



St Joseph's College Knowledge Organisers Year 10

Half Term two : 2020_2021 - 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.

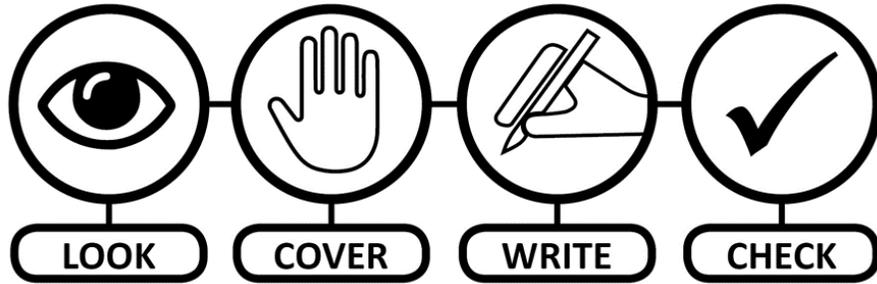
- You could ask your child to teach you about something on the knowledge organiser. Having to explain information to someone else, and answer their questions about it, is a great way to reinforce their knowledge and identify areas they need to go back and revise again.

- 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.

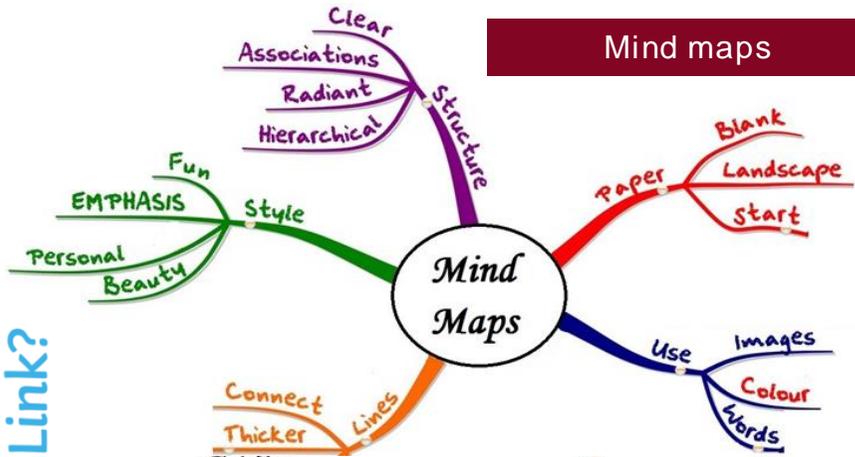


Top tips for learning and revising the information in your knowledge organiser

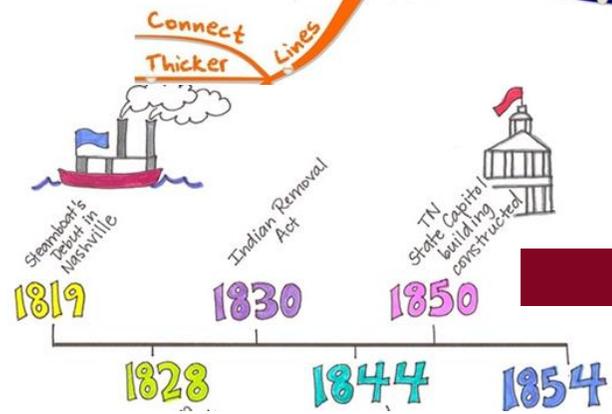
Check the website for more subject specific revision information



Mind maps



What Is the Link?



Time lines

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

Macbeth

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

RESPECTED
"O valiant cousin! worthy gentleman"

CURIOUS
"you imperfect 's, tell me more"

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

LOVING
"My dearest partner of greatness"

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

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

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

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

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!

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

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

DEFINITION

Online flashcards





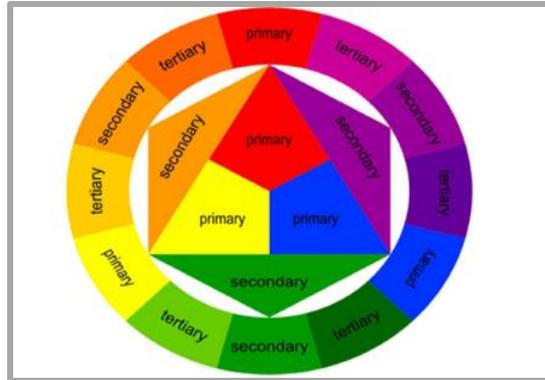
St Joseph's College Art Department

Year 10 Half Term 2: - Surfaces

Exploring a variety of Materials, Media and Techniques



Colour Wheel



Assessment objective

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

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

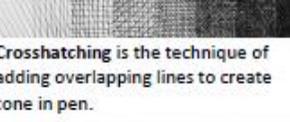
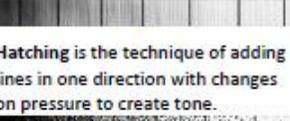
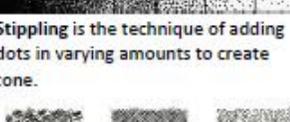
How do you make a colour lighter?	To make a colour lighter you add white. These are called tints.	
How do you make a colour darker?	To make a colour darker you add the colour opposite it on the colour wheel. Orange- Blue Green- Red Purple- Yellow	

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

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

You can also use a range of mark making techniques.

1. Which media and technique have you used successfully?
2. Which media would you like to explore next?
3. How can you refine your skills in using the media above?

Material	Techniques	What do you need to remember with this material?
<p>Chalk is a soft white limestone formed from the skeletal remains of sea creatures. Chalk Pastels are chalk-based mediums, more of a powdery substance compressed, displaying different and a variety of hues.</p> 	<p>Smudging/blending- Make or become blurred or smeared by using your finger or a smudging tool (for example a rubber).</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>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, <i>Charcoal</i> 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>Oil Pastel</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.</p> <p>Often the more expensive ones such as Sennelier have more colour pigment and better quality binder.</p> 
		<p>Blending- The act of mixing one or more colour together, by layering them on top of each other or blending with a blending stick.</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>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>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.</p> <p>Start with light colours and build to darker colours.</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>

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



Learning aim B: Explore how market research helps enterprises to meet customer needs and understand competitor behaviour.

Keywords:

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

Why is it important to anticipate and identify customer needs?

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

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

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

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

Questions:

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

What are Primary and Secondary research?

How can primary research benefit an SME?

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

How can secondary research benefit an SME?

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

How do I spot competitors?:

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

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

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

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



St Joseph's College Business Department

Term 2: **C** Investigate the factors that contribute to the success of an enterprise.



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

Keywords:

- Internal factors
- External factors
- Situational analysis
- Measuring the success of an SME

What are internal factors?:

Internal factors can be controlled by an enterprise. Internal factors can impact costs positively and negatively. The factors which the enterprise need to fully understand are below

What are external factors?:

External factors can not be controlled by the enterprise. Once the enterprise has been made aware of changes they need act on them and overcome them!

How can an enterprise conduct a situational analysis?

This is simply analysing (studying) the situation an enterprise is in, looking at the market and assessing how it could be affected by trends and developments

Understanding the market

- Who are the competition?
- What do the customer want from our enterprise?
- What makes our product unique?

Satisfying customers

- What is the quality of the product?
- How is the product priced?
- Do you offer good customer service, convenience or a USP? Is the product available?

Planning / Financing

- How / When can orders be taken? Online? In person?
- Are we organised? Do we have enough stock?
- Do we have enough time to do X?
- Have we forecasted as well as possible (£)?

Marketing and promoting

- Are we getting value for money with our marketing and promotions? M&P can be an expensive cost for SMEs
- Can we make use of social media to M&P?

HR Costs

- Do we have a contingency plan? – have we planned for the unexpected (in the hope it will never happen?)
- Do we have money readily available for costs which aren't expected (in the hope we'll never need it)
- Examples: Advertising for a new role/ cover/training.

What are some of the reasons for SME success?

- Skills relevant to the market, hard work and effort, determination, resilience, ability to develop and train staff, ability to motivate staff, providing a high level of customer service, meeting and exceeding customer needs, having experience of the market.

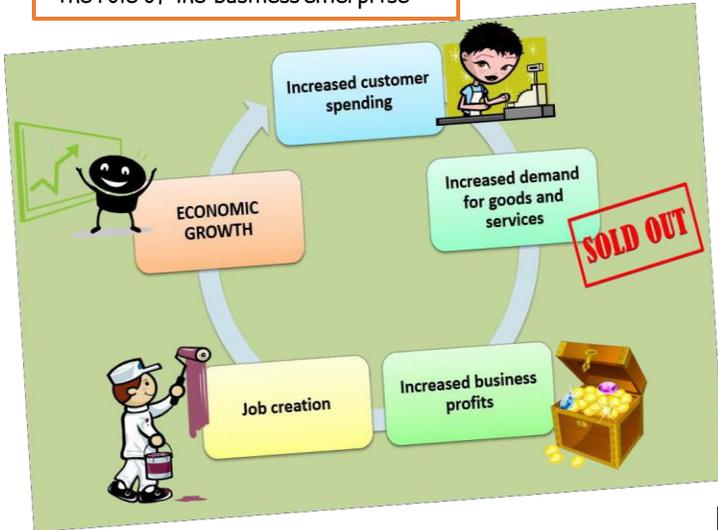
Questions:

- What are internal factors?
- How can the success of an enterprise be measured?
- Give an example of situational analysis?
- How can an enterprise conduct a situational analysis?



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

The role of the business enterprise



Purpose of enterprise activity

Producing goods and services

Meeting customer needs

Adding value

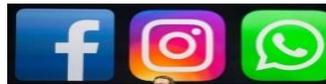
Key Terms:

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



Why do entrepreneurs start their own business?

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



What is an entrepreneur?

Someone who takes a calculated risk through starting a business!



Cost to make product

Cost to buy product

Difference = Value Added

Qualities of Entrepreneur

geteconhelp.com



Innovative

Open Minded

Visionary

Well informed and highly skilled

Leadership

Questions:

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

Key Terms:

Enterprise: A business or company, can also mean entrepreneurial activity

Entrepreneur: Someone who creates a business, taking on financial risks with the aim of making a profit from the business

Consumer: Someone who buys and uses goods and services

Customer: Someone who buys goods and services

Obsolete: Out of date and not used anymore

E-Commerce: Using the internet to carry out business transactions

M-Commerce: Using mobile technologies to carry out business transactions

Social media: Websites that allow users to interact with other users



Key Terms:

Risk: The possibility that an enterprise will make lower than anticipated profits or experience a loss

Financial Reward: The money that an entrepreneur or investor receives when a business succeeds

Market Research: The process of gathering information about the market and customers' needs and wants

Revenue forecast: A prediction of future revenue based on expected sales; this is either a judgement or based on previous sales patterns

Cash Flow: The amount of money coming and going out of a business

Sales Revenue: The amount of money that comes in from selling a product or a service

Investment: Putting money into a business with the intention of making a profit

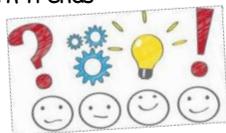
Start-up: A new business, usually with only a small number of employees (possibly only 1)

Intuition: Knowing something instinctively or understanding something without conscious thought

How do new business ideas come about?

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

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



Key questions to ask!

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

Why do businesses exist?

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

Risk can mean several things:

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

How do you reduce risk?

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

What are the rewards from enterprise?

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



A service is INTANGIBLE



A product is TANGIBLE



Risks to your business!



Poor management

Poor market research

Sales lower than expected

Start-up costs too high

Unexpected shocks

Too reliant on a small number of customers

Poor quality



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

1.2.1 Customer Needs

Key Terms:

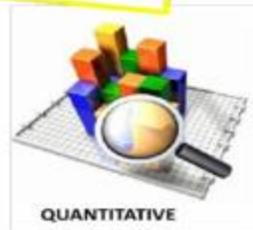
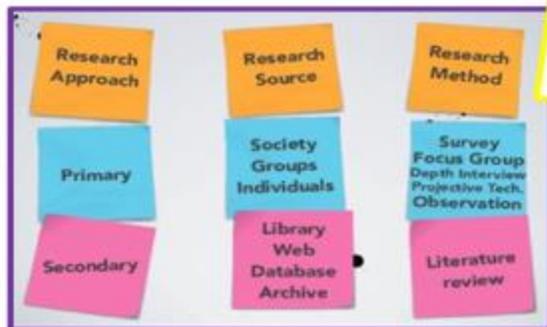
Convenience: A product or service's ability to fit in with a consumer's lifestyle, the ease in which it can be used how easy it is to acquire

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



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

How do we find out what our customers want?



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



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

1.2.2 Market Segmentation

Key Terms:

Segmentation: The process of breaking something into small parts.

Demographics: Relating to the structure of the population



What are the benefits?



Better matching of customer needs

Better opportunities for growth

More effective promotion

Gain a higher share of the market



Limitations of market segmentation

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

How do we segment a market?



Market Mapping

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



Is there a gap in the market for your product?
Where are customer needs not being met?



St Joseph's College Business Department

Topic 1.2 Spotting a business opportunity



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

Key Terms

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



Why monitor your competition?



Similar product but not in direct competition

Similar, product, price and place

- general overview of your industry
- know how they communicate
- monitor your market
- strengths and weaknesses
- get to know your clients better
- source of inspiration
- find relevant items
- analyze your own strategy
- avoid unwanted surprises
- get ahead of your competition
- monitor their activity
- continue improving yourself

SWOT



Market Share



Questions:

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

Why is it so important to know your target market?





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	Non sequiturs
Noun phrase	Topic sentence
Subordinate/ main clause	Contrast/juxtaposition
Narrative voice	Basics & Stretch Yourself
Simple/compound/complex sentences	
Accent/Dialect	
Utterances	
Ellipsis	
1 st /3 rd person	Know your basics
Hyperbole	Reach for the stars
Imperatives	
Exclamations	

Basics & Stretch Yourself

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

Give one sentence overview for each question, identifying patters - 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 ...



<p>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.</p> <p>24 marks for content and organization 16 marks for technical accuracy (Total 40 marks = 25% of GCSE)</p>	
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
Organization	<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

Basic narrative structure	Language devices	Narrative v descriptive
	Simile	A narrative should include a lot of description.
	Metaphor	
	Personification	A description should not include any narration.
Setting	Onomatopoeia	
Character	Alliteration	
Problem	Imagery	
Climax	Symbolism	
Resolution	Oxymoron	
	Juxtaposition	
	Pathetic Fallacy	

The narrative 'rules'	The descriptive 'rules'
The story takes place within one hour	No names for people
Maximum 3 characters	At least 5 zoom-ins
Maximum 3 sentences of direct speech	No person described for more than a paragraph
Show not tell	Minimum 5 senses
Minimum 1 adjective per sentence	1-3 sentences of direct speech
Minimum 5 senses	Maximum 1 exclamation mark
Maximum 1 exclamation mark	3 rd person
3 rd person	No thoughts
50 % description with zooms	Present or past tense (not both)
Don't 'chat' to the reader	Move the camera - like a film
A 'small' story - make the ordinary extraordinary	

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 ½ sides approx

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

Paper 1 Question 5 - Description / Narrative ADVICE

Engaging opening:

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

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

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

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

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

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

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

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

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

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

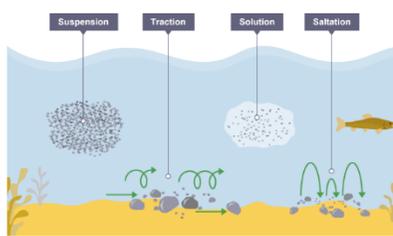
Sometimes less is more - you have 45 minutes, you cannot write a detailed narrative that spans days, weeks, months. So keep your descriptions or narratives to a really small time frame, maybe just five minutes of time is described. This will help you to focus on the really small details and stop you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



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

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

Transportation



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

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

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

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

Interlocking Spurs

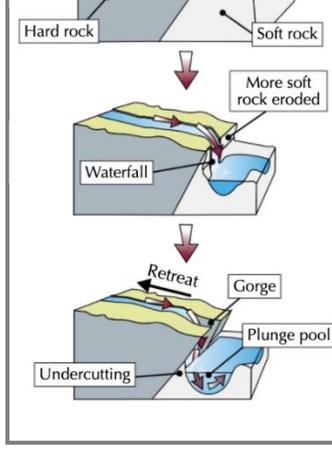
Rivers aren't strong enough to erode laterally in the **upper course**, so they wind around high hillsides, creating **interlocking spurs**

Waterfalls

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

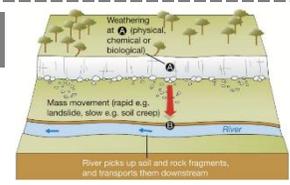
Weathering

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



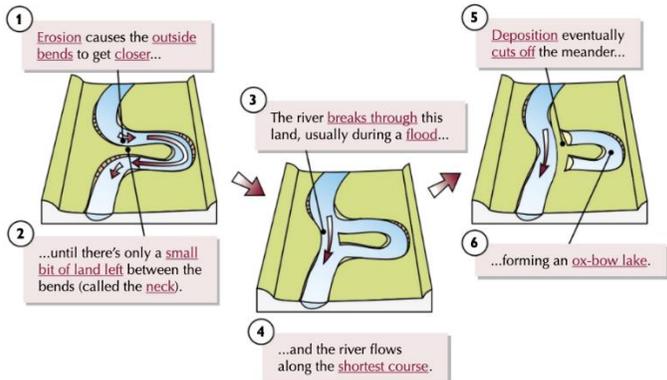
Deposition

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



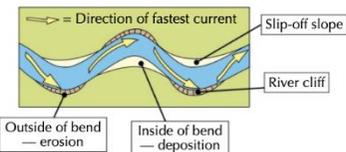
Once the rock is weathered, the fragments move downslope towards the stream - this is **mass movement** and can be **rapid** (landslides) or **slow** (soil creep)

Meanders and Oxbow Lakes



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

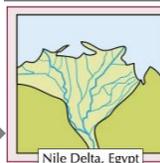
Meanders form in a river's **middle course**. The flow of the current is fastest on the outside of the bend, causing erosion, and creating **river cliffs**, whereas it is slowest on the inside of the bend causing deposition, and forming **slip-off slopes**



Deltas

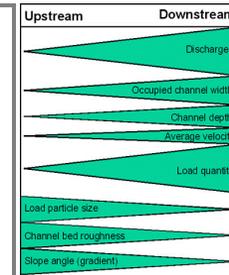
Deltas are formed of **deposited sediment**. Rivers are forced to slow down when they meet the sea, causing them to **deposit the suspended load**, which builds up over time.

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

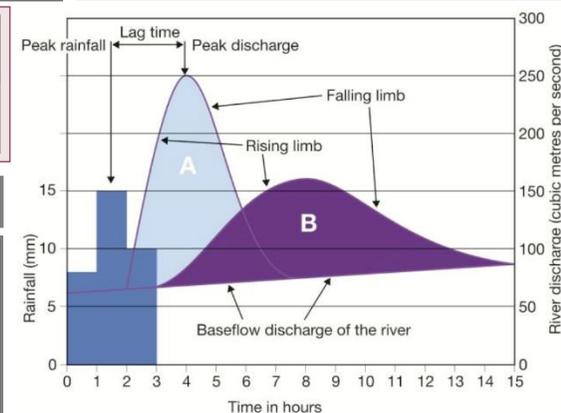


The Bradshaw Model

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



Storm Hydrographs



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

B = a river with a slow response

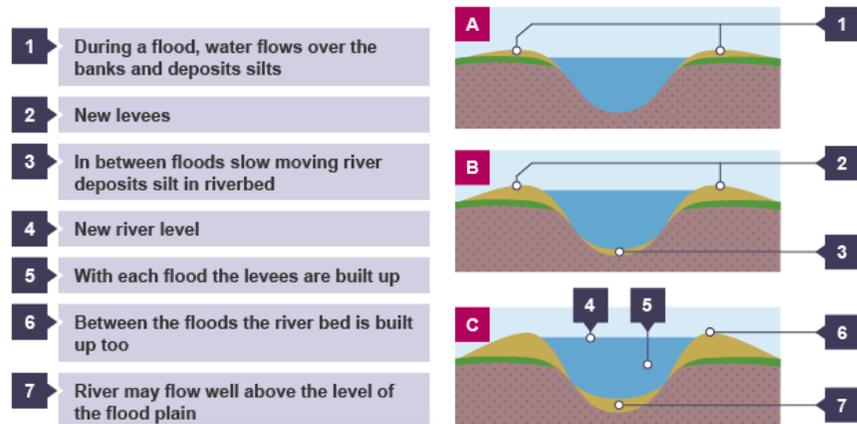
Flood Management

Hard engineering involves building artificial structures. They tend to be more expensive.

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

Flood Plains and Levees

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



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

Causes of Flooding

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

•**Relief** - a steep valley is more likely to flood because the rainfall will run off into the river more quickly.

•**Geology** - **permeable rocks** allow water to pass through pores and cracks, whereas **impermeable rocks** do not.

•**Vegetation** - trees and plants absorb water, this is known as **interception**.

Deforestation will increase flood risk.

•**Urbanisation** - when an area surrounding a river is built on, there is an increase in the amount of tarmac and concrete, which are impermeable surfaces. Drains and sewers take water directly to the river which increases flood risk.



Adolf Hitler was the leader and driving force behind the Nazi party.

Key words/Terms

Term	Definition
Democratic	Controlled by the people
Depression	A downturn in trade. Less is brought and sold; this causes falls in profits, more bankrupt businesses and more unemployment
Enabling Act 1933	This changed the constitution of the Weimar Republic. It gave Hitler the right to make laws for four years without the consent of the Reichstag.
Figurehead	The leading figure, who sets the image for a country or an organisation
General Elections	Popular votes to elect members of parliament-in the Weimar Republic, to elect members of the Reichstag
Local government	The government of individual towns, countries or parts of a state by the people who live there
Night of the Long Knives	This involved the assignation of Hitler's political rivals within the Nazi Party including Ernst Rohm of the SA. It resulted in Hitler becoming the undisputed leader of Germany.
Nuremberg Laws	A set of laws, passed in 1935, which persecuted Jews and other minority groups
President	The head of state in the Weimar Republic
Right-wing	Those on the right wing of politics generally want to keep society stable; want a strong government dominated by powerful leaders. Those on right usually support capitalism and stress the important of law and order and traditional family values. They are also nationalist and place the interest of the nation over individuals.
Schutzstaffel	The SS, a military group set up in 1925 as a personal bodyguard for Hitler
State of Emergency	A crisis so great that the normal rules of governing are suspended and the rulers are given extra powers to allow strong government

Key knowledge:

The Nazis despised the Weimar government and the Versailles Treaty and tried first to seize power by force in the Munich Putsch of 1923. The Putsch failed, and Hitler decided the Nazi's had to be elected to power.

The Nazis became a powerful political force because of Hitler's leadership and abilities as a speaker; the economic problems caused by the Great Depression; skillful use of propaganda; use of violence to intimidate opposition; and the appeal of such clear and simple messages such as 'Work and Bread'.

Key dates and events:

Hitler joined the German Workers party. (DAP). He joined in 1919

The Nazi party. In 1920 the DAP changed its name to the National Socialist German Workers party (NSDAP for short). Hitler became the party leader (Fuhrer) in 1921. His rousing speeches began to attract even more members.

The SA set up in 1921 and led by Ernst Rohm, was the Nazi private army. They wore brown uniforms and were called brown shirts. They helped the party grow by scaring rivals, protecting Nazi leaders and disrupting rival meetings. They were intimidating to Hitler's opponents.

the Munich Putsch (1923)
Great Depression (began 1929)

In 1932, three Chancellors were sacked because they weren't doing a good job.

January 1933, Hindenburg didn't want Hitler to become the Chancellor, but he had no other options. The Nazis had lots of support in the Reichstag. So Hitler was chosen as Chancellor.



Hitler BIO

Hitler and the First World War. Hitler was in the German army during the First World War. He won the Iron Cross for bravery. He worked for the army after the war.

Hitler hated the Treaty of Versailles. He saw it as a 'stab in the back' for Germany. He believed Germany had been betrayed by the government and the Jews.

Hitler joined the German Workers party. (DAP). He joined in 1919 (when it had only about 40 members). It was a right wing group, angry about Versailles and economic problems. It also thought democracy was weak.

Hitler helped the DAP grow. He created the 25 point programme. This included; scrapping the Versailles treaty, expanding Germany and forcing the Jews to leave. By 1920 membership was 3000.

The Munich Putsch

The Beer Hall Putsch, also known as the Munich Putsch,[1] and, in German, as the Hitlerputsch, Hitler-Ludendorff-Putsch, Bürgerbräu-Putsch or Marsch auf die Feldherrnhalle ("March on the Field Marshals' Hall"), was a failed coup d'état by the Nazi Party (NSDAP) leader Adolf Hitler—along with Generalquartiermeister Erich Ludendorff and other Kampfbund leaders—to seize power in Munich, Bavaria, which took place on 8-9 November 1923. Approximately two thousand Nazis were marching to the Feldherrnhalle, in the city centre, when they were confronted by a police cordon, which resulted in the deaths of 16 Nazi party members and four police officers.

Reasons for the Munich Putsch (1923) Hitler knew people were annoyed about hyperinflation and the French occupation of the Ruhr. He thought he could convince people to support him. He wanted to act before Stresemann improved the economy, as when people are happy they don't vote for extreme parties.

Events of the Munich Putsch. Hitler and 600 SA ran into a meeting of the Bavarian government and forced them to agree to a Nazi takeover. They only said yes because Hitler had a gun. When Hitler left they changed their mind and called out the local police and army. The Nazis tried to take over the city; but the police were much stronger. 16 Nazis were killed and Hitler was captured.

The Munich Putsch failed. The Nazis were too weak: They only had 2000 rifles and they were outnumbered by the Police

Results of the Munich Putsch. Hitler was given 5 years in prison. But at his trial he made lots of speeches and got famous. He used his time on prison to write his book, Mein Kampf (my struggle) - which also gave him publicity - and he was released after only 9 months.

Outcomes of the Munich Putsch

Nazi party aims. Hitler renewed Nazism on his release in 1923. It wanted a stronger Germany (expanding its borders) ; state control of society and the economy (treating the workers fairly) ; traditional German values (encouraging families) ; and keeping German blood pure (eg. Not allowing marriage with inferior races.)

Nazi Party organisation was improved after 1923. Hitler got more money for the party, employed more SA and started the SS. The Nazi party was growing!

The Nazis remained weak in the Reichstag however. By 1928 they had only 12 seats. This was because Stressemann had made things so much better. Hindenburg, a popular ex-army leader was president.



Growth in support for the Nazi party

The Great depression:

Great Depression (began 1929) changed German politics. 6 million people became unemployed! People lost their homes and were desperate. The government could not cope. They tried raising taxes and banning protests. Both failed. This boosted support for extreme parties: by September 1930, the Nazis had 107 Reichstag seats.

The Nazis gained support, more than other parties because Hitler was an excellent speaker who impressed people at spectacular rallies; Nazi propaganda used simple messages like 'Work and Bread'; the SA made the Nazis seem strong and organised and broke up other political groups meetings. The Nazis appealed to workers by promising work and bread; to the middle class as a strong, moral, party; to farmers and businesses as protection against communism. Nazi propaganda targeted groups like women and young people. They simply said what people wanted to hear.



January 1933, Hindenburg didn't want Hitler to become the Chancellor, but he had no other options. The Nazis had lots of support in the Reichstag. So Hitler was chosen as Chancellor. .



This unit will enable learners to understand pre-production skills used in the creative and digital media sector.

Keywords:

Contingencies = back up plan, extra time if needed

Defamation = Can't say offensive things about someone/an organisation without proof.

Legislation:

- **Health and safety at Work Act**
- **Intellectual Property Act (2014)** = refers to the ownership of an idea or design by the person who came up with it
- **Copyright designs and patent act** = gives the owner of a written document, musical composition, book, picture, or other creative work, the right to decide what other people can do with it
- **Trade marks act 1994** = A way for a business to help people to identify the products that the business makes from products made by another business

Creative Commons: a non-profit organisation that tries to make creative work available for others to use and share.

Classification/Certification: Many countries have a film rating system to help parents determine which movies their children can watch.

Version control:

The management of changes to documents, computer programs, large websites and other collections. This can be used to show how the design changes and develops through time. E.g Moodboard V1, Moodboard V2

Naming documents:

It helps stop confusion with older files if you give relevant names to files clearly and sensibly. This ensures a better workflow and makes it easier to go back and make improvements.

Workplan:

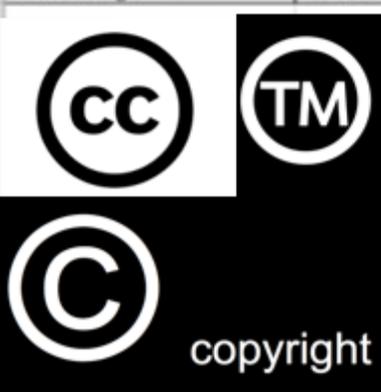
Purpose: Provide timescale for overall project to be completed

Content:

- Tasks
- Durations - amount of time a task is expected to take
- Timescales - how long the project will take
- Milestones - key dates when a section is completed
- Deadlines - date when something has to be done by
- Resources - what is needed
- Contingencies - back up plan, extra time if needed

Work Plan

Task	Duration	Day/Date				
		Mon 3rd	Tue 4th	Mon 10th	Tue 11th	Mon 17th
Find images for mood board	1 hour	█				
Create a mood board	1 hour	█	█			
Ideas for mind map	30 mins		█			
Create a mind map	1 hour			█		
Digitise documents	30 mins			█		
Send to client	5 mins				█	
Obtain feedback	30 mins				█	
Make changes	1 hour					█





This unit will enable learners to understand pre-production skills used in the creative and digital media sector.

File formats:

Images: JPEG PNG GIF ODF TIFF PSD BMP

Video: MP4 AVI SWF MPG

Audio: MP3 WAV ACC

Health and Safety:

Site Reece:

A visit to a specific location that will be used for recording purposes. The purpose is to check access, see what is there, identify the best positions and assess environmental considerations.

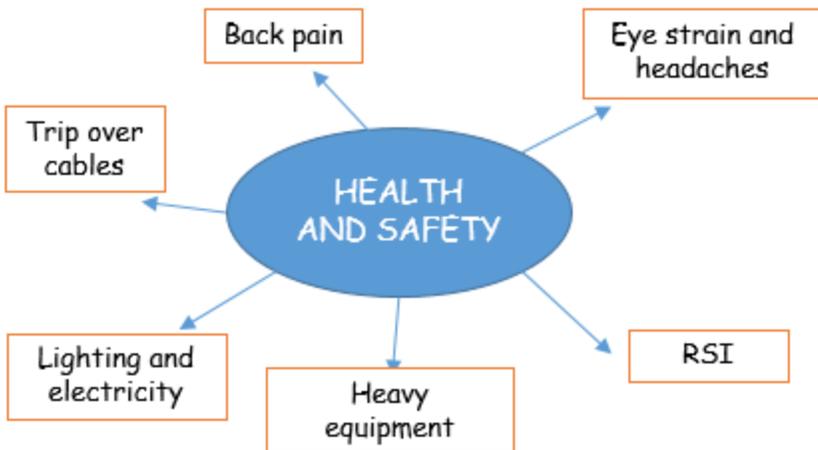
May include:

- Location
- Access
- Lighting
- Health & safety issues
- Availability of power

Risk assessment:

Must be stored to cover you and any organisation that you work for in case of claims. Helps to identify and minimise the risks.

- Identify hazards and dangers
- Decide who might be harmed and how
- Evaluate the risks and decide on precautions to be taken
- Record findings and implement them
- Review assessment and update if necessary



Example exam questions

1. What is the purpose of a work plan? Identify 3 things that should be included (5)
2. Explain the copyright act (2)
3. What is creative commons? (2)
4. Explain the difference between 2 different image files types (4)
5. Why is it important to have a site Reece? (3)
6. How can eye strain be prevented? (1)
7. How can RSI be prevented? (1)



This unit will enable learners to understand the difference between RAM/ ROM, virtual memory and flash memory.

Key Vocab

Read Only Memory (ROM): Non-volatile memory which cannot be over-written.

Generally used for booting

Storage device: Any hardware which can hold, read and write data

Storage medium: The type of material or method used to store data

Tertiary storage: External high-capacity storage

Volatile: Memory which requires power

Non-volatile: Memory which persists without power

Secondary Storage: Qualities:

1 **Capacity:** Amount of data a storage device can hold

2 **Durability:** How well the device resists damage

3 **Portability:** How easily the device can be carried

4 **Reliability:** How well the data resists corruption

5 **Speed:** How quickly the data can be read from the storage device

6 **Cost:** Pounds per GB

The Cloud

Cloud

Remotely located storage and software, accessed via the internet

Advantages	Disadvantages
No need to update application software	Entrusting potentially sensitive data with outsiders
No need to maintain the equipment, software or data	Safety and security of sensitive data is outside your control
No need to employ network managers or other technical staff	The service must be totally reliable
Service provider takes care of backups	Requires internet connection
Easy to share files and collaborate across platforms and locations	

Secondary Storage: Types:

Flash: A type of SSD which stores information by forcing electrons through a barrier with a large current

Magnetic: Cheap storage which requires moving parts and writable magnetic disks

Optical: Cheap storage which requires a laser and a disk

Solid State Drive (SSD): Memory with no moving parts



Questions:

1. What is primary memory?
2. What are the two types of primary memory?
3. In terms of memory, what does volatile mean?
4. What is virtual memory?
5. Why does virtual memory hamper processor performance?

Primary Storage:

Main memory/ Primary storage: Other ways of saying RAM

Virtual memory: Part of secondary storage which is used as main memory when RAM is full

Dynamic RAM: Single transistor / capacitor RAM which needs to be refreshed every few milliseconds

Static RAM: 4/5 transistor RAM which can hold data without being refreshed (but does need power)



On Holiday - planning a holiday, booking accommodation and travel, going sightseeing and talking about the weather

From... to... 从...到...: 从 **cóng** ... 到 **dào**... describes a starting and finishing point.

It can be used with time or physical location.

我们从九点到三点上学 **wǒ men cóng jiǔ diǎn dào sān diǎn shàng kè** We have lessons from 9 till 3

明年我要坐火车从北京到上海 **míngnián wǒ yào zuò huǒchē cóng běijīng dào shànghǎi** Next year I will go by train from BJ to SH

Future tense

There is no future tense in Mandarin. The future is created by context. Common verbs used in Mandarin to imply the future are:

要 **yào** implies wanting to do something (ie in the future)

会 **huì** implies a factual statement or prediction about the future

我学习中文 **wǒ xué xí zhōng wén** I study Chinese

明天我要学习中文 **míng tiān wǒ yào xué xí zhōng wén**

Tomorrow I will study Chinese (because I need/want to).

明天我会学习中文 **míng tiān wǒ huì xué xí zhōng wén**

Tomorrow I will study Chinese (because that is the plan I made)

Weather Vocab:

天气 **tiān qì** weather

冷 **lěng** cold

热 **rè** hot

下雨 **xià yǔ** to rain

下雪 **xià xuě** to snow

刮风 **guā fēng** windy

太阳 **tài yáng** sun

有太阳 **yǒu tài yáng** sunny

多云 **duō yún** cloudy

Travel Vocab:

度假 **dù jià** go on holiday

地方 **dì fāng** place

有名 **yǒu míng** famous

海滩 **hǎi-tān** beach

森林 **sēn lín** forest

寺庙 **sì miào** temple

风景 **fēng jǐng** scenery

城市 **chéng shì** city

国家 **guó jiā** nation

Booking a Holiday Vocab:

快要 **kuài yào** just about to

订 **dìng** to book

票 **piào** ticket

多长时间 **duō cháng** how much

时间 **shí jiān** time

司机 **sī jī** driver

酒店 **jiǔ diàn** large hotel

空房间 **kōng fáng jiān** free room

前台 **qián tái** front desk

需要 **xū yào** must

钥匙 **yào shi** key

房费 **fáng fèi** room fee

查询 **chá xún** search

车次 **chē cì** train number

目的地 **mù dì dì** destination

出发 **chū fā** to depart

到达 **dào dá** to arrive

单程 **dān chéng** single ticket

来回 **lái huí** return ticket

一等座 **yī děng zuò** first class

无座 **wú zuò** standing class

回国 **huí guó** return to home

Time duration

To say how long something lasts, the duration goes after the verb:

我要学习三个小时 **wǒ yào xué xí sān ge xiǎoshí** I will study for 3 hours

If it is in the past, 了 goes after the verb

我学习了三个小时 **wǒ xué xí le sān ge xiǎo shí** I studied for 3 hours

NB: Point in time goes before the verb, duration goes after:

我明天要学习三个小时 **wǒ míng tiān yào xué xí sān ge xiǎo shí**

Tomorrow I will study for 3 hours

Yesterday/Today/Tomorrow

昨天 **zuótiān**

今天 **jīntiān** 明天 **míngtiān**

Last / This / Next Year:

去年 **qùnián**

今年 **jīnnián** 明年 **míngnián**

Again: 再 zài means 'again' comes before the verb

再见 **zài jiàn** means 'see you again'

It can also mean 'after a delay'

明天再说 **míng tiān zài shuō** Let's talk again tomorrow

Questions:

1. 你们去哪儿度假?

nǐ men qù nǎer dù jià?

Where will you go on holiday?

2. 你们怎么去?

nǐ men zěn me qù?

How will you get there?

3. 那边的天气怎么样?

nà biān de tiān qì zěn me yàng?

What is the weather like there?

Have you ever?

Put 过 after the verb when asking & answering 'have you ever'.

你去过中国吗? **nǐ qù guò zhōngguó ma?** Have you ever been to China

我没吃面条 **wǒ méi chī miàn tiáo** I didn't eat noodles

我没吃过面条 **wǒ méi chī guò miàn tiáo** I have never eaten noodles



China - Cities & Provinces

Mark the major cities on the map!

Beijing	北京	běi jīng
Harbin	哈尔滨	hā ěr bīn
Tianjin	天津	tiān jīn
Xian	西安	xī ān
Shanghai	上海	shàng hǎi
Hangzhou	杭州	háng zhōu
Taipei	台北	tái běi
Chengdu	成都	chéng dū
Guangzhou	广州	guǎng zhōu
Hong Kong	香港	xiāng gǎng





Stem and Leaf

Here are the times, in minutes, taken to solve a puzzle.

5 10 15 12 8 7 20 35 24 15
20 33 15 24 10 8 10 20 16 10

Draw a stem and leaf diagram:

0	5 7 8 8
1	0 0 0 0 2 5 5 5 6
2	0 0 0 4 4
3	3 5

Key: 2 | 4 = 24

Calculate the median value = 15

State the mode = 10

Calculate the range = 35 - 5
= 30

Tips

A frequency polygon is another way of showing data in a histogram. The midpoints of the top of each bar are joined with straight lines.

Questions:

1) Draw a frequency polygon using this data.

Marks	Frequency
0 < m ≤ 10	8
10 < m ≤ 20	11
20 < m ≤ 30	23
30 < m ≤ 40	19
40 < m ≤ 50	15

2) Draw a pie chart using this data.

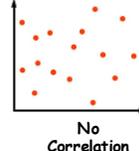
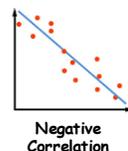
Make	Frequency
Ford	8
Mazda	14
Volkswagen	21
Fiat	20
Honda	9

Scatter diagrams

A **frequency polygon** is a line graph which connects the midpoints of grouped data.

A **pie chart** represents data into proportional sections.

A **scatter-graph** shows the relationship between two variables. **Correlation** is used to describe the relationships.



Two-way tables

This **two-way table** gives information on how 100 students travelled to school.

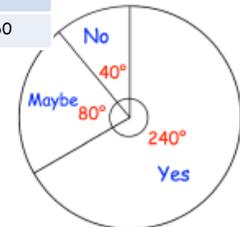
	Walk	Car	Other	Total
Boy	15	25	14	54
Girl	22	8	16	46
Total	37	33	30	100

Always double check that your rows and columns add up to the total value.

Pie charts

Answer	Frequency	Angle
Yes	60	240
No	10	40
Maybe	20	80
Total	90	360

× 4



Modal group (mode)

Group with the highest frequency

Median group

Find the cumulative frequency of the frequency. The median lies in the group which holds the $\frac{\text{Total frequency} + 1}{2}$ number

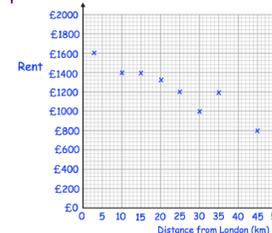
Estimate the mean

From grouped data the mean can only be an estimate as we do not know where the data lies in each group.

$$\frac{\text{Total } fx}{\text{Total } f}$$

3a) What type of correlation is shown?

b) The distance from London of a house is 22km. What is an estimate of the rent it will cost?



ANSWERS: 2) Angles - 40°, 70°, 100°, 45°
3a) Negative correlation b) Between £1200 and £1300



Key Words

Percent
Percentage
change
Reverse
percentage
Appreciate
Depreciate
Interest
Denominator
Numerator

Tips Reverse Percentage

Reverse percentages: This is when we are trying to find out the original amount.

A pair of trainers cost £35 in a sale. If there was 20% off, what was the **original price** of the trainers?

$$\begin{aligned} \text{Value} &\div (1 - 0.20) \\ &= 35 \div 0.8 \\ &= \text{£}43.75 \end{aligned}$$

Examples

A house is valued at £200,000 in 2018. It was sold in 2020 for a price of £240,000. What percentage profit was made on this house?

$$\begin{aligned} \text{Profit} &= \frac{240000 - 200000}{200000} \times 100 \\ &= 20\% \text{ Profit} \end{aligned}$$

Compound Interest/depreciation:

The original value of a car is £5000. The value of the car **depreciates** at a rate of 7.5% per annum. Calculate the value of the car after 3 years.

$$\begin{aligned} \text{Value} &\times (1 - \text{percentage as a decimal})^{\text{years}} \\ &= 5000 \times (1 - 0.075)^3 \\ &= 5000 \times (0.925)^3 \\ &= \text{£}3957.27 \end{aligned}$$

Key Concept

We use **multipliers** to increase and decrease an amount by a particular percentage.

Percentage increase:

$$\text{Value} \times (1 + \text{percentage as a decimal})$$

Percentage decrease:

$$\text{Value} \times (1 - \text{percentage as a decimal})$$

Appreciation means that the value of something is going up or increasing.

Depreciation means that the value of something is going down or reducing.

Per annum is often used in monetary questions meaning **per year**.

Box A has 8 fish fingers costing £1.40.
Box B has 20 fish fingers costing £3.40.

Which box is the better value?



$$\begin{aligned} A &= \frac{\text{£}1.40}{8} & B &= \frac{\text{£}3.40}{20} \\ &= \text{£}0.175 & &= \text{£}0.17 \end{aligned}$$

Therefore Box B is better value as each fish finger costs less.

What is a ratio?

Relationship between the number of parts, has a colon (:).
How do we write the ratio a:b in the form 1:n?
divide each part by the number 'a' to get 1 : b/a.

How do we share an amount in a ratio?

1. add together the number of parts
2. divide the amount of what you want to share by the total number of parts
3. multiply each part by the answer from step 2

Questions:

- 1) Jane invests £670 into a bank account that pays out 4% compound interest per annum. How much will be in the bank account after 2 years?
- 2) A house has decreased in value by 3% for the past 4 years. If originally it was worth £180,000, how much is it worth now?

ANSWERS: 1) £724.67 2) £159352.71



Key Concepts

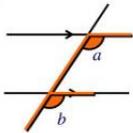
- Angles in a triangle equal 180° .
- Angles in a quadrilateral equal 360° .
- Vertically opposite angles are equal in size.
- Angles on a straight line equal 180° .
- Base angles in an isosceles triangle are equal.
- Alternate angles are equal in size.
- Corresponding angles are equal in size.
- Allied/co-interior angles are equal 180° .

Key Words

- Angle
- Vertically opposite
- Straight line
- Alternate
- Corresponding
- Allied
- Co-interior

Tips:

Corresponding angles are equal

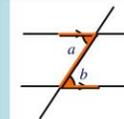


$$a = b$$

Look for an F-shape

Tips:

Alternate angles are equal

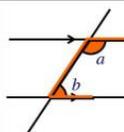


$$a = b$$

Look for a Z-shape

Tips:

Interior angles add up to 180°



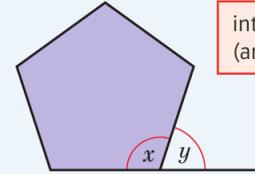
$$a + b = 180^\circ$$

Look for a C- or U-shape

Key point 4

When one side of a polygon is extended at a vertex:

- angle x is the interior angle
- angle y is the exterior angle.



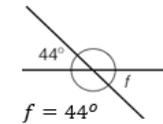
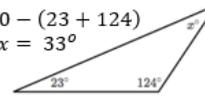
$$\text{interior angle} + \text{exterior angle} = 180^\circ$$

(angles on a straight line add up to 180°)

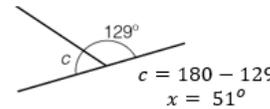
Examples

$$x = 180 - (23 + 124)$$

$$x = 33^\circ$$

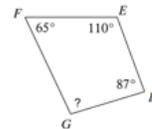


$$f = 44^\circ$$



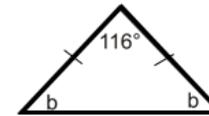
$$c = 180 - 129$$

$$c = 51^\circ$$



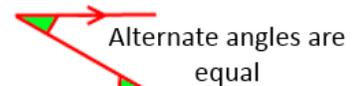
$$? = 360 - (65 + 110 + 87)$$

$$? = 98^\circ$$

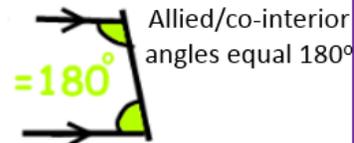
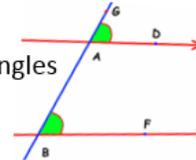


$$b = (180 - 116) \div 2$$

$$b = 32^\circ$$

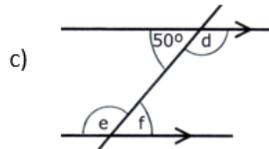
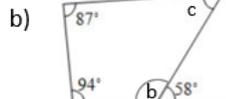
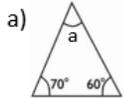


Corresponding angles are equal



Questions

Calculate the missing angle:



Exam-style question

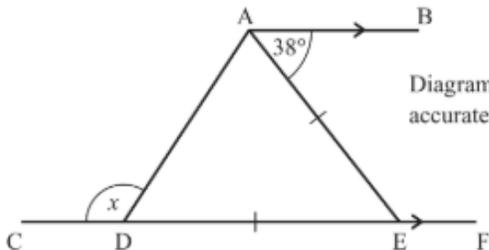


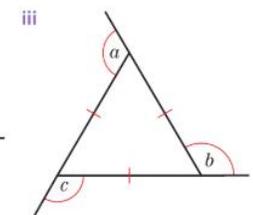
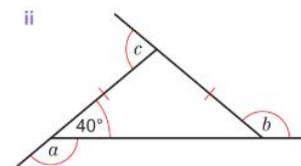
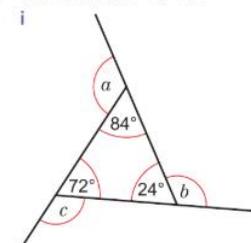
Diagram NOT accurately drawn

CDEF is a straight line.
AB is parallel to CF. $DE = AE$.
Calculate the size of the angle marked x .
You must give reasons for your answer.

(4 marks)

For each triangle work out

- the sizes of angles a , b and c
- the value of $a + b + c$.



Questions



Key Concepts

Pythagoras' theorem and basic trigonometry both only work with **right angled triangles**.

Pythagoras' Theorem - used to find a missing length when two sides are known
 $a^2 + b^2 = c^2$

c is always the hypotenuse (longest side)

Basic trigonometry SOHCAHTOA - used to find a missing side or an angle

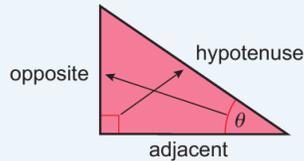


When finding the missing angle we must press **SHIFT** on our calculators first.

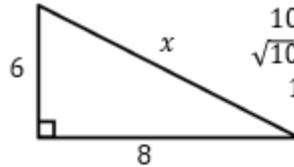
Key Words

- Right angled triangle-degrees angle.
- Hypotenuse
- Opposite
- Adjacent
- Sine
- Cosine
- Tangent

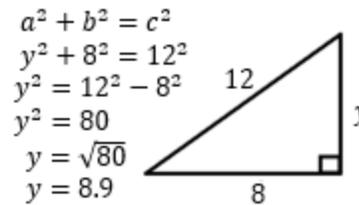
Tips:



Pythagoras' Theorem

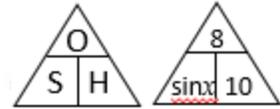
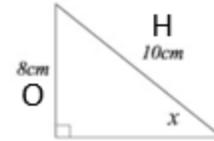


$$\begin{aligned} a^2 + b^2 &= c^2 \\ 6^2 + 8^2 &= x^2 \\ 100 &= x^2 \\ \sqrt{100} &= x \\ 10 &= x \end{aligned}$$

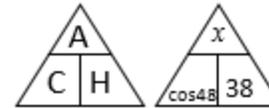


$$\begin{aligned} a^2 + b^2 &= c^2 \\ y^2 + 8^2 &= 12^2 \\ y^2 &= 12^2 - 8^2 \\ y^2 &= 80 \\ y &= \sqrt{80} \\ y &= 8.9 \end{aligned}$$

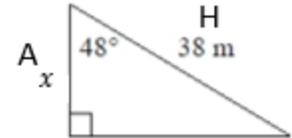
Examples



$$\begin{aligned} \sin x &= \frac{8}{10} \\ x &= \sin^{-1}\left(\frac{8}{10}\right) = 53.1^\circ \end{aligned}$$

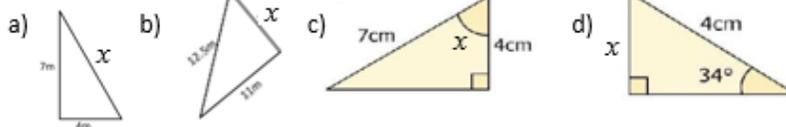


$$\begin{aligned} \cos 48 &= \frac{x}{38} \\ x &= 38 \times \cos 48 = 25.4m \end{aligned}$$



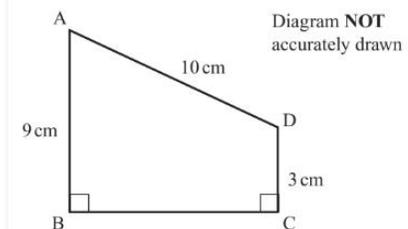
Questions

Find the value of x .



Exam-style question

ABCD is a trapezium.



AD = 10 cm, AB = 9 cm, DC = 3 cm

Angle ABC = angle BCD = 90°

Calculate the length of AC.

Give your answer correct to 3 significant figures. **(5 marks)**

Nov 2012, Q15, IMA0/2H

Exam-style question

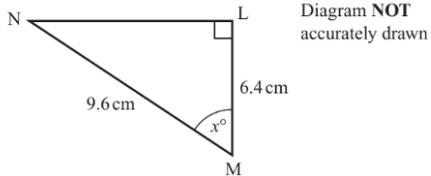


Diagram NOT accurately drawn

LMN is a right-angled triangle.

MN = 9.6 cm.

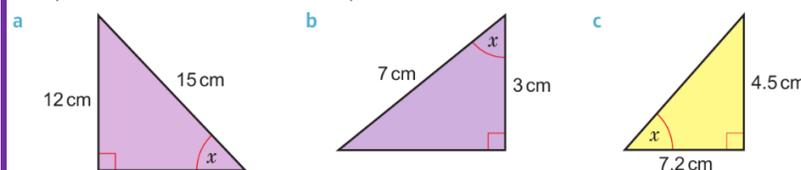
LM = 6.4 cm.

Calculate the size of the angle marked x° .

Give your answer correct to 1 decimal place. **(3 marks)**

June 2012, Q16, IMA0/2H

Calculate the size of angle x in each triangle. Give your answers correct to 1 decimal place.





St Joseph's College Music Department

Term 2: 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#

Triple 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

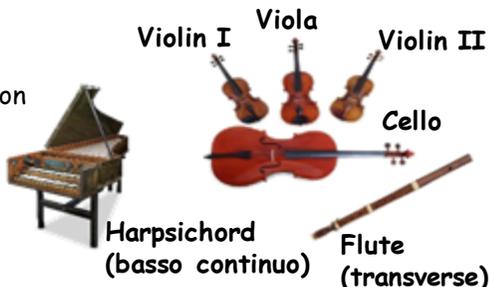
Appoggiatura- a grace note which delays the next note of the melody, taking half or more of its written time value

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	<u>Section A:</u> starts in B minor and ends in F# minor <u>Section B:</u> 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.



Melodic Analysis

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.



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.



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.



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.



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.



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.



Section B Bars 16² – 40¹ Twenty-four bars

Bars 16² – 18¹ Motif X is stated by the flute in F# minor.



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 so that it ascends rather than descends.



Bars 20² – 22¹ Motif X is presented by the flute, moving the tonality to D major, the relative major.



Bars 20² – 22¹ Motif X is presented by the flute, moving the tonality to D major, the relative major.



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.



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.



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.



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.





Components of physical fitness:

Aerobic endurance - the ability to exercise continuously for extended periods without tiring.

Muscular endurance - the ability to repeat a series of muscle contractions without fatiguing.

Flexibility - the capacity of a joint to move through its full range of motion

Speed - Distance divided by time taken equals speed, 3 types: Accelerative, pure and endurance.

Muscular strength - The maximum force that can be generated by a muscle group

Body composition - the ratio of fat mass to fat free mass

Components of skill related fitness:

Agility - ability to move quickly and precisely and change direction without losing balance or time

Balance - ability to maintain centre of mass over base of support. 2 types: Static and dynamic

Coordination - the smooth flow of movement needed to perform a motor task efficiently and accurately

Power - the product of strength and speed

Reaction time - time taken for a performer to respond to a stimulus and initiate a response

Why are fitness components important?:

- 1) Enables an athlete to reach the physical demands of their sport
- 2) Enables an athlete to meet the skill related demands of their sport
- 3) Enables an athlete to perform efficiently

Which athletes need certain components of fitness?



Flexibility
Coordination



Agility
Speed



Power
Muscular strength



Reaction time



Muscular endurance

Exercise Intensity (BORG SCALE)

220 - age = Max Heart Rate

60 - 85% of MHR is your aerobic training zone

Below 60% = Rest Above 85% = Anaerobic (speed) zone

BORG Scale used to measure intensity of exercise:

RPE x 10 = Heart rate (use scale to right to measure)

6	No exertion
7	
8	
9	
10	
11	Light
12	
13	Somewhat hard
14	
15	Hard (heavy)
16	
17	Very hard
18	
19	
20	Maximal exertion

Questions:

How does the FITT principle help with designing a training programme?

Which training zone should a sprinter train in?

What fitness components would a tennis player need?

What could cause reversibility when an athlete is training?

Principles of training SPORRIVA

Specificity - training should be specific to athletes sport

Progressive Overload - training must be demanding enough to Cause the body to adapt

Rest and recovery - body must recover between sessions to allow adaptation to occur

Reversibility - if training stops, results could be reversed

Individual differences - training should be designed to meet needs of athlete

Variation - vary training to prevent boredom

Adaptation - how the body adapts/reacts to training

Suggestions for Becoming F.I.T.T.

F **Frequency:** refers to how often you are physically active and is usually measured in days per week.

I **Intensity:** describes how hard your body is working during physical activity, and it is often described as light, moderate or vigorous.

T **Time:** measures how long you spend being physically active during your daily routine.

T **Type:** describes what kind of activity you choose such as walking, gardening, hiking, biking, weight training, household chores or playing golf.



Key words:

- Exercise intensity** - how hard/effort levels put into exercise
- Warm up** - completed before exercise to prevent injury and prepare body
- Cool down** - complete post exercise to prevent injury and decrease heart rate
- Short/Medium/Long term goals** - training goals are important to keep athletes motivated
- Equipment** - different items needed for each training method

Flexibility training

Static stretching:

- Active** - performed independently where the performer applies internal force to stretch and lengthen the muscle
- Passive** - requires the help of another person or an object such as a wall to apply an external force
- Ballistic** - fast, jerky, bouncy movements
- PNF** - muscles stretched to upper limit and then held in an isometric contraction
- Advantages** - Active/passive/ballistic easy to do and set up. Improves flexibility in lots of different muscles
- Disadvantages** - Can lead to injury if not done correctly



Requirements for all training methods:

- 1) Safe, correct use of equipment
- 2) Safe, correct use of training technique
- 3) Requirements for undertaking the fitness training method, including warm-up and cool down
- 4) Application of the basic principles of training (FITT) for each fitness training method
- 5) Linking each fitness training method to the associated health-related/skill-related component of fitness.

Strength, Muscular endurance and Power training

- Circuit training** - different stations working on different muscle groups to avoid fatigue
- Free weights** - use of dumbbells/barbells to perform exercises
- Increase strength** = LOW REPS/HIGH WEIGHT
- Increase endurance** = HIGH REPS/LOW WEIGHT
- Work out intensity required by establishing 1 rep max
- Plyometrics** - maximal force to lengthen muscle (eccentric) followed by maximal force (concentric) to shorten muscles. Lunging, jumping, squatting etc.
- Advantages** - builds strength quickly, helps with most sports
- Disadvantages** - Can cause injury, requires specialist equipment



Speed training

- Hollow sprints** - sprints followed by 'hollow' periods of jogging
- Acceleration sprints** - pace gradually increased from walk to full speed
- Interval** - period of intense speed work, followed by a rest



Aerobic endurance training:

- Continuous** - steady pace at a moderate intensity
- Fartlek** - intensity varied throughout and exercise carried out on different terrains
- Interval** - periods of exercise followed by rest, then exercise again
- Circuit** - different stations to work on different muscles
- Advantages** - Easy to set up (continuous, fartlek, interval)
- Disadvantages** - Can be boring (continuous) Circuit training takes time to set up



Questions:

- Which training methods would help a footballer? Why?
- What type of exercises could you use for circuit training?
- How could you apply FITT to aerobic endurance training?



St Joseph's College BTEC PE Department

Year 10 Half Term 2: - Unit 1 BTEC Sport Exam. LO3

Investigate fitness testing to determine fitness levels



Flexibility:

Name: Sit and reach test

Unit of measurement: CM

Equipment needed: Sit and reach board



Strength:

Name: Grip dynamometer

Unit of measurement: KgW

Equipment needed: Grip dynamometer

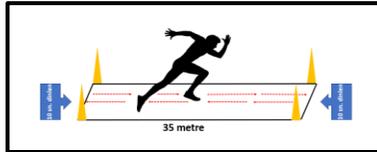


Speed:

Name: 35 metre sprint test

Unit of measurement: Seconds

Equipment needed: Cones/Tape measure/Stopwatch

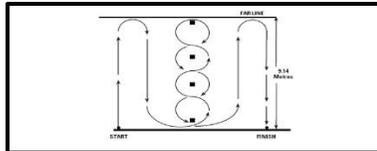


Speed and Agility:

Name: Illinois agility run

Unit of measurement: Seconds

Equipment needed: Cones/Tape measure/Stopwatch



Body Composition (2):

Name: Skinfold testing

Unit of measurement: % body fat

Equipment needed: Callipers, marker pen, note sheet, tape measure



Why is fitness testing important?

Gives baseline data for monitoring and improving performance.
Can design training programmes after testing and determine if they are working.
Gives athletes something to aim for (goal-setting)

Questions:

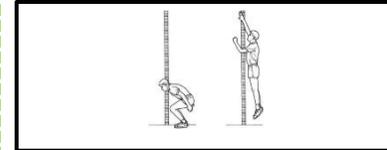
Why is it important to compare fitness test results with normative data?
Which 2 fitness tests would be appropriate for a tennis player, and why?
Give 1 advantage and 1 disadvantage of the multi-stage fitness test?

Anaerobic Power:

Name: Vertical Jump test

Unit of measurement: Kgm/s

Equipment needed: Wall/Tape measure/Chalk

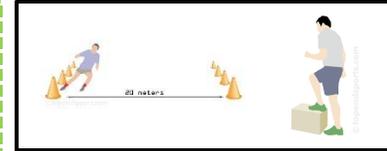


Aerobic Endurance:

Name: Multi-stage fitness test/Forestry step test

Unit of measurement: ml/kg/min

Equipment needed: MSFT-Cones/Tape measure/Audio equipment FORESTRY: Bench, metronome, stopwatch



Aerobic Endurance:

Vo2 Max - also known as maximal oxygen uptake, is the measurement of the maximum amount of oxygen a person can utilize during intense exercise

Body Composition:

BMI (Body mass index) - measurement of body fat using the following sum:

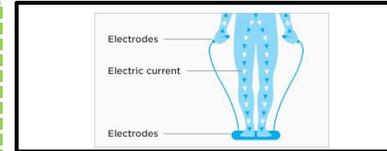
Body weight (KG) / Height (metres) x Height (metres)

Body Composition:

Name: Biometrical Impedance Analysis (BIA)

Unit of measurement: % body fat

Equipment needed: Bioelectric Impedance analyser



Administration requirements for all tests

Pre-test procedures (informed consent, calibration of equipment)
Knowledge of standard test methods and equipment required
Purpose of each test (what are we testing?)
Accurate recording of results
Basic processing of results for interpretation (based on previous data)
Ability to safely select appropriate test

Interpretation of fitness test results

Compare results to normative data
Compare with peers and draw conclusions
Analyse and evaluate test results
Suggest appropriate training methods to improve athlete at next test





St Joseph's College PE Department

Unit 1 BTEC Sport Exam. LO3

Investigate fitness testing to determine fitness levels



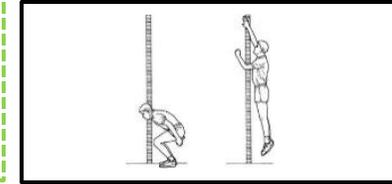
Flexibility:

Name: Sit and reach test
Unit of measurement: CM
Equipment needed: Sit and reach board



Anaerobic Power:

Name: Vertical Jump test
Unit of measurement: Kg/m/s
Equipment needed: Wall/Tape measure/Chalk



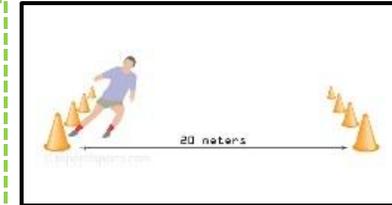
Strength:

Name: Grip dynamometer
Unit of measurement: KgW
Equipment needed: Grip dynamometer



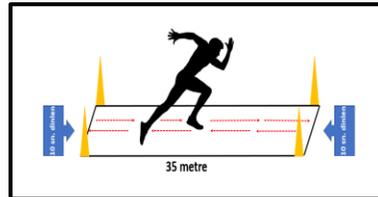
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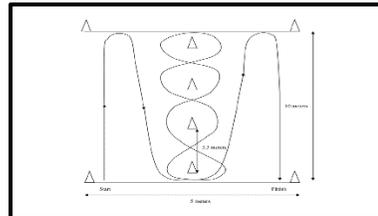
Body Composition:

BMI (Body mass index) - measurement of body fat using the following sum:

$\text{Body weight (KG)} / \text{Height (metres)} \times \text{Height (metres)}$

Speed and Agility:

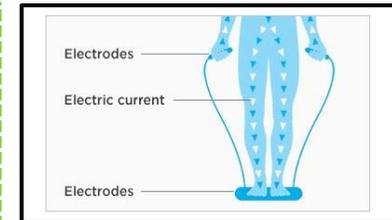
Name: Illinois agility run
Unit of measurement: Seconds
Equipment needed: Cones/Tape measure/Stopwatch



Body Composition:

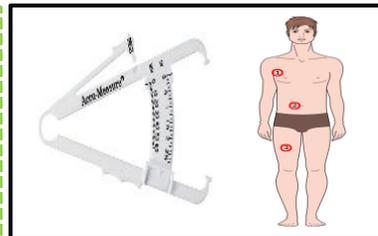
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Unit of measurement: % body fat
Equipment needed: Bioelectric Impedance analyser



Body Composition (2):

Name: Skinfold testing
Unit of measurement: % body fat
Equipment needed: Callipers, marker pen, note sheet, tape measure



Questions:

Why is it important to compare fitness test results with normative data?

Which 2 fitness tests would be appropriate for a tennis player, and why? Give 1 advantage and 1 disadvantage of the multi-stage fitness test?



Why is fitness testing important?

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Basic processing of results for interpretation (based on previous data)

Ability to safely select appropriate test

Age	18-25	26-35	36-45	46-55	56-65	65+
Excellent	>49	>45	>41	>35	>31	>28
Good	44-49	40-45	35-41	29-35	25-31	22-28
Above average	39-43	35-39	30-34	25-28	21-24	19-21
Average	35-38	31-34	27-29	22-24	17-20	15-18
Below Average	31-34	29-30	23-26	18-21	13-16	11-14
Poor	25-30	22-28	17-22	13-17	9-12	7-10
Very Poor	<25	<22	<17	<13	<9	<7

Interpretation of fitness test results

Compare results to normative data

Compare with peers and draw conclusions

Analyse and evaluate test results

Suggest appropriate training methods to improve athlete at next test

Questions:

Why is it important to compare fitness test results with normative data?

Which 2 fitness tests would be appropriate for a tennis player, and why?

Give 1 advantage and 1 disadvantage of the multi-stage fitness test?





During this half term you will gain a solid understanding of important Christian practices.

Keywords:

Agape - Describes selfless, sacrificial and unconditional love. Love your neighbour.

believers' baptism: initiation into the Church, by immersion in water, of people old enough to understand the ceremony / rite and willing to live a Christian life.

CAFOD - (The Catholic Agency for Overseas Development).It is an international aid agency working to alleviate poverty and suffering in developing countries.

Church -1. The holy people of God, also called the Body of Christ, among whom Christ is present and active. 2. A building in which Christians worship.

(The) Eucharist - another name for Holy Communion or the Lord's Last Supper.

Infant baptism - the ritual through which babies and young children become members of the Church, where promises taken on their behalf by adults; the infant is freed from sin and introduced to the saving love of God and support of the Christian community with one another.

Informal prayer:- prayer that is made up by an individual using his or her own words.

Liturgical worship - Worship that follow a set pattern each time.

(The) Lord's Prayer: the prayer taught to the disciples by Jesus; also known as the 'Our Father'.

Non liturgical worship - worship in which there doesn't need to be a set order or ritual

Keywords:

Persecution - Oppression, hostility and ill-treatment, especially because of race or political or religious beliefs.

Pilgrimage - A journey made for religious purposes, this could be alone or with other Christians. A believer makes a physical journey but it is also a spiritual journey towards God.:

Prayer: communicating with God, either silently or through words of praise, thanksgiving or confession, or requests for God's help or guidance.

Private worship -when individuals spend time with God, either alone or with close friends or family

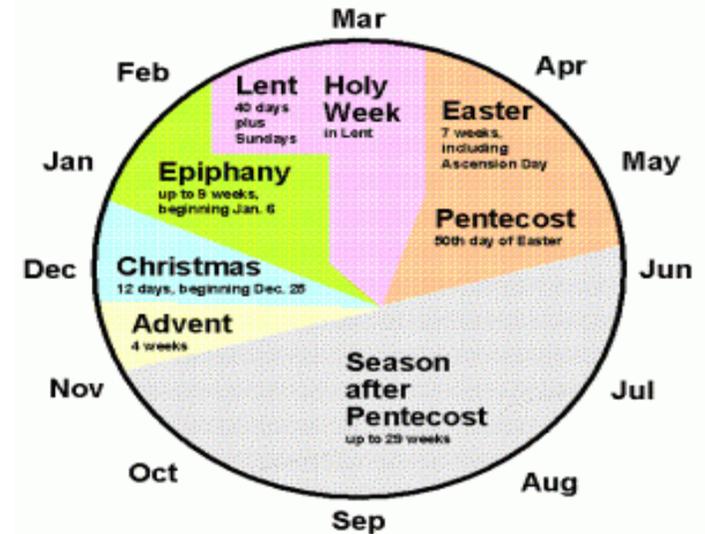
Reconciliation- The worldwide Church has a mission to heal people's relationship with God and with each other through bringing them together in peace.

sacraments: rites and rituals through which the believer receives a special gift of grace'.

Street pastors - a group of Christian volunteers who provide free help and support to people, especially those who are out on a Friday or Saturday night.

Set prayers- prayers that have been written down and said more than once by more than one person, for example the Lord's Prayer.

Worship - the way in which Christians show their deep love, reverence and respect for God.



The liturgical year as a pie diagram.

Christian Practices...

- Worship
- Sacraments
- Prayer
- The role and importance of pilgrimage and celebrations
- The role of the Church in the local community and living practices.
- Mission
- The role of the Church in the wider world.



During this half term you will have a solid understanding of Christian beliefs and teaching

Worship and Prayer

Christian worship involves praising God in music and speech, readings from scripture, prayers of various sorts, a sermon, and various holy ceremonies (often called sacraments) such as the Eucharist. Worship can be private or public and liturgical or non liturgical.

Prayer is a spiritual communion with God. It can be a formula or sequence of words used in or appointed for praying e.g. the Lord's Prayers. Prayer types include: adoration, confession, thanksgiving, petition and intercession.

Sacraments

Seven sacraments

The sacraments are rituals that teach, strengthen and express faith. They are relevant to all areas and stages of life, and Catholics believe that the love and gifts of God are given through seven sacraments, which are:

Baptism, Eucharist, Confirmation, Reconciliation, Anointing of the Sick, Marriage and the Holy orders

Catholics believe that Christians are made holy by carrying out these acts, and that the rites lead to a strengthening of humanity's connection with God.

The role of the Church in the wider world

Christians believe that they should work towards justice so everyone is treated equally. Pax Christi is an organisation that works internationally for human rights and peace. The Catholic Agency for Overseas Development (CAFOD) works in disaster areas and has more than 500 partners in less economically developed countries.

Christian Aid has been working in Ethiopia since the 1970s, beginning by creating self-help groups in order to make the country sustainable.

Pilgrimage and Celebration

A pilgrimage is a journey that has religious or spiritual significance. The journey is usually taken to an important religious place. There are many sites of Christian pilgrimage, several of which are mentioned in Bible stories about the life of Jesus, including **Jerusalem**.

Key celebrations include:

Christmas which celebrates the birth of Jesus, as told in the **Gospel of Matthew** and the Gospel of Luke.

Easter is the most important celebration for Christians as it celebrates Jesus' victory over death. When he was crucified, died and was resurrected. The week leading up to Easter is called **Holy Week** and includes: Palm Sunday, Maundy Thursday, Good Friday and Easter Sunday.

The role of the Church in the local Community

Rites of passage are held in local churches so that the community can be involved. Churches also often run youth groups, giving local children a place to participate in activities. Many Christians and churches run **food banks** from their church halls. Some Christians volunteer as street pastors, going out onto the streets at night to care for those in need and those who are at risk of harm.

Mission

According to the **Gospel of Matthew**, Jesus told his disciples that they should spread his message throughout the world and should try to **convert** people to Christianity.

Missionaries spread the Christian message abroad, not necessarily only through **preaching**, but through their actions too - for example, helping with development projects.

Questions

- 1) What is the name of the Christian festival that celebrates the birth of Jesus? (1mk)
- 2) Give two examples of how Christians might show their commitment to church growth. (2mks)
- 3) Give two contrasting examples of Christian worship (4mks)
- 4) Explain two ways in which the world wide church works for reconciliation. Use sacred writings or other sources. (5mks)
- 5) Infant baptism is not as important as believer's baptism. (12)



Understand how the body regulates itself and responds to stimuli as well as the hormonal control of reproduction.

Keywords:

Homeostasis: The regulation of a constant internal environment

Stimulus: A change in environment

Reflex Arc: A fast and automatic response to a certain stimulus that may be harmful to the organism. They are involuntary responses.

Hormones: Chemical messengers that are transported in the bloodstream to an effector where they activate a response.

Synapse: The gap where the ends of 2 neurons meet.

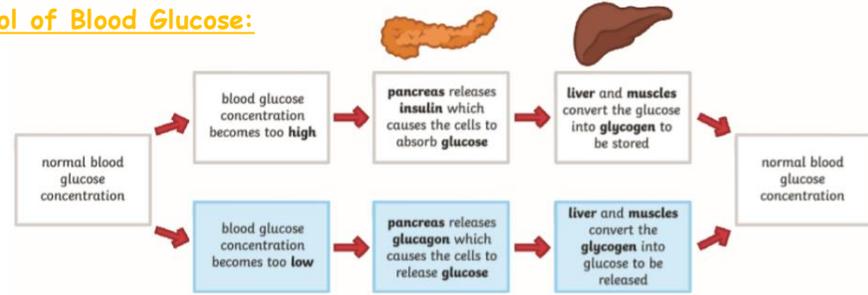
Glucose: Sugar in a soluble form.

Glycogen: Storage molecule of sugar.

Insulin: Hormone that causes the blood glucose concentration to decrease.

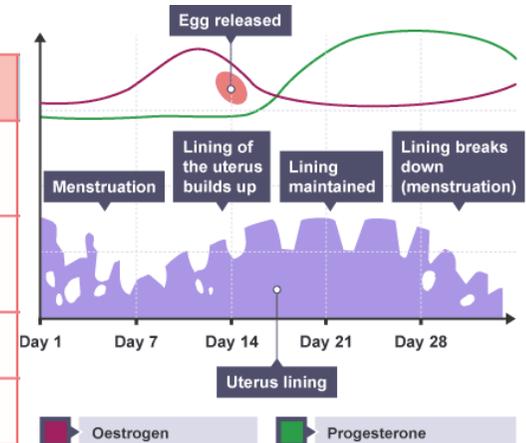
Contraception: Methods to prevent pregnancy (hormonal/non-hormonal)

Control of Blood Glucose:

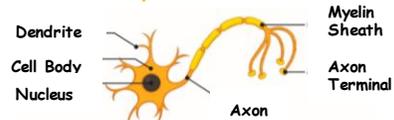


The Menstrual Cycle:

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.



Nervous System:

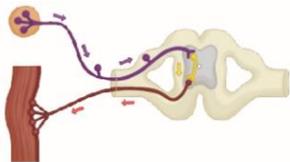


Typical Neuron.

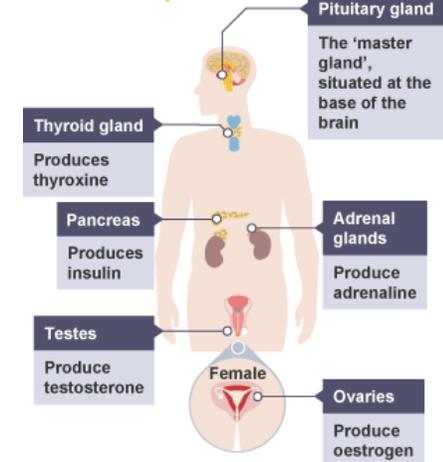
There are 3 types of neuron;

- Sensory Neuron
- Relay Neuron
- Motor Neuron

Reflex Arc:



Endocrine System:



Nervous Pathway:

[stimulus] → receptor → sensory neuron → CNS → motor neuron → effector → [response]

Diabetes:

There are 2 types of diabetes, type 1 and type 2.

Type 1 diabetes is a disorder affecting the pancreas. In type 1 the pancreas doesn't produce enough insulin to control blood glucose levels.

Treated by insulin injections.

Type 2 diabetes is a disorder where the effector cells no longer respond to the hormone released by the pancreas.

Treated by diet and exercise.



Using the energy change of a reaction to define it as exothermic or endothermic, explaining how to measure this energy change accurately.

Keywords:

Exothermic reactions: involve transfer of energy from the reaction to the surroundings, so temperature increases

Endothermic reactions: involve transfer of energy from the surroundings to the reaction, so temperature decreases

Energy level diagram: shows the energy change occurring in a reaction

Activation energy: the minimum amount of energy required for a chemical reaction to take place

Catalyst: a substance that speeds up a chemical reaction by offering an alternative pathway with a lower activation energy, it is not used up

Exothermic Reactions:

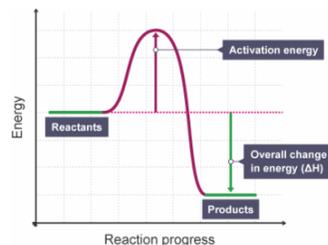
Energy is transferred from the reacting chemicals to the surroundings, Temperature increases as the reaction takes place.

Examples:

- Combustion
- Neutralisation
- Respiration
- Oxidation

Uses:

- Hand warmers
- Self heating cans



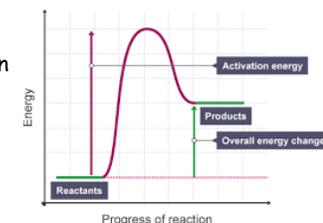
Endothermic Reactions:

Energy is transferred from the surroundings to the reacting chemicals Temperature decreases as the reaction takes place.

Example:

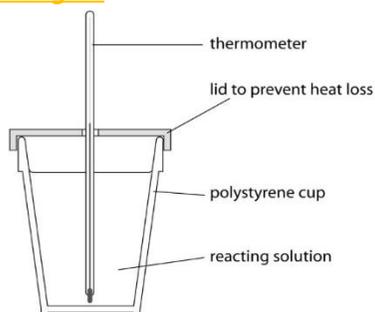
- Thermal decomposition
- Use:
- Instant ice packs

The direction of arrows on energy profile diagrams is really important!



RP Measuring Energy Changes:

Aim: to investigate variables that affect temperature changes in reacting solutions e.g. reactions of acids, neutralisation, displacement reactions of metals



Improving accuracy:

- Use a polystyrene cup as this is an insulator and prevents heat loss
- Use a lid to prevent heat loss
- Stir the solution to make sure energy is distributed evenly in the solution
- Repeat 3 times, remove anomalous result and calculate the mean

Bond making and breaking:

Breaking a bond is an endothermic process - it requires energy to be put in so the value is positive. Making a bond is an exothermic process - it releases energy so the value is negative.

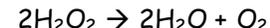
Whether a reaction is exothermic or endothermic depends on the bonds that need to be made and the bonds that need to be broken.

The energy change can be shown as ΔH

Calculations using bond energies:

Bond energies are used to calculate the change in energy of a chemical reaction.

Step 1: Write a balanced symbol equation for the reaction



Step 2: Work out the bonds being broken and the bonds being made



Step 3: Calculate energy for bonds being broken

$$4 \times 464 + 2 \times 146 = 2148$$

Step 4: Calculate energy for bonds being made

$$2 \times 464 + 498 = 2354$$

Step 5: Energy change = bonds broken - bond made

$$2148 - 2354 = -206 \text{ kJ/mol} \quad (\text{because } \Delta H \text{ is negative, reaction is exothermic})$$

HT only

Bond	Bond Energy kJ/mol
H-O	464
O-O	146
O=O	498



St Joseph's College Spanish Department

Y10 Half Term 2: La tecnología en la vida diaria (F)

We will be talking about the uses of technology in our daily life



Keywords:

2.1 G Comunicarse por Internet

- El correo electrónico - the email
- El país - the country
- La razón - the reason
- La red - Internet
- La red social - social network
- La sala de chat - chat room
- La salida - outing
- La vez - the time
- Increíble - incredible
- Justo/a - fair, reasonable
- Propio/a - own
- Chatear - to chat online
- Colgar fotos - to post photos
- Hablar - to speak, to talk
- Usar - to use
- Utilizar - to use
- Ahí - there
- Demasiado/a - too much
- Demasiados/as - too many
- Un poco - a little, a bit

2.2 G ¡El móvil para todo!

- El juego - the game
- El mensaje de texto - text message
- El móvil - mobile phone
- La norma - the rule
- El regalo - the present, gift
- La regla - the rule
- Lento/a - slow
- Prohibido - forbidden
- Ridículo/a - ridiculous
- Roto/a - broken
- Único/a - only, unique
- Dar - to give
- Dar las gracias - to thank
- Enviar - to send
- Aunque - although

2.1 F ¿Cómo prefieres mantenerte en contacto?

- El hecho - the fact
- El inconveniente - drawback, disadvantage
- La ventaja - the advantage
- El jefe/la jefa - the boss
- La letra - letter of the alphabet
- Los medios sociales - social media
- Las redes sociales - social media
- El móvil - mobile/smartphone
- El ordenador - computer
- La pantalla - the screen
- La revista (digital) - the (digital) magazine

- Genial - brilliant, great
- Gratis - free of charge
- Interactivo/a - interactive
- Sencillo/a - simple
- Comunicarse - to communicate
- Empezar - to start, to begin
- Escoger - to choose
- Mandar - to send
- Ofrecer - to offer
- Poder - to be able to
- Desafortunadamente - unfortunately
- Por desgracia - unfortunately

2.2 F La tecnología portátil

- El archivo - the file
- La canción - The song
- El correo basura - spam, junk mail
- El disco duro - the hard drive
- El espacio - the space
- El portátil - the laptop
- La tableta - the tablet
- La tecnología - technology
- Andar - to walk
- Borrar - to delete, erase
- Cargar - to load
- Contestar - to answer

- Sacar fotos - to take photos
- Sentir - to feel
- Cualquier - any
- Igual - same
- Tampoco - neither, nor
- Por mi parte - As far as I'm concerned

QUESTION WORDS

- ¿Qué...? - What...?
- ¿Cuál(es)...? - Which...?
- ¿Dónde / Adónde...? - Where...?
- ¿Cómo...? - How...?
- ¿Cómo es...? - What is it like...?
- ¿Cuándo...? - When...?
- ¿Cuánto/a...? - How much...?
- ¿Cuántos/as...? - How many...?
- ¿Quién...? - Who...?
- ¿Por qué...? - Why...?

MAKING COMPARISONS with más que/menos que

You can use them to make comparisons in different contexts, using **nouns** or **adjectives** in between.

- Más que - more than
- Menos que - less than

- Más interactivo que - more interactive than
- Menos interesante que - less interesting than

- Más tiempo en FB que en Insta - more time on FB than on Insta.
- Menos horas en Insta que en FB - fewer hours on Insta than on FB.

- Uso Facebook **más** que Twitter
- Las salas de chat son **más** populares que los blogs
- Paso **menos** tiempo en la red los lunes que los sábados

TIME PHRASES PRESENT	Hoy - today	Generalmente - usually	A veces - sometimes
	Siempre - always	Normalmente - usually	Muchas veces - many times
	Never - nunca	A menudo - often	Todos los días - every day
	Casi nunca - almost never	Todos los meses - every month	Varias veces - several times

CONNECTIVES

- Y/e - and
- Pero - but
- Sin embargo - however
- O/u - or
- Porque - because
- Ya que - because
- También - also, too
- Además - besides
- Como - as, such as
- Cuando - when
- Tampoco - neither, nor
- Así que - therefore

OPINIONS

- Me encanta - I love
- Me gusta mucho - I like a lot
- Me gusta - I like
- No me gusta - I don't like
- Odio - I hate
- Detesto - I detest
- Pienso que - I think that
- Creo que - I believe that
- Opino que - I am of the opinion that
- Me parece que - It seems to me that
- Por mi parte - As far as I'm concerned

PERFECT TENSE (regular verbs)

Used to say what **HAS HAPPENED** or what someone **HAS DONE**. It has 2 parts:

Present tense of Verb HABER + Past participle of a verb removing th-ar, -er, -ir of the infinitive and adding

He	+	-ado (AR verbs)
Has		
Ha	+	-ido (ER, IR verbs)
Hemos		
Habéis	+	
Han		

- (PASAR, yo): He **pasado** demasiado tiempo en la red - I have spent too much time on the Internet.
- (COMER, él): Ha **comido** paella - He has eaten paella

STATEMENTS OF POSSIBILITY: To say

- if something is or isn't possible, you can use:
- (no) es posible - it is (not) possible
- (no) se puede - you can(not)
- (no) se permite - it's (not) allowed
- + infinitive

PRESENT CONTINUOUS

The verb "estar" is used to talk about something that is happening right now. The present continuous has 2 parts: **PRESENT TENSE** PRESENT PARTICIPLE of "estar"

(I) estoy	+	-ando (AR verbs)
(you) estás		
(he) está	+	-iendo (ER, IR verbs)
(we) estamos		
(you) estáis	+	
(they) están		

- Estoy buscando mi portátil - I am looking for my laptop
- Está viendo un video - He/she is watching a video

POR and PARA: The words por and para can be translated as "for" but they can be used to mean other things, too. The more common uses are:

POR	-used to say "per"	PARA	-used with an infinitive to say "(in order) to"
	-used to say "in exchange"		-used to say "for" when something is meant for someone

GCSE Questions:

- ¿Cuándo/Para qué usas Snapchat/...? - Uso Snapchat/... todos los días/dos horas al día/los fines de semana - Uso Snapchat/... para chatear/subir fotos/bajar música/ver videos/escuchar canciones.
- ¿Cuál es tu opinión sobre/Qué piensas de/Qué te parece Snapchat/...? - Opi no que Snapchat/...es... - Pienso que Snapchates... - Me parece que Snapchates... - Me gusta Snapchat porque...
- ¿Pasas mucho tiempo en Internet? - Sí, paso mucho tiempo en Internet porque ... / No, no paso mucho tiempo en Internet porque ...
- ¿Te gusta usar la tecnología? - Sí, me gusta usar la tecnología porque.../ No, no me gusta usar la tecnología porque...



St Joseph's College Spanish Department

Y10 Half Term 2: La tecnología en la vida diaria (H)

This half term we will be talking about the uses of technology in our daily life



Keywords:

2.1 H Las redes sociales:

- ¿Buenas o malas?
- El acoso - bullying
- El comportamiento - behaviour
- El desarrollo - development
- La desventaja - disadvantage
- El riesgo - risk
- El seguidor - the follower (m)
- La seguidora - the follower (f)
- El/la usuario/a - the user
- La ventaja - the advantage
- Gratis/a - free of charge
- Acosar - to bully
- Apasionar - to excite
- Compartir - to share
- Divertirse - to have a good time
- Mejorar - to improve
- Aun - even
- Bajo - low
- A mi juicio - in my opinion

2.2 H ¿Podrías vivir sin el móvil y la tableta?

- La conexión inalámbrica - wireless connection
- Felicidades - best wishes, congratulations
- La sala de chat - chat room
- La señal - the signal
- La tarjeta de crédito - credit card
- Imprescindible - essential
- Chatear - to chat
- Correr - to run
- Darse cuenta de - to realise
- Felicitar - to send best wishes, to congratulate
- Preocupar - to worry
- En vez de - instead of
- Hasta - until

Raras veces - rarely
Todo lo contrario - the exact opposite

USING VERBS WITH PREPOSITIONS

Certain verbs in Spanish must be followed by a certain preposition when followed by another verb (in infinitive form).

These are the most common ones:

- Empezar a - to begin with
- Ayudar a - to help to
- Atraverse a - to dare to
- Acabar de - to have just (done something)
- Tratar de - to try to
- Dejar de - to stop doing something
- Insistir en - to insist on
- Consistir en - to consist of
- Soñar con - to dream of

Example sentence:

Sueño con vivir en Costa Rica
I dream of living in Costa Rica

HABÍA and ERA

"Había" and "Era" are very common words used to describe how things were in the past, in a tense called the imperfect (we will learn later).
Había - there was/there were
No había - there wasn't/weren't
Era - it was/No era - it wasn't
Había mucho correo basura - there was a lot of junk mail.
Era un mensaje de texto - it was a text message

TIME PHRASES PAST

Ayer - yesterday	Anteayer - the day before yesterday	La semana pasada - last week
El mes pasado - last month	Anoche - last night	El otro día - the other day
El año pasado - last year	Entonces - then	Hace dos días - two days ago
Hace dos años - two years ago	Ayer por la mañana - yesterday morning	El verano pasado - last summer

CONNECTIVES

- Por un lado - on one hand
- Por otro lado - on the other hand
- En primer lugar - in the first place, firstly
- En segundo lugar - Secondly
- No obstante - nevertheless / however
- Dado que - given that, since

OPINIONS

- Me importa + infinitive/noun - it's important to me ...
- No me importa + infinitive/noun - it's not important to me ...
- (no) estoy de acuerdo (con) - I (don't) agree (with)...
- Discrepo con - I disagree with...

PERFECT TENSE IRREGULAR VERBS

Some common verbs have irregular past participle which do not follow the past participle formation rule (replacing -ar, -er and -ir for -ado or -ido). You still must use "to have" before the past participle.

VERB INFINITIVE PAST PARTICIPLE

Poner (to put)	puesto
Ver (to see)	visto
Hacer (to do/to make)	hecho
Decir (to say/to tell)	dicho
Abrir (to open)	abierto
Romper (to break)	roto
Volver (to return)	vuelto
Escribir (to write)	escrito

He roto mi Iphone - I have broken my Iphone

FURTHER USES OF "POR" and "PARA"

POR is also used:

- in multiplication, meaning "times": tres por tres son nueve.
- to say "along" or "through".
- as a means of communication: hablo por teléfono - I speak on the phone.
- in certain expressions like: por allí (over there), por ahora (for now), por eso (therefore), por fin (finally).

PARA is also used:

- for destination: el avión ha salido para Valencia (the plane has left for Valencia).
- for/by a certain time: Lo voy a hacer para el miércoles (I'm going to do it by Wednesday).
- With "ser" to mean "possession": esto es para mi hermana (this is for my sister).

USING "CUYO/CUYA/CUYOS/CUYAS"

The word "cuyo" is the equivalent of the word "whose". It agrees with the word that follows it (masc, fem, sing or pl)

- Mi hermano, cuyo móvil tiene muchos apps, usa su móvil a veces
- My brother, whose mobile has many apps, uses his mobile sometimes.
- Es el periodista cuyos artículos sobre las redes sociales son geniales - He is the journalist whose articles on social networks are great.



GCSE Questions:

- ¿Podrías vivir sin la tecnología? - Sí, podría vivir sin la tecnología porque .../No, no podría vivir sin la tecnología porque..
- ¿Cómo vas a usar la tecnología este fin de semana/usas la tecnología normalmente/usaste la tecnología ayer? - Este fin de semana voy a .../Normalmente uso la tecnología para.../Ayer usé la tecnología para...
- ¿Cuántas horas pasaste en las redes sociales ayer? - Ayer pasé ____ horas en las redes sociales porque me encanta Snapchat/Whatsapp/...
- ¿Cuál es tu red social favorita y por qué? - Mi red social favorita es ... porque ...
- ¿Cuáles son las ventajas/inconvenientes de la tecnología? - Creo que las ventajas de la tecnología son que es divertida/muy práctica /es muy útil/es muy cómoda/es muy práctica, sin embargo los inconvenientes son que es muy adictiva/te quita tiempo/es impráctica/es aburrida...



The Periodic Table of Elements

1	2											3	4	5	6	7	0	
		Key relative atomic mass atomic symbol <small>name</small> atomic (proton) number										1 H <small>hydrogen</small> 1						4 He <small>helium</small> 2
7 Li <small>lithium</small> 3	9 Be <small>beryllium</small> 4											11 B <small>boron</small> 5	12 C <small>carbon</small> 6	14 N <small>nitrogen</small> 7	16 O <small>oxygen</small> 8	19 F <small>fluorine</small> 9	20 Ne <small>neon</small> 10	
23 Na <small>sodium</small> 11	24 Mg <small>magnesium</small> 12											27 Al <small>aluminium</small> 13	28 Si <small>silicon</small> 14	31 P <small>phosphorus</small> 15	32 S <small>sulfur</small> 16	35.5 Cl <small>chlorine</small> 17	40 Ar <small>argon</small> 18	
39 K <small>potassium</small> 19	40 Ca <small>calcium</small> 20	45 Sc <small>scandium</small> 21	48 Ti <small>titanium</small> 22	51 V <small>vanadium</small> 23	52 Cr <small>chromium</small> 24	55 Mn <small>manganese</small> 25	56 Fe <small>iron</small> 26	59 Co <small>cobalt</small> 27	59 Ni <small>nickel</small> 28	63.5 Cu <small>copper</small> 29	65 Zn <small>zinc</small> 30	70 Ga <small>gallium</small> 31	73 Ge <small>germanium</small> 32	75 As <small>arsenic</small> 33	79 Se <small>selenium</small> 34	80 Br <small>bromine</small> 35	84 Kr <small>krypton</small> 36	
85 Rb <small>rubidium</small> 37	88 Sr <small>strontium</small> 38	89 Y <small>yttrium</small> 39	91 Zr <small>zirconium</small> 40	93 Nb <small>niobium</small> 41	96 Mo <small>molybdenum</small> 42	[98] Tc <small>technetium</small> 43	101 Ru <small>ruthenium</small> 44	103 Rh <small>rhodium</small> 45	106 Pd <small>palladium</small> 46	108 Ag <small>silver</small> 47	112 Cd <small>cadmium</small> 48	115 In <small>indium</small> 49	119 Sn <small>tin</small> 50	122 Sb <small>antimony</small> 51	128 Te <small>tellurium</small> 52	127 I <small>iodine</small> 53	131 Xe <small>xenon</small> 54	
133 Cs <small>caesium</small> 55	137 Ba <small>barium</small> 56	139 La* <small>lanthanum</small> 57	178 Hf <small>hafnium</small> 72	181 Ta <small>tantalum</small> 73	184 W <small>tungsten</small> 74	186 Re <small>rhenium</small> 75	190 Os <small>osmium</small> 76	192 Ir <small>iridium</small> 77	195 Pt <small>platinum</small> 78	197 Au <small>gold</small> 79	201 Hg <small>mercury</small> 80	204 Tl <small>thallium</small> 81	207 Pb <small>lead</small> 82	209 Bi <small>bismuth</small> 83	[209] Po <small>polonium</small> 84	[210] At <small>astatine</small> 85	[222] Rn <small>radon</small> 86	
[223] Fr <small>francium</small> 87	[226] Ra <small>radium</small> 88	[227] Ac* <small>actinium</small> 89	[261] Rf <small>rutherfordium</small> 104	[262] Db <small>dubnium</small> 105	[266] Sg <small>seaborgium</small> 106	[264] Bh <small>bohrium</small> 107	[277] Hs <small>hassium</small> 108	[268] Mt <small>meitnerium</small> 109	[271] Ds <small>darmstadtium</small> 110	[272] Rg <small>roentgenium</small> 111	[285] Cn <small>copernicium</small> 112	[286] Nh <small>nihonium</small> 113	[289] Fl <small>flerovium</small> 114	[289] Mc <small>moscovium</small> 115	[293] Lv <small>livermorium</small> 116	[294] Ts <small>tennessine</small> 117	[294] Og <small>oganesson</small> 118	

* The Lanthanides (atomic numbers 58 – 71) and the Actinides (atomic numbers 90 – 103) have been omitted.

Relative atomic masses for **Cu** and **Cl** have not been rounded to the nearest whole number.



Multiplication Grid & Formulae



My Multiplication Chart 1-12

x	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24	27	30	33	36
4	4	8	12	16	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
9	9	18	27	36	45	54	63	72	81	90	99	108
10	10	20	30	40	50	60	70	80	90	100	110	120
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144

Areas

Rectangle = $l \times w$

Parallelogram = $b \times h$

Triangle = $\frac{1}{2} b \times h$

Trapezium = $\frac{1}{2}(a+b)h$

Circles

Circumference = $\pi \times \text{diameter}$, $C = \pi d$

Circumference = $2 \times \pi \times \text{radius}$, $C = 2\pi r$

Area of a circle = $\pi \times \text{radius squared}$, $A = \pi r^2$

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



Equipment

SJC: The Basics
Every lesson!
Every day!

ESSENTIALS

IDEAL

Essentials
Pencil case
Blue/Black pens
Green pens
Pencils
Sharpener
Rubber
Ruler
Calculator
Compass
Protractor
Exercise Books
Textbooks
Coloured pencils
Highlighters

Ideal
Document wallet
Glue stick
Scissors



Respect for Faith

We believe that we are a school community rooted in the Catholic Christian faith with respect for all faiths, religions and views. All students and staff have the right to express their faith in God and be treated with dignity.

Respect for Self

We believe we are all children of God and encourage each other to see this within themselves. We believe that our social, emotional and spiritual development, being healthy and happy are central to our wellbeing. We believe that we must protect these rights for all.

Respect for Others

We believe that everyone deserves respect and we will treat others as we would like to be treated.

Respect for Learning

We believe that students and staff must be prepared in order to make the best of every learning opportunity. We believe that everyone can improve, make progress and achieve success. We believe that developing independence and determination is key to life's journey.

Respect for the College and Wider Community

We seek to care for our College and serve our local community. We believe that the college environment should be respected and safe.

STUDENTS WILL:

1. Be proud of their faith and treat all faiths with respect.
2. Show respect, and courtesy to all, treating all members of the school and visitors as they would like to be treated themselves. They will make sure the school is a safe place for all to express their views and opinions.
3. Value the whole school treating every area with respect making sure that every part of the school is clean, tidy and litter free.
4. Move around the school calmly, sensibly and safely.
5. Have a 'positive can do' attitude to learning, take pride in their appearance by wearing a smart uniform, arriving on time to lessons with the right equipment.
6. Work to the best of their ability. They will not give up even when work is difficult and challenging. They will take responsibility for their actions and for achieving their potential.
7. Participate in at least one extra-curricular activity to support their social and emotional development.
8. Respect all school expectations and follow the rewards/sanctions procedures.

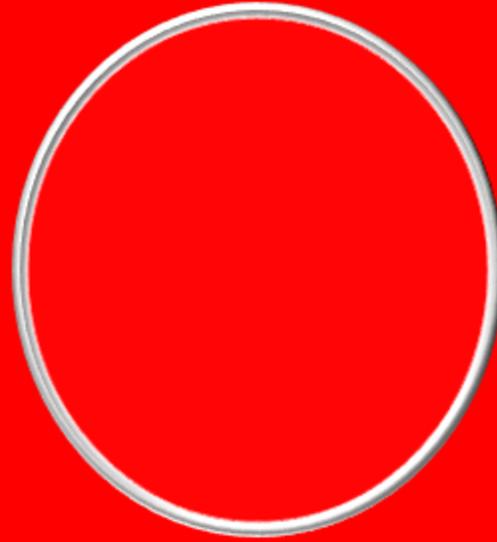


STAFF WILL:

1. Respect the views and opinions of all students, parents and colleagues. They will act as role models to students by demonstrating patience, respect and fairness.
2. Demonstrate their belief in a growth mindset: that all learners can improve, progress and achieve success.
3. Dress smartly for lessons, arrive on time, greet students at the door and ensure that learning can begin immediately.
4. Prepare for learning by knowing their students, having excellent subject knowledge and ensuring every student is challenged and stretched.
5. Create a positive and engaging learning environment and ensure that class displays are supportive, relevant, encourage resilience and are presentable.
6. Assess learning regularly, create different opportunities for students to access learning content and help students achieve their personal goals.
7. Promote the health, happiness and well-being of all students.
8. Apply the school expectations fairly to all students.



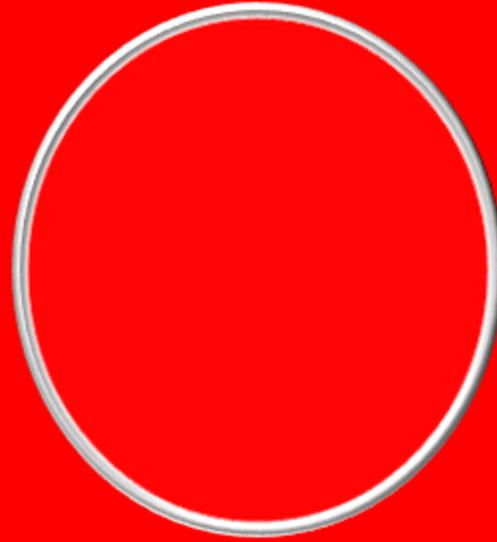
Traffic light:



Red



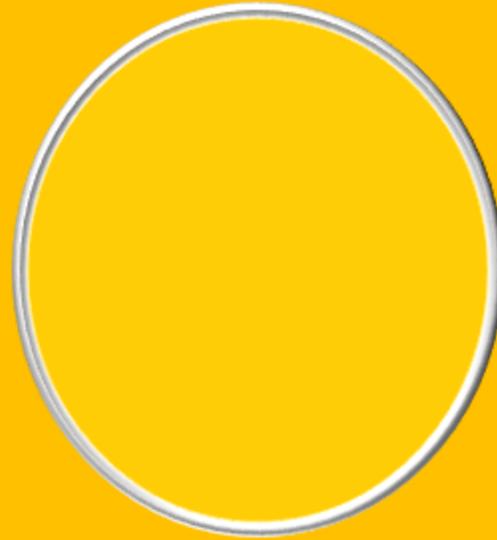
Traffic light:



Red



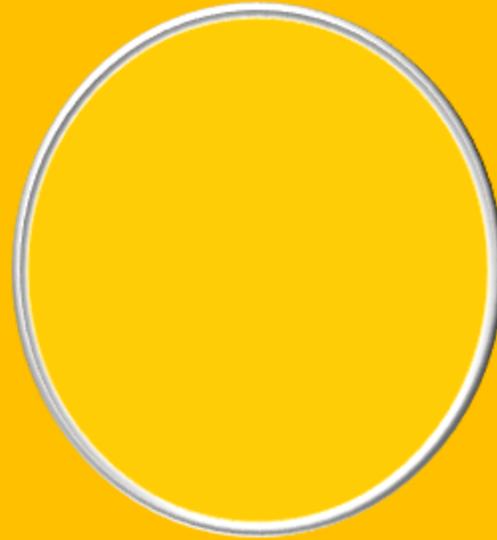
Traffic light:



Amber



Traffic light:



Amber



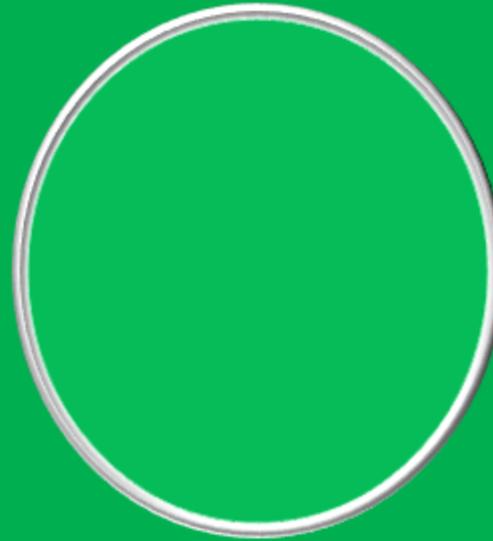
Traffic light:



Green



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

