquilo/a - quiet, peaceful
Último/a - last

Acabar de - to have just done sth
Actuar - to perform
Aprender - to learn
Durar - to last
Empezar - to start, to begin
Funcionar - to work, to function
Ganar - to win
Ir al baño - to go to the bathroom
Pasar lista - to take the register
Suspender - to fail
Terminar - to finish, end

9.1F ¿Cómo ser un buen estudiante?

Abrir - to open
Afectar - to affect
Aprender - to learn
Asistir a - to attend
Completar - to complete
Consultar - to consult
Entender - to understand
Esperar - to hope, to wait, to expect
Faltar a clase - to miss lessons
Intentar - to try
Interrumpir - to interrupt
Levantar la mano - to raise your hand
Llevar - to take, to carry, to wear
Mejorar - to improve
Mirar - to look at
Necesitar - to need
Ofrecer - to offer
Organizar - to organise
Participar - to take part
Pedir - to ask for, to request
Perder - to lose
Preguntar - to ask
Reparar - to revise
Resultar en - to end up with, to lead to
Saber - to know
Sacar buenas/malas notas - to get good/bad grades
Usar - to use

El apoyo - support
Los apuntes - notes
La biblioteca - library
El debate - discussion, debate
El diccionario - dictionary
La duda - doubt, query
El ejercicio - exercise
La escuela - school

El examen / los exámenes - exam/exams

La excursión - (school) trip
La frase - sentence
El instituto - school
La literatura - literature
El mundo - world
La nota - grade
El ordenador - computer
La palabra - word
La pantalla - screen
La pizarra - blackboard
La pizarra interactiva - smartboard
El/la profesor/a - teacher
El progreso - progress
El repaso - revision
Las tareas - homework
El trabajo - piece of work, work
La tutoría - tutorial
El vocabulario - vocabulary

Pegado/a - glued to
Responsable - responsible
serio/a - serious

10.1F Las reglas y el uniforme

Buscar - to look for
Dejar - to let, to allow
Demostrar - to show, demonstrate
Firmar - to sign
Ponerse en contacto con - to get in touch with
Sufrir - to suffer
Traer - to bring

La agenda - diary, planner
El apellido - surname
El artículo - article
La ausencia - absence
El chicle - chewing gum
El daño - harm
El edificio - building
Escolar - school (adj)

El individuo - individual

Los instalaciones - facilities
El intercambio - exchange
El maquillaje - make-up
Los materiales - materials
El nombre - name
El pasillo - corridor
El pendiente - earring
La puntualidad - punctuality
La regla - rule
El respeto - respect
El trayecto - journey
El uniforme - uniform
Prohibido - prohibited, banned

COMPARATIVE

El dibujo es **más fácil que** la tecnología - art is easier than DT.

SUPERLATIVE

El arte es la asignatura **más fácil** - art is the easiest subject.

COMMANDS = IMPERATIVE

Telling someone what to do (positive commands):

tú (s) vosotros (pl)
-Ar **-a** **-ad**
-Er **-e** **-ed**
-Ir **-e** **-id**

Telling someone NOT to do something (negative commands):

tú (s) vosotros (pl)
-Ar **-es** **-éis**
-Er **-as** **-áis**
-Ir **-as** **-áis**

TIME PHRASES

La semana próxima - next week
El año que viene - next year
Mañana - tomorrow
Hoy - today
Generalmente - usually
Normalmente - normally
Ya no - no longer
Ayer - yesterday

Siempre - always
Casi siempre - almost always

A menudo - often
Cada vez más - more
A veces - at times
De vez en cuando - now and again
Casi nunca - almost never
Nunca - never

OPINIONS

Me encanta (n) - I love
Me gusta (n) mucho - I like ... a lot
Me gusta (n) nada - I don't like... at all
Odio - I hate

CONNECTIVES

También - also - too
Tampoco - neither, nor
Porque - because
y/e - and
o/u - or
Sin embargo - however

GCSE Questions:

Describe tu colegio - Mi colegio es bastante grande.../ tiene seis laboratorios enormes y una cafetería ruidosa / no tiene salas modernas pero tiene una piscina limpia...

¿Qué asignaturas te gustan/no te gustan y por qué? Me encantan las ciencias porque son interesantes sin embargo odio el inglés ya que me aburre...

¿Qué opinas de las reglas del instituto SJC? Opino que hay reglas buenas y malas. Una regla mala es que no podemos salir a comer ... ¿Qué cambiarías de tu insti? Cambiaría algunas reglas porque son...

¿Qué piensas de los deberes? - Creo que son..... ¿Cómo es un día típico en tu insti? Las clases empiezan a las 8 y diez y terminan a las 2 y media. Hay cinco clases al día.

¿Cómo fue tu día ayer en el insti? - Ayer lo pasé bien porque las clases fueron divertidas y aprendí mucho/ lo pasé mal porque discutí con los amigos y nos peleamos por el pollo.



St Joseph's College Spanish Department

Autumn Term 1: Mi insti y las asignaturas (H) Year 11 Half Term 2



This half term we will be talking about school life and studies

Keywords:

9.1H ¿Qué tal el instituto?

Antiguo/a - old
Asustado/a - frightened
Atento/a - attentive
Cansado/a - tired
Contento/a - glad, happy
Deteriorado/a - dilapidated, shabby
Distinto/a - different
Emocionante - emotional
Feo/a - ugly
Hambriento/a - hungry
Inmenso/a - immense
Largo/a - long
Nervioso/a - nervous
Preocupado/a - worried
Sencillo/a - simple
Mejor - better
Encima - on top

El atasco - traffic jam, blockage
El aula - classroom
El curso - school year
La emoción - excitement
El gimnasio - sports hall, gym
El idioma - language
El laboratorio - laboratory
El patio del recreo - the school yard, playground
La pregunta - question
La sala de informática - IT room
El viaje - journey
La zona - area

Asustar - to frighten
Ayudar - to help
Buscar - to look for
Cambiar - to change
Conocer - to meet, to know
Contestar - to answer
Encontrar - to find
Explicar - to explain
Preocupar - to worry
Sentirse - to feel

10.1H Lo Bueno y lo malo del instituto

El acoso - bullying
El aspecto - appearance
La calefacción - heating
El castigo - punishment
El comportamiento - behaviour
La conducta - behaviour
El equipo - equipment
La explicación - explanation
El fracaso - failure
La intimidación - bullying, intimidation
La pizarra digital - smartboard
El ocio - leisure
La pared - wall
El trimestre - term
Hace falta - it is necessary

Aislado/a - isolated
Enfadado/a - angry
Incómodo/a - uncomfortable
Sucio/a - dirty
Travieso/a - naughty

Aguantar - to put up with
Alegrar - to brighten up
Aprobar - to pass an exam
Corregir - to mark, to correct
Cumplir con - to fulfil
Empeorar - to get worse
Encender - to turn on
Encenderse - to be turned on
ENSEÑAR - to teach, to show
Golpear - to hit
Mejorar - to improve
Molestar - to disturb, to annoy
Pelear - to fight
Recordar - to remember
Tardar - to take time, to delay

PERSONAL 'A'

It is used between a verb and a person:

- Ví a mi amigo en el instituto
- Cuando tuve un problema, consulté a mi amigo
- Conocí a otras chicas en clase
- Durante la clase, escuché al profesor

It is NOT used after ser, tener, hay:

- Tengo tres profes de español
- It is NOT used between a verb and a noun:
- Leí un libro
- Consulté una página web

MORE verbs + infinitive:

Decidir - to decide
Odiar - to hate
Intentar - to try
Preferir - to prefer
When two verbs follow each other:

- The first verb is conjugated.
- The second is usually in the infinitive.

 Decidí hacer mis deberes - I decided to do my homework
 Odio repasar notas - I hate to revise notes
 Intento estudiar mucho - I try to study a lot
 Prefiero aprobar - I prefer to pass (an exam)

TIME PHRASES

Ahora - now
Estos días - these days
En este momento - at this moment
Pronto - soon
Dentro de poco - in a bit
Anteayer - the day before yesterday
Anteriormente - previously, before
La semana pasada - last week
El año pasado - last year
Hace unos años - a few years ago

MORE CONNECTIVES

Ya que - since, as
En cuanto a - regarding, with regards to
Desde hace - since, for

OPINIONS

Pienso que - I think that
Creo que - I believe that
Opino que/A mi modo de ver - I am of the opinion that
Me parece que - It seems to me that

TRADICIONES DE AÑO NUEVO



Las 12 uvas	Maletas	Brindis
12 uvas y buena suerte	Para viajar el siguiente año	Amistades y familia

IN MEXICO:

Eat 12 grapes and make 12 wishes—one for every toll of the bell at midnight—to bring good luck in the months ahead. If you're single, wear red underwear. If you're looking to travel, take a walk around the block with your suitcase.



Irregular positive commands (tú)

The following verbs are irregular in the tú form but are regular in the vosotros form.

decir	di	salir	sal
hacer	haz	ser	sé
ir	ve	tener	ten
poner	pon	venir	ven

Irregular negative commands (tú / vosotros) and irregular commands (usted / ustedes)

This grid shows some common irregular forms of formal commands and negative commands.

verb	tú	vosotros	usted	ustedes
-ar verbs	-a	-ad	-e	-en
-er verbs	-e	-ed	-a	-an
-ir verbs	-e	-id	-a	-an

Negative commands

verb	tú	vosotros	usted	ustedes
decir	no digas	no digáis	(no) diga	(no) digáis
hacer	no hagas	no hagáis	(no) haga	(no) hagáis
ir	no vayas	no vayáis	(no) vaya	(no) vayan
poner	no seas	no seáis	(no) sea	(no) seáis
tener	no tengas	no tengáis	(no) tenga	(no) tengáis

Expressions: Se debe / hay que / tener que + infinitive:

Hay que - you have to: Hay que hacer los deberes por la tarde
You have to do homework in the afternoons

Se debe - you must: Se debe llegar al insti a tiempo
You must arrive at school on time

Tener que - to have to: Tengo que / tenemos que estudiar
You have to / we have to study

GCSE Questions:

¿Qué es lo bueno y lo malo de tu instituto? - Lo bueno es que tiene una piscina y una capilla elegante, sin embargo, lo malo es que es bastante anticuado. Debería haber instalaciones modernas.

¿Cuáles son las diferencias entre los institutos españoles e ingleses? - Me parece que en España no hay que llevar uniforme en los colegios públicos pero aquí sí. Además las vacaciones de verano son más largas....

¿Cuáles son los problemas escolares que te parecen más importantes? ¿Por qué? - Creo que los problemas escolares más importantes son el acoso / la falta de recursos / el estrés de los exámenes porque...

En tu opinión, ¿Cómo sería tu instituto ideal? - Mi insti ideal estaría... / sería... / tendría.... grande/moderno ¿Qué debería haber? - Debería haber aulas más grandes, menos basura y debería ser respetado....

¿Cuál fue tu primera impresión de tu insti? - Al principio (no) me gustó el ambiente y la gente (no) fue amable ya que (no) me ayudó bastante (nada)....



St Joseph's College Spanish Department

Spring Term 2: La Universidad y los trabajos (F) Year 11 Half Term 3



This half term we will be talking about jobs, careers and university

Keywords:

11.1G ¿Qué voy a hacer?

El alumno - la alumna - pupil

El aprendizaje - apprenticeship, learning

La asignatura - subject

El beneficio - benefit

La carrera universitaria - university course

La carrera profesional - career

El consejo - the advice

El dinero - money

Los estudios - studies

El examén - exam

La experiencia - experience

La experiencia laboral - work experience

La informática - information technology, IT, computing

La nota - the grade, mark, result

La opción - option

La oportunidad - opportunity

El resultado - the result

El título - (university) degree

La universidad - university

La ventaja - advantage

Avanzado/a - advanced

Feo/a - ugly

Mejor - better, best

Aprender - to learn

Aprobar - to pass

Buscar - to look for

Conseguir - to get, manage, achieve

Continuar - to continue

Dejar - to leave

Encontrar - to find

Esperar - to wait for, to hope, expect

Quedan - to stay

Sacar buenas / malas notas - to get good / bad grades
Seguir + gerund - to carry on ...ing
Tener éxito - to be successful

A tiempo completo - full time
A tiempo parcial - part time
Mientras - while

12.1G Los trabajos
El ama de casa (fem.) - housewife
El banco - bank
El cliente/la clienta - customer
El cocinero/la cocinera - cook
El ingeniero/la ingeniera - engineer
El jardinero/la jardinera - gardener
La mitad - half
La oficina - the office
La peluquería - hairdresser's
El peluquero/la peluquera - the hairdresser
El/la policía - police officer
El porcentaje - percentage
El veterinario/la veterinaria - vet
La vida - life
Temporal - temporary
Estar en paro - to be unemployed
Limpiar - to clean
Resolver - to solve, resolve
Salvar - to save
Quisiera - I would like

11.1F ¿Trabajar o estudiar?
La desventaja - disadvantage
La habilidad - the skill, ability
La promoción - promotion
El repaso - revision
La sociedad - society
El mundo - the world
Furioso/a - furious
Inútil - useless

Peor - worse, worst
Seguro/a - sure
Horrible/a - dreadful
Considerar - to consider
Demostrar - to show, demonstrate
Estar harto/a de - to be fed up with
Estar obsesionado/a con - to be obsessed with
Ganar - to earn, to win, to gain
Imaginar - to imagine
Necesitar - to need
Pedir - to ask for
Relacionarse con - to relate to, to get on with
Reparar - to revise
Vale la pena - it's worth it, it's worthwhile
Por una parte - on one hand
Por otra parte - on the other hand

12.1F Buscar trabajo
El administrativo/la administrativa - the clerk, office worker
El aspecto - appearance, aspect
La caja - till, check-out
El camping - campsite
El carnicero/la carnicera - butcher
El carpintero/la carpintera - carpenter
La carta - letter
Los conocimientos - knowledge
El correo electrónico - email
El dependiente/la dependienta - shop assistant
El detalle - detail
El/la electricista - electrician
El empleado/la empleada - the employee
La empresa - company, firm
La energía - energy
La gente - people
El juego - the game

El hombre de negocios - businessman
La mujer de negocios - businesswoman
El maestro/la maestra - primary school teacher
La panadería - bakery
El panadero/la panadera - baker
El problema - the problem
El/la recepcionista - receptionist
El sitio web - website
El sobre - envelope
El traductor/la traductora - translator
El trimestre - term
El sueldo - the wage
La variedad - variety

Ambicioso/a - ambitious
Anciano/a - elderly
Animado/a - lively
Cortés - polite, courteous
Fiable - reliable
Mayor - older
Organizado/a organised
Paciente - patient
Práctico/a - practical
Sincero/a - honest
Trabajador/a - hard-working

Arreglar - to fix, sort, arrange
Atender a - to attend to
Dominar + language - to be fluent in
Cuidar a - to care for, look after
Servir - to serve
A principios de - at the beginning of
En seguida - straightaway

TIME PHRASES

Siempre - always
Casi siempre - almost always
A menudo - often
Normalmente - normally, usually
De vez en cuando - now and again
Casi nunca - almost never
Nunca - never

Hoy - today
Ayer - yesterday
Mañana - tomorrow
Generalmente - generally
Ya no - no longer
Cada vez más - more and more

PERCENTAGES and FRACTIONS

Por ciento -
Per cent -
(el veinte por ciento de los aprendices son chicas)

La mitad - half
(La mitad de los alumnos)

Tres cuartos -

Three quarters (tres cuartos de los trabajadores)

CONNECTIVES

Y/e - and Pero - but
Sin embargo - however
O/u - or También - also
Además - besides
Ya que/porque - because
Por eso - therefore
Cuando - when

OPINIONS

Pienso que - I think that
Creo que - I believe that
Opino que/A mi modo de ver - I am of the opinion that
Me parece que - It seems to me that

Revising "si" clauses

"Si" clauses occur in "if" sentences, which often contain present and the future tense. This structure is used to talk about something that will happen in the future, provided that something else happens in the present to make it possible.
Si + present tense → future tense
Si + present tense → immediate future tense
Si apruebo los exámenes, iré a la universidad - If I pass my exams, I will go to university

Using a variety of tenses

When you undertake writing tasks such as emails and translation, you will need to be able to convey actions in the past, present and future. In order to do so, it is important to learn the tenses. You have already used verbs in these time frames. Puedo - I can (present tense): Puedo empezar hoy - I can start today Será - it will be (future tense): El trabajo será divertido - the job will be fun He trabajado - I have worked (perfect tense): He trabajado en un supermercado - I have worked in a supermarket

Using "lo que" and "lo + adjective"

"Lo que" is used to mean "what" when you are not asking a question.

Lo que más me importa es decidir mi futuro - What matters most is to decide my future.

Lo bueno es que he sacado buenas notas - the good thing is that I have got good grades

Learning useful phrases

It can be very helpful to learn short phrases what you can adapt to fit a variety of different situations and contexts.
Me interesa - (I am interested in...)
Me llevo bien con... - (I get on well with...)

Using "quisiera" + infinitive

"Quisiera" is an alternative way of saying "Me gustaría" (I would like) and it is a good word to learn for when you want to express your future job and career aspirations. It is followed by the infinitive.
Quisiera ser un médico - I would like to be a doctor
Quisiera trabajar en un banco - I would like to work in a bank
Quisiera estudiar Arquitectura - I would like to study Architecture

Learning infinitives with "voy a"

It is important to express different time frames. Learn a few useful infinitives that you can use after "voy a" so that you can express your future plans both orally and in writing: "trabajar de" "estudiar"

GCSE Questions: ¿Piensas que ir a la Universidad es un gasto innecesario y por qué? - Do you think that going to university is an unnecessary expense and why?

¿Qué vas a hacer cuando acabes el instituto/en el futuro? - En el futuro quiero/voy a...hacer/ser/estudiar/trabajar de... porque ...

¿Sacas buenas notas?.... - Sí, saco buenas notas/No, no saco buenas notas en el instituto porque...

¿Te gustaría ir a la Universidad? - Sí, me gustaría ir a la Universidad ya que... /No, no me gustaría ir a la Universidad ya que...

¿De qué vas a trabajar en el futuro/¿Qué profesión quieras tener en el futuro? - En el futuro quiero ser/trabajar de porque...



St Joseph's College Spanish Department

Spring Term 2: Speaking Exam Year 11 Half Term 4



This half term we will be practising, developing and enhancing speaking skills



- Foundation Tier: Grades 1-5
- Higher Tier: Grades 4-9
- All 4 question papers (listening, speaking, reading and writing) must be taken in the same tier
- All 4 question papers (listening, speaking, reading and writing) must be taken in the same series

Paper 2: Speaking Foundation Tier

Communicating and interacting effectively in speech for a variety of purposes

- Non-exam assessment
- 7-9 minutes + preparation time
- 60 marks
- 25 % of the GCSE
- 3 sections:
 - Role-play:
 - 15 marks
 - 2 minutes
 - Photo card:
 - 15 marks
 - 2 minutes
 - General Conversation:
 - 30 marks
 - 3-5 minutes

Paper 2: Speaking Higher Tier

Communicating and interacting effectively in speech for a variety of purposes

- Non-exam assessment
- 10-12 minutes + preparation time
- 60 marks
- 25 % of the GCSE
- 3 sections:
 - Role-play:
 - 15 marks
 - 2 minutes
 - Photo card:
 - 15 marks
 - 3 minutes
 - General Conversation:
 - 30 marks
 - 5-7 minutes

Themes: Identity & Culture

Local, national, international & global areas of interest
Current & future study & employment

Role-Play:

- Based on a stimulus card
- Prepared in the supervised preparation time just before the test
- Carry out one role-play situation
- 5 tasks - 1 is to ask a question
 - ! = respond to something you have not prepared
 - ? = ask a question

Photo Card:

- Based on a stimulus card
- Prepared in the supervised preparation time just before the test
- Answer 5 questions (3 prepared and on the card, 2 unseen)

General Conversation:

- Based on 2 themes (not covered in photo card)
- Equal time on each theme
- 1st theme - student chooses
- 2nd theme - remaining theme that is not covered in the photo card or by the student chosen conversation theme
- Make sure to ask questions in this section - it's a conversation!



St Joseph's College Spanish Department

Spring Term 2: Speaking Exam Year 11 Half Term 4



This half term we will be practising, developing and enhancing speaking skills

Revision topics within the three themes

1. Identity & Culture:

- Me, family & friends; relationships, marriage and partnerships
- Technology in everyday life; social media, mobile technology
- Free time activities; music, cinema, TV, sports, hobbies, food, eating out
- Traditions & Festivals in Spanish speaking countries; fiestas



2. Local, national, international & global areas of interest:

- Home, town, neighbourhood & region; barrios.
- Social Issues; charity/voluntary work, healthy/unhealthy living.
- Global Issues; the environment, poverty, homelessness.

3. Current & future study & employment:

- My studies
- School/college life
- Post 16 education; university & apprenticeships
- Jobs, career choices & ambitions



St Joseph's College Spanish Department

Summer Term 3: Exam papers Year 11 Half Term 5 (F)



This half term we will be revising and practising exam style tasks and exam papers



Foundation Tier:

- Grades 1-5
- All 4 question papers are in foundation tier
- All question papers must be taken in the same series

Paper 1: Listening Foundation Tier

Understanding and responding to different types of spoken language

- 35 minutes (including 5 minutes' reading time)
- 40 marks
- 25 % of the GCSE
- 5 minutes' reading time of the question paper before the listening stimulus is played
- 2 sections
 - Section A - questions and answers in English
 - Section B - questions and answers in Spanish

Paper 3: Reading Foundation Tier

Understanding and responding to different types of written language

- 45 minutes
- 60 marks
- 25 % of the GCSE
- 3 sections
 - Section A - questions and answers in English
 - Section B - questions and answers in Spanish
 - Section C - Spanish into English translation (35 words minimum)

Paper 4: Writing Foundation Tier

Communicating effectively in writing for a variety of purposes

- 1 hour
- 50 marks
- 25 % of the GCSE
- 4 questions - answer and write in Spanish
 - Question 1:
 - Four short sentences about a photo - 8 marks
 - Question 2:
 - 40 words - 16 marks
 - Short passage
 - 4 brief bullet points
 - 2 or 3 question choices given (under consultation)
 - Question 3:
 - English into Spanish translation (minimum 35 words)
 - 5 sentences - 10 marks
 - Question 4:
 - 90 words - 16 marks
 - Structured writing task
 - 4 detailed bullet points
 - 2 or 3 question choices given (under consultation)



St Joseph's College Spanish Department

Summer Term 3: Exam papers Year 11 Half Term 5 (H)



This half term we will be revising and practising exam style tasks and exam papers



Higher Tier:

- Grades 4-9
- All 4 question papers are in higher tier
- All question papers must be taken in the same series

Paper 1: Listening Higher Tier

Understanding and responding to different types of spoken language

- 45 minutes (including 5 minutes' reading time)
- 50 marks
- 25 % of the GCSE
- 5 minutes' reading time of the question paper before the listening stimulus is played
- 2 sections:
 - Section A - questions and answers in English
 - Section B - questions and answers in Spanish

Paper 3: Reading Higher Tier

Understanding and responding to different types of written language

- 1 hour
- 60 marks
- 25 % of the GCSE
- 3 sections:
 - Section A - questions and answers in English
 - Section B - questions and answers in Spanish
 - Section C - Spanish into English translation (50 words minimum)

Paper 4: Writing Higher Tier

Communicating effectively in writing for a variety of purposes

- 1 hour and 15 minutes
- 60 marks
- 25 % of the GCSE
- 3 questions - answer and write in Spanish
 - Question 1:
 - 90 words - 16 marks
 - Structured writing task
 - 4 detailed bullet points
 - 2 or 3 question choices given (under consultation)
 - Question 2:
 - 150 words - 32 marks
 - Open-ended writing task
 - 2 detailed bullet points
 - 2 or 3 question choices given (under consultation)
 - Question 3:
 - English into Spanish translation (minimum 50 words) - 12 marks

**PASADO****PRESENTE****FUTURO**

TIME PHRASES

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

todos los días

every day

mañana por la mañana

tomorrow morning

hace dos días

two days ago

de vez en cuando

from time to time

mañana por la tarde

tomorrow afternoon

hace dos años

two years ago

casi nunca

almost never

mañana por la noche

tomorrow night

ayer por la mañana

yesterday morning

los lunes

on Mondays

dentro de dos años

in two years

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

Pero - but

Sin embargo - however

También - also, too

O/u - or

Además - besides

Ya que/porque - because

Cuando - when

Por eso - therefore

Por un lado - on the one hand

Por otro lado - on the other hand

Describing an 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





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

hablar
comer
vivir

-ía
-ías
-ía
-íamos
-íais
-ían

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



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

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

-e
-es
-e
-emos
-éis
-en

hablar - hablé

ER, IR VERBS

-a
-as
-a
-amos
-áis
-an

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																															
7 Li lithium 3	9 Be beryllium 4	relative atomic mass atomic symbol name atomic (proton) number												1 H hydrogen 1	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

\times	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 = $\pi \times \text{radius squared}$, $A = \pi r^2$	

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...

S₁ P₃ E₁ A₁ K₅

S₁

tandard English

P₃

ause

E₁

laborate

A₁

rticulate

K₅

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!

IDEAL

ESSENTIALS

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

FIDES INTREPIDA



2021-22 Homework Timetable Year 11



2021-22 Assessment Calendar Year 11



Out of class record:



Notes:



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

OUR BELIEFS

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.

ST JOSEPH'S MISSION STATEMENT



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.





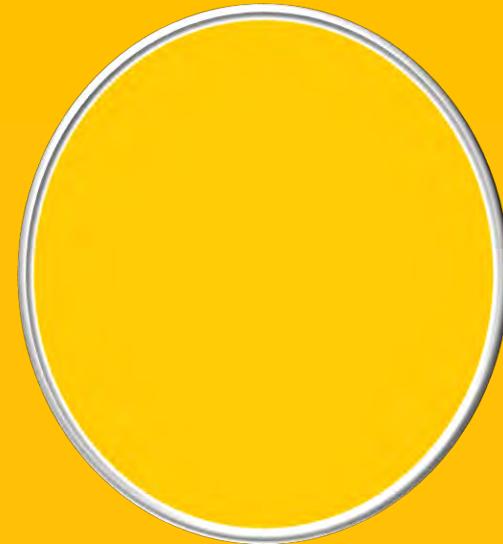
Traffic light:



Red



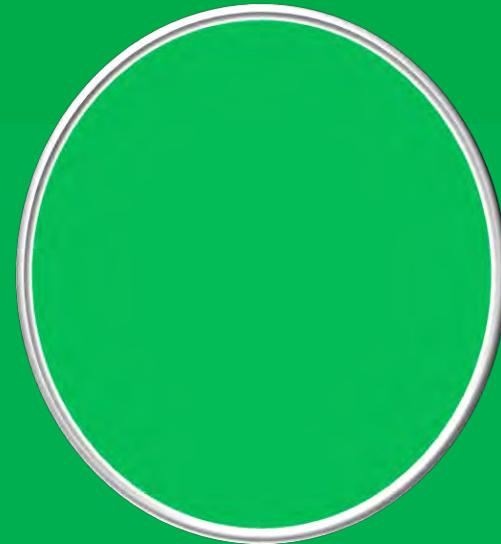
Traffic light:



Amber



Traffic light:



Green



A, B, C, D Cards

A



A, B, C, D Cards

B



A, B, C, D Cards

C



A, B, C, D Cards

D