



BOURNEMOUTH SCHOOL

Year 10

Knowledge Organiser 6

Summer Term

Name: _____ Master 10 _____

Registration Form: - _____

✓ Hard Work

✓ Discipline

✓ Smart Appearance

✓ Respect

Bournemouth School

Knowledge Organiser: Year 10 Summer Term 6

'Knowledge is power' by Francis Bacon

A knowledge organiser provides you with all the most important knowledge you need for each unit of study this half term. Your aim is to transfer all of this information into your long-term memory so you can use it in your lessons and further expand your understanding of this work.

How to use your knowledge organiser (KO):

1. Ensure you have your KO and Homework Learning journal with you at all times in school and when you need to do your homework at home.
2. In lessons when you have covered information that appears on your KO, your teacher will ask you to put a tick next to that section. This means that is now added to what you must learn for homework.
3. Initially, follow your homework timetable to decide what to revise each evening.
4. There are 4 strategies that you can use to revise. They are progressively more challenging so always start with the first in the list.

a. Look Cover Write Check

- i. Identify the subject and section of your KO that you want to revise. This should be one of the ticked sections.
- ii. LOOK carefully at the subject and section of your KO you want to revise and try to remember as much as you can. Remember this should be a ticked section.
- iii. Now COVER this information so you can't read it.
- iv. WRITE out what you can remember word for word in your Homework Learning Journal.
- v. CHECK what you have written by comparing it to your KO. Tick each correct word in green pen and correct any errors you have made.
- vi. Repeat this process until you are confident you can remember everything you need.

AIM: You should be able to repeat the information by rote

b. Self or peer quizzing

- i. Identify the subject and section of your KO that you want to revise. This should be one of the ticked sections.
- ii. Write out a list of questions you could ask either yourself or a friend about this section of the KO. Write these in your Homework Learning Journal.
- iii. If you are working on your own, cover the KO and write a full answer to each question.
- iv. If you are working with a partner swap books and copy down their questions and have a go at answering them.
- v. Now uncover the KO and with a green pen correct your work.

AIM: You should be able to repeat the information by rote but with a good understanding

c. Playing with words and sentences

- i. Identify the subject and section of your KO that you want to revise. This should be one of the ticked sections.
- ii. You now want to check how well you have learnt the information in your KO.
- iii. Definitions – look at words that are used in this section. Can you write a definition in your own words?
- iv. Rephrasing – can you rewrite the sentences or explanations in your own words?

c. Playing with words and sentences

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- ii. You now want to check how well you have learnt the information in your KO.
- iii. Definitions – look at words that are used in this section. Can you write a definition in your own words?
- iv. Rephrasing – can you rewrite the sentences or explanations in your own words?
- v. Summary – can you summarise the main points of this section of the KO?
- vi. Synonyms – can you write synonyms for key words and ideas?
- vii. New Sentences – can you write a sentence that includes the key vocabulary or definitions that you have learnt?

AIM

You should be able to use the information in your KO in a flexible and confident way in your writing.

d. Think it, Link it

- i. This is a technique to use towards the end of the half term when you are revising all of the KO.
- ii. Think of the links or connections between different sections of your KO.
- iii. Write these out in your own words in your Homework Learning Journal.
- iv. Think about the links between a particular section of your KO and what you have learnt in your lessons. Can you expand on this section by linking it to your wider knowledge?
- v. Write this out in your Homework Learning Journal.

AIM

You should be able to link your homework and your lessons to show a confident understanding of the work covered.

Homework Learning Journal

1. Always write the subject and the date when you start your homework.
2. Always write the strategy that you are going to use for your homework.
3. Use a blue or black pen to complete your homework or a pencil if you need to draw.
4. Always use a ruler to underline titles and dates.
5. Use a green pen to complete corrections of your work.
6. **You are expected to complete half a side of your Homework Learning Journal each evening as a minimum.**

Success Club

You can attend Success Club every Monday to Thursday in room 53 until 4:30pm. This is a quiet room where you can complete your homework rather than doing it at home. There are also Sixth form helpers and staff who will be there to help you if you need it. You can also choose to work in the Library on a Monday, Tuesday and Thursday until 4:30 and a Friday until 4.

DO NOW tasks:

At the start of every lesson you should expect a Do Now task. This is a low stakes retrieval quiz on what you have learnt so far. If you have completed your homework this should be easy. The aim is to get 100% in each of these. If you miss this target occasionally, don't worry. If it happens regularly your teacher will have a chat and offer you support.

Maths:

Your teacher will set you tasks to complete on Dr Frost Maths. This will be set every week on a Monday and will be collected in and checked on a Friday. If this has not been completed you will be issued a Detention on a Wednesday Lunchtime.

How long should I spend on my homework?

Key Stage 4					
Week 1					
Time	Monday	Tuesday	Wednesday	Thursday	Friday
5 mins	MFL	MFL	Physical Activity	MFL	MFL
10	Maths	English		Maths	English
10	Biology	RS		Chemistry	Physics
10	Option C	Option D		Option A	Option B
55	Reading / Revision	Reading / Revision		Reading / Revision	Reading / Revision
Week 2					
Time	Monday	Tuesday	Wednesday	Thursday	Friday
5 mins	MFL	MFL	Physical Activity	MFL	MFL
10	Maths	English		Maths	English
10	Biology	RS		Chemistry	Physics
10	Option C	Option D		Option A	Option B
55	Reading / Revision	Reading / Revision		Reading / Revision	Reading / Revision

- You should spend about 35 minutes revising your KO each day.
- You should spend 55 minutes either reading or revising each day.
- This timetable is a guide. If you want to spend longer revising one subject that you find more difficult and less time on one you find easy, that is your choice.
- We would like you to spend one evening involved in a physical activity. This might be a sports club, a run, a game of football with friends or just a nice walk with the dog. Ask your PE teacher if you need guidance with this. It doesn't have to be on a Wednesday.

Terms	Definition – read, cover, write, review	Tick
Distortion	the action of giving a misleading account or impression.	
Portraiture	is the recording of an individual's appearance and personality	
Mark making	describes the different lines, dots, marks, patterns, and textures we create in an artwork. It can be loose and gestural or controlled and neat.	
Tone	the relative lightness or darkness of a colour	
Proportion	refers to the dimensions of a composition and relationships between height, width and depth.	
Symbolism	the artistic or literary practice of using objects, characters, actions, or colors to represent abstract ideas, emotions, or deeper meanings beyond their literal sense	
Morphing	a technique where one image, shape, or object seamlessly transforms into another, creating a continuous transition.	

Media/ materials	Definition – read, cover, write, review	Tick
Biro	a kind of ballpoint pen	
Fine liners	pens with plastic or fine fibre needle-point tips that generally use water-based ink but sometimes use oil-based.	
Mono Print	a form of printmaking where the image can only be made once, unlike most printmaking which allows for multiple originals.	
Mixed Media	artworks composed from a combination of different media or materials.	
Pastels	These can come in both powder or oil based. Chalk pastels can be blended to create a soft appearance. Oil pastels are a cleaner medium than chalk pastels, but still softer and more blendable than either coloured pencils or crayons.	
Watercolour paint	Watercolour is a translucent paint containing pigment and a binder, typically gum-arabic. The gum-arabic holds the paint together and ensures the paint will not flake. The paint has colour pigment suspended in water until the water dries and stains the surface. The paint brushes with fluidity and transparency and dries fairly quickly.	

Identify the artist and the media



Kathe Kollwitz- Pencil



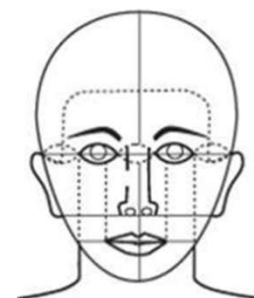
Frank Auerbach-Charcoal



Francoise Nielly- Paint



Josh Bryan- Fine liner



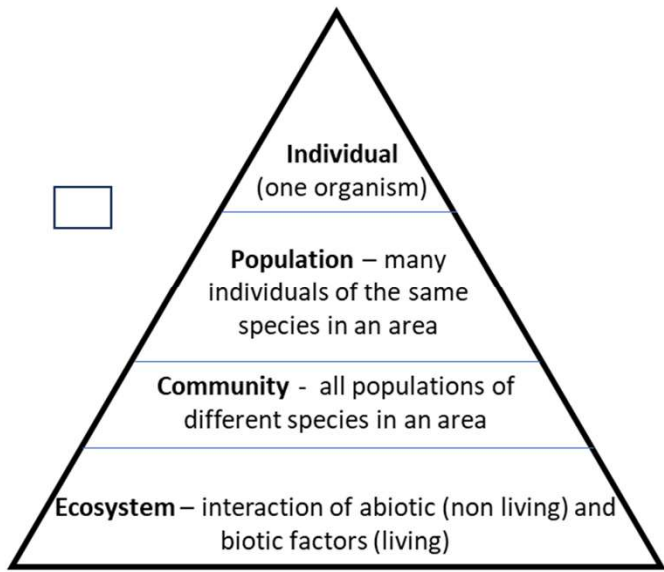
- The width of the head, from ear to ear, generally measures the same length of five "eyes". This means that if we want to draw the eyes with accurate proportions, then we need to draw them so that they match this approximate measurement.
- The distance between the eyes is equal to the width of one eye.
- The corners of the mouth line up with the centres of the eyes.
- The top of ears line up slightly above the eyes, in line with the outer tips of the eyebrows.
- The bottom of the ears line up with the bottom of the nose.
- The width of the lips should be from the centre of the pupils downwards.
- (These measurements are purely a guide, each person is different and can have larger or smaller features.)

Biodiversity		
Keyword	Learn	✓
Biodiversity	The variety of all the different species of organisms in an ecosystem.	
Factors that reduce biodiversity	Destruction of peat bogs, destroying habitats, releasing carbon dioxide into atmosphere (global warming), pollution, deforestation	
Methods of maintaining and conserving biodiversity	Breeding programmes, protection and regeneration of habitats, keeping hedgerows in farmers' fields, reduction of deforestation and carbon dioxide emissions, recycling rather than using landfill	

Biotic and Abiotic Factors		
Keyword	Learn	✓
Biotic Factors	Availability of food, new predators, new pathogens, other species outcompeting each other.	
Abiotic Factors	Light intensity, temperature, moisture levels, oxygen levels, wind intensity, carbon dioxide levels, soil pH.	

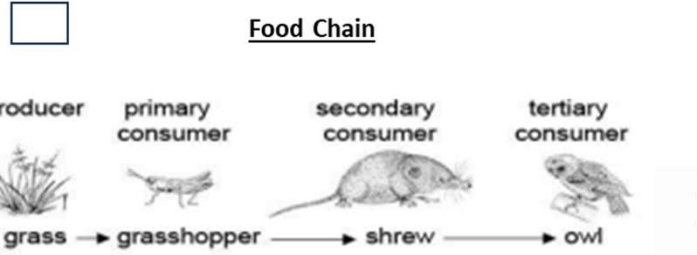
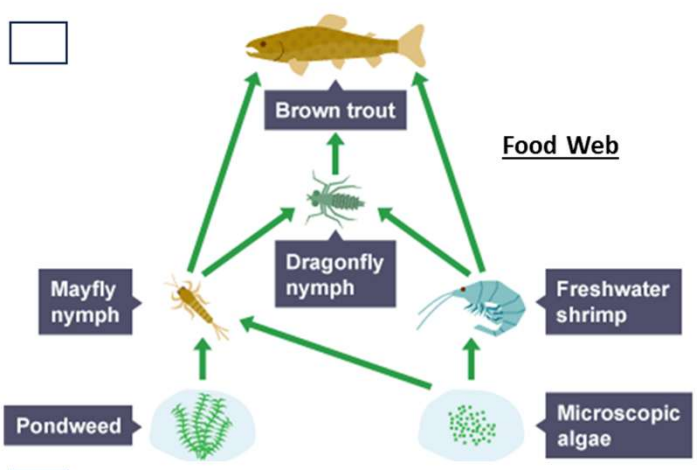
Keyword	Learn	✓
Habitat	The area in which an organism lives	
Competition	Plants compete for light, space, water and mineral ions. Animals compete for food, mates and territory.	
Interdependence	Within a community each species depends on other species for food, shelter, pollination etc	
Adaptations	A feature an organism has that allows it to survive in its ecosystem.	

Levels of Organisation in an Ecosystem



Sampling Techniques			
	Transect line	Random Sampling	✓
Use	To determine the distribution of species across an area	Used to count total number of organisms in an area	
Method	<ol style="list-style-type: none"> Place a transect line using a 30m tape measure Place the quadrat at 0m and count organisms. Record distance and organism number in table Move quadrat to 5m and repeat, moving 5m each time Plot a graph to see pattern of results and distribution of species 	<ol style="list-style-type: none"> Randomly place quadrat (to avoid bias) and count number of organisms. Repeat 10 times and calculate a mean. Work out area of field and area of quadrat. Calculate total organisms by multiplying mean by number of quadrats that could fit in field 	

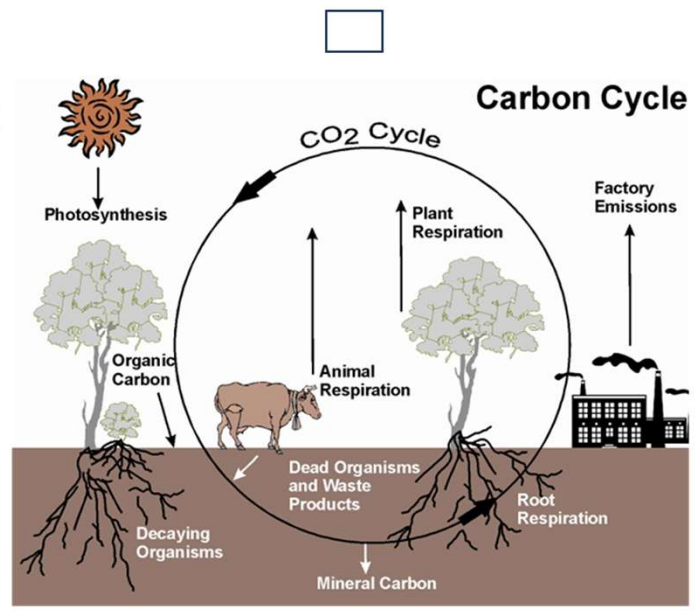
Pollution		
Keyword	Learn	✓
Water Pollution	Sewage, fertiliser toxic chemicals	
Air Pollution	Smoke and acidic gases	
Land Pollution	Landfill and toxic chemicals	



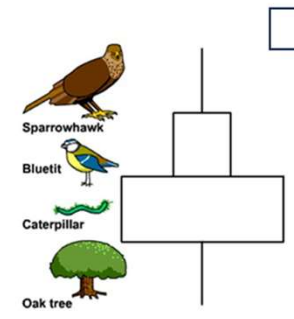
Decomposers are **bacteria and fungi**, which break down dead organisms in a process called **decomposition** or rotting. They do this by releasing **enzymes** onto the dead matter and afterwards, consume the broken down substances. Decomposers carry out **respiration** which releases heat, carbon dioxide and water. Therefore decomposers require **oxygen**. They form a vital role in the **recycling of matter**. When organisms die and decompose plants absorb the broken down nutrients through their roots.

Carbon Cycle		
Keyword	Learn	✓
Storing Carbon	Carbon is stored by Photosynthesis in plants and algae. Peat bogs and the oceans are excellent carbon stores.	
Releasing Carbon	Respiration (plants and animals), combustion (of fossil fuels), Decay and decomposition, destruction of peat bogs	

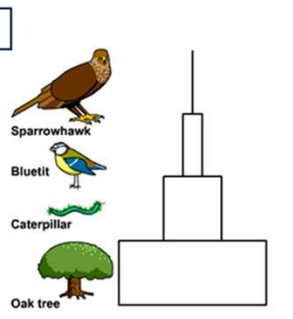
Carbon Cycle



Pyramid of number



Pyramid of biomass




Food Chains

Keyword	Learn	✓
Producer	Photosynthetic organisms that use the energy from the sun to make their own food (glucose) and produce biomass. Form the base of a food chain.	
Consumer	An organism that eats another organism for food.	
Herbivore	An organism that eats producers. Normally a primary consumer.	
Trophic level	The position of an organism in a food chain, food web or pyramid.	
Food Chain	A sequence of feeding relationships between organisms	
Food Web	A network of food chains. Shows how food chains link together.	
Predator	An animal that hunts, kills and eats other animals for food.	
Prey	Organisms that predators kill for food	

Methods of Promotion					
Method	Explanation	Examples	Advantages	Disadvantages	<input checked="" type="checkbox"/>
Advertising	There are a number of advertising methods a business can use.	<ul style="list-style-type: none"> Television Newspapers Magazines Billboards Internet (online) Radio 	<ul style="list-style-type: none"> Build customer awareness Promote the benefits of your products or services. Communicate information 	<ul style="list-style-type: none"> Encourage people to buy products and services they don't really need. They may be misleading. Very costly (especially TV and radio advertising) 	
Public Relations (PR)	A business can use public relations to increase awareness of the business and its products. This is usually free media coverage such as for the opening of a new store or launch of a new product.	<ul style="list-style-type: none"> Common PR activities include having celebrities opening a new store and supporting a charity or community venture 	<ul style="list-style-type: none"> Cheap method of promotion Can create a positive image for the organisation 	<ul style="list-style-type: none"> No control over how message is conveyed 	
Sales Promotion	These strategies are used by a business to increase sales in the short term	<ul style="list-style-type: none"> discounts buy one get one free competitions and coupons point of sales displays free gifts 	<ul style="list-style-type: none"> Effective at achieving a quick boost to sales Encourages customers to trial a product or switch brands 	<ul style="list-style-type: none"> Sales effect may only be short-term Customers may come to expect or anticipate further promotions 	
Sponsorship	Businesses can increase the profile of the business by sponsoring sport events, sports teams or television programmes.	<ul style="list-style-type: none"> Football shirts such as Emirates sponsoring Arsenal FC Barclays sponsor Premier League Football 	<ul style="list-style-type: none"> Increase brand awareness Target new market segments 	<ul style="list-style-type: none"> Hard to measure effectiveness of method Can be costly 	
Social media	This allows communication with customers about new products or special offers and can be used to take customers to their website.	<ul style="list-style-type: none"> Using social media platforms such as Facebook, Twitter, Instagram or TikTok with a company account to interact with customers 	<ul style="list-style-type: none"> Easier to communicate directly with customers Very cheap / cost effective Can improve quality of customer service / customer engagement 	<ul style="list-style-type: none"> Inaccurate or inappropriate responses can be shared quickly and easily. This will create bad publicity for the business. 	
Personal selling	A salesperson uses his or her skills and abilities in an attempt to make a sale	<ul style="list-style-type: none"> Perfume and cosmetic counters in department stores. 	<ul style="list-style-type: none"> Customer Confidence in product from experienced knowledge Can gain feedback to pass on 	<ul style="list-style-type: none"> Training Cost. Expensive cost per sale 	

Factors affecting promotional mix	<input checked="" type="checkbox"/>	Key term	<input checked="" type="checkbox"/>	Reasons for promotion	<input checked="" type="checkbox"/>
Finance available Nature of product or service Nature of market Competitor Actions Target market		Promotional mix is a combination of methods including advertising, sales, public relations and direct marketing to achieve a specific marketing goal.		<ul style="list-style-type: none"> Inform/remind customers about product Create/increase sales Create/change image of product Persuade customers to buy 	

Marketing Mix		☑
<p>The marketing mix is made up of the four Ps –product, price, place and promotion. It is a marketing tool used to attract customers to a business, and all four elements should be carefully considered in order for a business to be effective in reaching their target market.</p> 		
Product	The product (or service) that the customer obtains	
Price	How much the customer pays for the product	
Promotion	How the customer is found and persuaded to buy the product	
Place	How the product is distributed to the customer	

Impact of technology on marketing mix		☑
Technological advances create many opportunities for businesses. This means that a business' promotional mix may need to change to enable it to interact with its customers through increasingly popular technologies (such as online messaging and digital advertising).		
The use of social media has changed how much many businesses spend on traditional promotional activities (eg TV advertising) and on advertising in other media types (eg newspapers). Sponsorship and influencers on social media are commonly used as a means of promoting products and services.		
<p>Examples of ways businesses may adapt to advances and trends in technology include:</p> <ul style="list-style-type: none"> ○ increasing use of e-commerce and m-commerce in businesses ○ use of digital media to promote products and maintain consumer interest ○ changes to a product's design to incorporate new technologies ○ reduction of prices because of more efficient production methods ○ introduction of more competitive pricing because of easy access to price comparisons across retailers 		

An effective marketing mix		☑
Each ingredient affects the other and the mix must overall be suitable to the target customer.		
<p>Each business has a different marketing mix. The choice of marketing mix will depend on:</p> <ul style="list-style-type: none"> ○ the product ○ competitors' products ○ the target customers ○ business approach 		
<p>An effective marketing mix is one which:</p> <ul style="list-style-type: none"> ○ Meets customer needs ○ Achieves marketing objectives ○ Is balanced and consistent ○ Creates a competitive advantage for the business 		

An integrated marketing mix - example		☑
		

Topic 6b – the rate and extent of chemical change

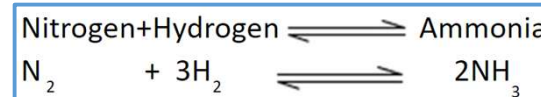
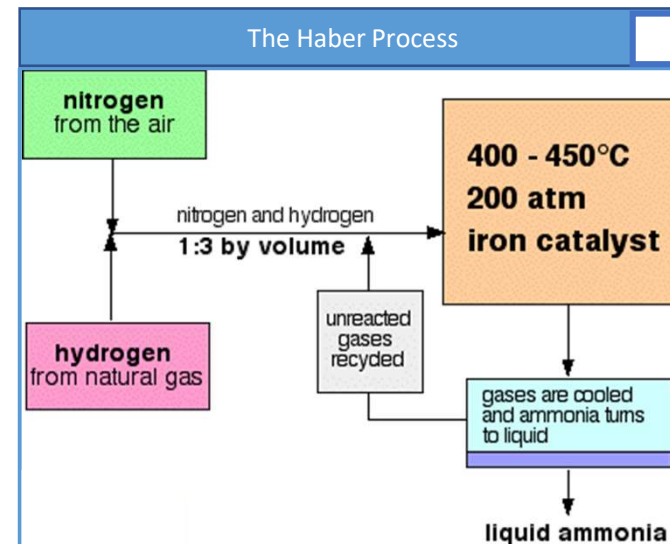
Key term	Definition	✓
Reversible reaction	In some chemical reactions, the products can react together to produce the original reactants. Shown by the symbol: \rightleftharpoons	
Closed system	A system where no substances can enter or leave.	
Dynamic equilibrium	A system where both the forward and reverse reactions are taking place at the same time and the same rate.	
Le Chatelier's principle	If a change is made to the conditions of a system at equilibrium, the position of equilibrium will move to oppose the change.	
Equilibrium position lies to the left	There are more reactants than products at equilibrium.	
Equilibrium position lies to the right	There are fewer reactants than products at equilibrium.	

If a reversible reaction is exothermic in one direction, it is endothermic in the opposite direction.

The same amount of energy is transferred in each case.

Changing the conditions of a reaction at equilibrium

Condition	Effect
Increase concentration of reactants	Position of equilibrium moves to the right: the concentration of reactants is reduced. Product yield increases.
Decrease the concentration of reactants	Position of equilibrium moves to the left: the concentration of products is reduced. Product yield decreases.
Increase pressure	Position of equilibrium moves to the side with fewer gas particles: pressure is reduced.
Decrease pressure	Position of equilibrium moves to the side with more gas moles: pressure is increased.
Increase temperature	The position of equilibrium moves to favour the endothermic reaction: heat energy is absorbed and decreases the temperature.
Decrease temperature	The position of equilibrium moves to favour the exothermic reaction: heat energy is released and increases the temperature.



Ammonia is made in the Haber process and is used to make nitrogen based fertilisers.

450°C is a compromise temperature: the forwards reaction is exothermic so a lower temperature favours the forwards reaction, but low temperatures make the rate of reaction too slow.

200 atm is a compromise pressure: there are fewer moles of products so a high pressure favours the forwards reaction, but high pressure requires expensive equipment and has a risk of explosion.

A catalyst does not change the position of equilibrium so the yield does not change: the rate of both reactions is increased by the same amount.

Topic 7a – Organic Chemistry

Alkane: General formula: C_nH_{2n+2}

Alkene: General formula: C_nH_{2n}

Key term	Definition	✓
Crude oil	A fossil fuel formed from ancient biomass. It is a mixture of different sized hydrocarbons.	
Biomass	Plankton, including algae which is buried under mud under the oceans and is converted into crude oil by heat and pressure over millions of years.	
Finite resource	A resource which is being used up faster than it is replaced.	
Hydrocarbon	A chemical compound containing ONLY hydrogen and carbon atoms	
Alkane	A SATURATED hydrocarbon containing only single covalent bonds between carbon atoms (C-C).	
Homologous series	Contains compounds with the same general formula, functional group and similar chemical properties.	
Fractional distillation	A method to separate a mixture of miscible liquids with different boiling points.	
Fraction	A mixture of molecules with a similar boiling point.	
Complete combustion	Fuels are burned in excess oxygen to form carbon dioxide and water	
Incomplete combustion	Fuels are burned in insufficient oxygen, so carbon monoxide and water are formed. CO is toxic.	
Cracking	Thermal decomposition of long hydrocarbons into a shorter alkane and alkenes.	
Alkene	An UNSATURATED hydrocarbon with a double carbon-carbon bond (C=C).	
Monomer	A small molecule which can join together to make a polymer.	
Polymer	A long chain molecule made by many monomer molecules joining together (polymerisation).	
Addition polymerisation	A reaction where alkene monomers form a polymer and no other products are formed. Alkene monomers → (Poly) alkene.	

Number of carbon atoms	Alkane name and formula	Alkene name and formula
1	Methane CH_4	
2	Ethane C_2H_6	Ethene C_2H_4
3	Propane C_3H_8	Propene C_3H_6
4	Butane C_4H_{10}	Butene C_4H_8

Fractional distillation of crude oil

- Crude oil is heated at the base of a fractionating column.
- Most of the molecules vaporise and rise up the column.
- They cool as they rise due to a temperature gradient.
- Fractions condense when the temperature falls below the boiling point of the molecules.
- They are collected at different heights.

Catalytic Cracking

- Long chain alkanes are heated to vaporise them.
- They are passed over a hot catalyst of aluminium oxide.

Steam cracking

- Long chain alkanes are heated to vaporise them.
- They are mixed with steam and heated to high temperatures.

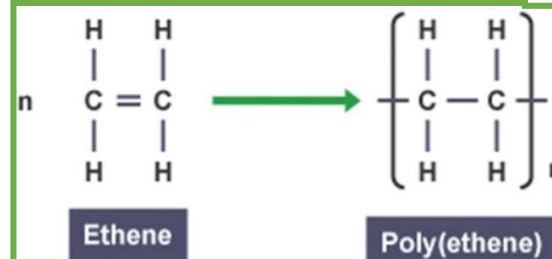
Property	Short chains	Long chains
Boiling point	Low	High
Volatility	Evaporate easily	Hard to evaporate
Flammability	Ignite easily	Hard to ignite
Viscosity	Low – flow easily	High – resistant to flow

Test for unsaturation. Mix with bromine water.

Alkene: If a C=C double bond is present, it will decolourise bromine water.

Alkane: If there is no double bond, the bromine water remains orange.

Addition Polymerisation



1.4 Network Security

Keyword	Definition	✓
Malware	Any kind of malicious program that is installed on a computer system.	
Virus	Replicate itself by modifying other programs or files on a computer. Requires a host program and human intervention to spread.	
Worm	Can self-replicate and spread across computers and networks without human intervention.	
Trojan	Disguises itself as legitimate software to deceive users into installing it. Allows attackers to perform malicious actions on the infected device.	
Ransomware	Encrypts files on an infected computer and promises to only decrypt them once payment has been made.	
Spyware	Captures data from the device and sends it back to the attacker.	
Social engineering	Tricking or manipulating people into giving away critical information or access details.	
Phishing	Uses fake emails and websites to trick people into giving away their sensitive data and information.	
Pretexting	A criminal invents a scenario to persuade the victim to divulge information.	
Shoulder surfing	Watching people enter PINs or passwords.	
Brute force attacks	Use software to automatically try every possible combination of letters, numbers and characters until the correct password is found.	
(D)DoS attack	When multiple devices send huge amounts of traffic to a network or server to overload it and prevent normal users from accessing it.	
SQL injection	Attacking a database by inserting malicious SQL commands into user input fields.	

Keyword	Definition	✓
Penetration testing	Attempting a controlled attack on a network to identify vulnerabilities.	
Anti-malware software / Anti-virus software	Designed to detect and remove malware.	
Firewall	Designed to prevent unauthorised access to a network by inspecting and filtering incoming and outgoing data packets.	
Authentication	The process of verifying the identity of a user before granting access. E.g. username & password.	
Two-factor authentication	2FA requires two different authentication factors to establish identity.	
Biometrics	Using physical characteristics for authentication and security.	
Encryption	Scrambling plain text data in such a way that it cannot be read by unauthorised people without a key.	
Physical security	Protecting computer systems and data from physical actions or damage, like theft, vandalism, or natural disasters.	
Network policy	A document that sets out the rules and procedures to help protect the network.	

Practise Python programming at home:

- Code online using: <https://vscodeedu.com>
- Online tutorial 1: <https://www.w3schools.com/python>
- Online tutorial 2: <https://time2code.today/python-course>

GCSE Design Technology:
TIMBER 7.7 *part 2* Equipment and processes

Tick	Name of bit	Use	Advantages
	Twist drill bit	Drills small holes into materials. The flute removes the swarf from the hole.	Readily available in a wide range of sizes.
	Flat bit	Drills larger, through holes into timber.	Centre spur makes it accurate.
	Forstner bit	Drills flat-bottomed/blind holes into wood.	Centre spur makes it accurate
	Auger bit	Drills deep holes in wood.	A wider flute removes the swarf easier.
	Hole saw	Cuts large holes in wood.	Can drill very wide holes.

What is turning?

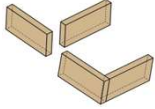
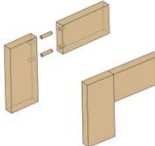
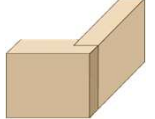
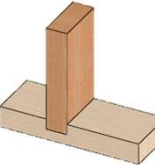
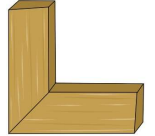
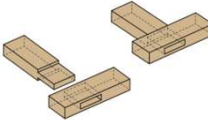
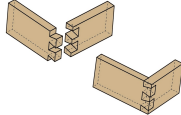
This is the process which uses a wooden lathe to spin a piece of timber. There is a guide which the gouges and chisels rest on.



GCSE Design Technology **revision:**
CORE 1.04 Technical textiles

Type	Function	Advantages
Agrotextiles	Improves/increases agricultural production.	<ul style="list-style-type: none"> • Durable • Reduces the need for pesticides
Construction textiles	Improves construction appearance and longevity.	<ul style="list-style-type: none"> • Strong • Resistant to degradation by chemicals and sunlight
Geotextiles	Used in civil engineering to help retain the structure in the ground.	<ul style="list-style-type: none"> • Deal well with water • Do not rot
Domestic textiles	Used domestically within (households).	<ul style="list-style-type: none"> • Hardwearing • Easy to clean
Environmentally friendly textiles	Use organically grown fibres such as wool, cotton or bamboo.	<ul style="list-style-type: none"> • Processed with fewer chemicals • Naturally they are more resistant to mould
Protective textiles	Provide protection against heat, gases, harmful chemicals and bullets.	<ul style="list-style-type: none"> • Improves protection while providing usability • Reduces weight
Sports textiles	Combine function with comfort for high performance.	<ul style="list-style-type: none"> • Can improve performance • Improved comfort

GCSE Design Technology:
TIMBER 7.7 *part 3* Equipment and processes

Tick	Joint	Example	How to manufacture
	Butt		<ul style="list-style-type: none"> Two pieces of timber glued together
	Dowel		<ul style="list-style-type: none"> Holes are drilled into both pieces of wood Small lengths of dowels are put into the holes
	End lap		<ul style="list-style-type: none"> Marked out using a try square + marking gauge Chisel away waste material
	Housing		<ul style="list-style-type: none"> Marked out using a try square + marking gauge Chisel away waste material Routers can be used to cut them
	Mitre		<ul style="list-style-type: none"> Marked out using a mitre square Cut using a mitre block
	Mortise and tenon		<ul style="list-style-type: none"> Marked out using a mortise gauge and try square A tenon saw is used to cut the tenon Mortise is cut using a mortiser
	Dovetail		<ul style="list-style-type: none"> Marked out using a siding bevel and try square Cut using a tenon saw

GCSE Design Technology **revision**:
CORE 1.04 Composite materials

Type	Uses	Advantages
Concrete	<ul style="list-style-type: none"> Construction Fence posts 	<ul style="list-style-type: none"> Excellent compressive strength Heat and sound insulator
Plywood	<ul style="list-style-type: none"> Flooring Furniture 	<ul style="list-style-type: none"> High impact resistance Available in large sheets
Carbon fibre (CFRP)	<ul style="list-style-type: none"> Sports equipment F1 cars 	<ul style="list-style-type: none"> Stronger than GRP Excellent strength to weight ratio
Glass Reinforced Plastic (GRP)	<ul style="list-style-type: none"> Boat hulls Play park slides 	<ul style="list-style-type: none"> Good chemical resistance Lightweight
Reinforced polymers	<ul style="list-style-type: none"> Engineering components 	<ul style="list-style-type: none"> Hard Good insulator of heat and electricity
Robotic materials	<ul style="list-style-type: none"> Prosthetic limbs Plane wings 	<ul style="list-style-type: none"> Can react to surroundings Can change colour/shape to match surroundings

Year 10- Summer 2 Macbeth Revision

Plot Summary Acts 1-3	
A c t 1	<ul style="list-style-type: none"> Witches plot to meet with Macbeth Macbeth and Banquo demonstrate their bravery defeating King Duncan's enemies in battle. The witches offer tempting prophecies and Macbeth's ambition is awakened. He is eager to hear more. Banquo is more sceptical and wary. Macbeth instantly shares the news with his wife and "partner in greatness". Lady Macbeth is eager to push Macbeth to kill the king. She renounces her womanly qualities seeking to be strong and ruthless. Macbeth's loyalty causes him to have second thoughts, Lady Macbeth accuses him of failing to be a man and convinces him to act.
A c t 2	<ul style="list-style-type: none"> On his way to kill Duncan, Macbeth sees a floating dagger pointing on towards the king's chambers. Having killed the king, Macbeth is horrified at his actions. In his distress, he forgets to plant the daggers on the sleeping guards. Lady Macbeth tells him to pull himself together and goes to plant the daggers herself. Macduff discovers the murder, Macbeth and Lady Macbeth pretend to be horrified and Macbeth kills the guards, claiming he did so out of rage. Macduff seems to doubt this explanation. The King's sons Malcolm and Donalbain decide they must flee Scotland, until they know who to trust.
A c t 3	<ul style="list-style-type: none"> With Malcolm and Donalbain gone, Macbeth is crowned king, but Banquo suspects he has "played most foully" to achieve the throne. Macbeth is tormented by guilt and paranoia and knows Banquo has cause to suspect him. He makes arrangements for murderers to kill Banquo and Fleance. While at a banquet to celebrate his coronation, Macbeth receives the news that the murderers succeeded in killing Banquo but that Fleance escaped. Macbeth imagines he sees Banquo's ghost at the table. His horrified reaction reveals his guilt and the guests are sent home early. Macbeth decides to revisit the witches to seek their aid. Some of Macbeth's thanes start to desert him to give their support to Malcolm (Duncan's eldest son).

Plot Summary Acts 4-5	
A c t 4	<ul style="list-style-type: none"> The witches show Macbeth a series of visions that seem to suggest he cannot be defeated. Although they warn against Macduff, they say no man born of woman can kill him and he will not fall until Birnam Wood comes to his castle walls. He resolves to kill Macduff to make sure of his rule. Macduff has gone to England to join with Malcolm. Macbeth has his wife and children murdered. Malcolm tests Macduff's loyalty by seeing if he will follow him, even if he doesn't act in a kingly way. Macduff passes the test and they join forces. Macduff learns of his family's murder. He swears to "feel it as a man" and to seek revenge.
A c t 5	<ul style="list-style-type: none"> Lady Macbeth sleepwalks and is tormented by guilt. Macbeth's supporters start to desert him but he is determined to fight on. Malcolm's approaching army cut branches from Birnam wood, which they carry to disguise their numbers. Macbeth receives the news that Lady Macbeth has died. He sees all he has achieved as pointless but still intends to fight on. Macbeth fights to the last. When he encounters Macduff on the battlefield and learns that he was not born of a woman but was "from his mother's womb untimely ripped" he realises how the witches have misled him. He briefly loses the will to fight, but in a final act of bravery, decides to die fighting, rather than be captured. Macduff kills Macbeth and cuts off his head. Malcolm celebrates his victory and the death of Macbeth and Lady Macbeth. Duncan's line is restored.

Context
<p>Witchcraft: during the Jacobean period many individuals were prosecuted as witches. King James was fascinated with witches. He believed they had once summoned a storm to attempt to drown him. He wrote a book on witchcraft called The Daemonologie.</p>
<p>The Great Chain of being: the hierarchy Jacobean thought governed the world. God ruled over the arch angels, angels and his creations. On earth, the king was appointed to rule over the nobles, lesser ranks and animals. To break from this social order was to go against God.</p>
<p>The Divine Right of Kings: the belief that the king ruled as God’s representative on earth.</p>
<p>The Gunpowder plot: an attempt to kill king James in 1605 by disgruntled Catholics.</p>
<p>Historical basis: although there are significant changes, Shakespeare based his characters, including Macbeth, on real historical figures. A key example is Banquo, who is based on an ancestor of king James I.</p>
<p>Tragedy: The play Macbeth is modelled on the principles of a Greek Tragedy. Macbeth is a tragic hero, meaning he is a heroic figure whose downfall is brought about by a hamartia (a fatal flaw in his character). The audience should feel a degree of pity (pathos) for his downfall.</p>

Themes	One key quote per theme
<p>Ambition: The dangers of excessive ambition, suggesting it leads people into evil and to turn against their duty/God.</p>	<p>“I have no spur to prick the sides of my intent, but only vaulting ambition”</p>
<p>Loyalty: Loyalty is a key characteristic and to fail in your loyalty to King/God a terrible crime.</p>	<p>“Most sacrilegious murder hath broke ope The Lord’s anointed temple”</p>
<p>Violence: Violence is praised in Jacobean society. Shakespeare suggests that violent actions lead to violent consequences.</p>	<p>“it will have blood; they say blood will have blood”.</p>
<p>Masculinity: Jacobean notions of masculinity are too focused on strength/pride. This makes Macbeth easy to manipulate when Lady M questions his masculinity.</p>	<p>“What beast was’t, then, That made you break this enterprise to me? When you durst do it, then you were a man”</p>
<p>Femininity: Lady Macbeth challenges Jacobean notions of how women should behave, but ends up bring about her own downfall. Is Shakespeare suggesting women can be strong and ruthless, or warning that these qualities are unnatural for women?</p>	<p>“Come, you spirits/ That tend on mortal thoughts, unsex me here”</p>
<p>Kingship vs Tyranny: Shakespeare explores the idea that a true king must be linked to God. Someone who seeks the throne for power or selfish reasons will be viewed as a cruel tyrant not a true king.</p>	<p>“This tyrant, whose sole name blisters our tongues”</p>
<p>The Supernatural: Shakespeare presents the supernatural as an evil, dangerous and corrupting, force.</p>	<p>The instruments of darkness tell us truths, win us with honest trifles, to betray us In deepest consequence</p>
<p>Fate: Shakespeare questions the idea of fate. Should be view Macbeth as responsible for his own downfall or is he the tragic victim of cruel fate?</p>	<p>“Life’s but a walking shadow, a poor player That struts and frets his hour upon the stage And then is heard no more”</p>
<p>Divine retribution: Shakespeare suggests that those who go against God will suffer terrible consequences: guilt, paranoia, madness, death.</p>	<p>“o full of scorpions is my mind”</p>

Protein

- aerate foods, e.g. whisking egg whites;
- thicken sauces, e.g. egg custard;
- bind ingredients together, e.g. fishcakes;
- form structures, e.g. gluten formation in bread;
- gel, e.g. lime jelly.

Denaturation	The chemical bonds in the protein breaks and the protein molecule unfolds and changes shape.
Coagulation	A change in the structure of protein, when proteins set, brought about by heats or acid. This change is irreversible

Gluten formation

Two proteins, gliadin and glutenin, found in wheat flour, form gluten when mixed with water. Gluten is strong, elastic and forms a 3D network in dough. In the production of bread, kneading helps untangle the gluten strands and align them. Gluten helps give structure to the bread and keeps in the gases that expand during cooking.

Colloidal systems

Colloidal systems give structure, texture and mouthfeel to many different products.

System	Disperse phase	Continuous phase	Food
Sol	Solid	Liquid	Unset jelly
Gel	Liquid	Solid	Jelly
Emulsion	Liquid	Liquid	Mayonnaise
Solid emulsion	Liquid	Solid	Butter
Foam	Gas	Liquid	Whipped cream
Solid foam	Gas	Solid	Meringue

Fruit and Vegetables

Oxidation	When substances combine with oxygen.
Enzymic browning	The discolouration of a fruit or vegetable due to the reaction of enzymes with plant cell substances and oxygen.

Carbohydrates

- help to cause the colour change of bread, toast and bakery products (dextrinisation);
- contribute to the chewiness, colour and sweet flavour of caramel;
- thicken products such as sauces and custards (gelatinisation).

Gelatinisation	The swelling of starch granules when they are cooked with a liquid to the point where they burst and release starch molecules.
Dextrinisation	The breaking up of starch molecules into smaller groups of glucose molecules when they are exposed to dry heat.
Caramelisation	The breaking up of sucrose molecules when they are exposed to dry heat.

Fats

- add 'shortness' or 'flakiness' to foods, e.g. shortbread, pastry;
- provide a range of textures and cooking mediums;
- glaze foods, e.g. butter on carrots;
- aerate mixtures, e.g. a creamed cake mix;
- add a range of flavours.

Plasticity	The ability of a fat to soften over a range of temperatures and be shaped and spread with light pressure.
Shortening	The ability of fats to shorten the length of gluten molecules in pastry.
Aeration	The ability of fats to trap lots of air bubbles when beaten together with sugar.
Emulsification	The process of using an emulsifier (such as egg yolk) to stabilise an insoluble mixture.

Transfer of heat

Conduction	Where heat is transferred from one molecule to another. Frying, roasting, baking
Convection	Where warm molecules rise and the cooler molecules fall closer to the source of the heat. Boiling, poaching, simmering, braising
Radiation	Where heat is passed by electromagnetic waves from one place to another. Barbecuing, grilling, microwaving, chargrill

La planète est en danger	
menacé	threatened
menacer	to threaten
le climat	the climate
la circulation	traffic
le taux de carbone	the carbon rate
les espèces animales	animal species
la destruction des forêts	the destruction of the forests
le recyclage	recycling
recycler	to recycle
la planète	the planet
les humains	humans
les inondations	floods
le niveau de la mer augmente	sea levels are rising
la guerre	war
la faim	famine
c'est inquiétant	it's worrying
le réchauffement climatique	global warming
le changement climatique	climate change
la pollution	pollution
augmenter	to increase
aider	to help

Quel temps fera-t-il? (future tense weather)	
il fera beau/chaud/froid/mauvais	it will be nice/hot/cold/bad weather
il y aura du soleil/ du vent/du brouillard	there will be sun/wind/fog
il pleuvra	it will rain
il neigera	it will snow

Les éco-activistes	
les voitures électriques	electric cars
partout dans le monde	everywhere in the world
traverser des frontières	to cross borders
un autre pays	another country
dès aujourd'hui	from today onwards
des petits gestes	little gestures
commencer à + infinitive	to start to do something
arrêter de + infinitive	to stop doing something

L'énergie	
améliorer	to improve
les transports électriques	electric transport
l'énergie solaire	solar power
l'énergie hydroélectrique	hydroelectric energy
purifier l'air	to purify the air
mieux utiliser	to better use
l'énergie éolienne	wind power
protéger	to protect
sauver	to save
polluer	to pollute

imperfect	present	perfect
j'utilisais	j'utilise	j'ai utilisé
je faisais	je fais	j'ai fait
je prenais	je prends	j'ai pris
j'allais	je vais	je suis allé(e)

Vocabulaire utile	
même	even
contre	against
connu	well-known
un métier	a career
lutter	to fight
les émissions de carbone	carbon emissions
ça coûte très cher	it costs a lot

Les adjectifs pour l'environnement	
rapide	fast
propre	clean
polluant	polluting
pratique	practical
facile	easy
bon pour l'environnement	good for the environment
mauvais pour l'environnement	bad for the environment

Imperfect verbs for talking about what you used to do	
J'étais	I was/I used to be
Je m'intéressais à	I used to be interested in
Je passais	I used to spend
J'achetais	I used to buy
Je pensais	I used to think
J'utilisais	I used to use
Je faisais	I used to do
Je prenais	I used to take
J'allais	I used to go

Les grands gestes	
pour + infinitive	in order to..
pour protéger l'environnement	in order to protect the environment
il faut + infinitive	you must
être bénévole	to be a volunteer
développer la coopération globale	to develop global cooperations
participer aux élections	to participate in elections
manifester pour les organisations vertes	to protest/ demonstrate for green organisations
il faut arrêter de + infinitive	we must stop doing..
il faut arrêter de créer des produits en plastique	we must stop creating products made of plastic
les énergies vertes	green energy
financer la recherche	to finance research

The nous form imperative = let's...	
travaillons	let's work
respectons	let's respect
protégeons	let's protect
sauvons	let's save
partageons	let's share
soyons	let's be
faisons	let's do
sauvons la planète!	let's save the planet

L'environnement	
toujours	always/still
le monde naturel	the natural world
a l'âge de..ans	at the age of ..
plus de..	more than
la lutte	the fight
déjà	already
chaque	each/every
pendant les heures de cours	during lesson time
personne	no-one

Opinion structures	
étant donné que	given that
puisque	as/since
vu que	seeing that
tandis que	whereas
toutefois	however
cependant	however
pourtant	yet
d'après-moi	in my opinion
selon moi	according to me
selon mes amis	according to my friends
je trouve ça..	I find that..

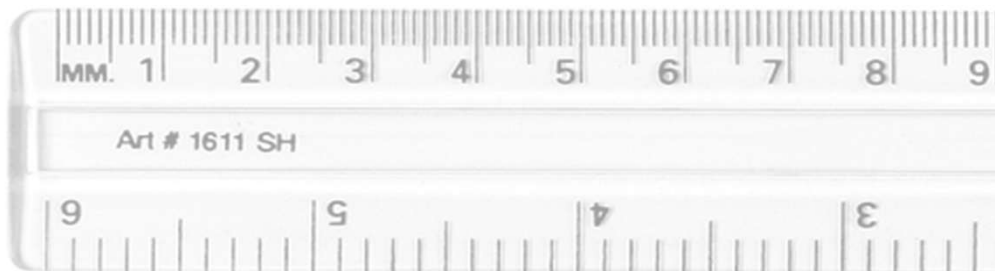
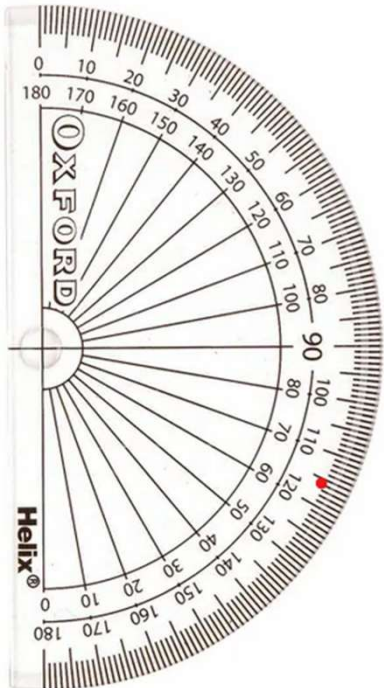
Modal verbs are followed by an infinitive	
il faut	you must/have to
il ne faut pas	you must not
on doit	you/we must
on peut	you/we can
on devrait	you/we should
on pourrait	you/we could
je devrais	I should/ought to
nous devrions	we should
nous pourrions	we could

Que fais-tu pour aider l'environnement?	
Je trie les déchets	I separate the rubbish
J'achète des produits verts	I buy green products
Je fais du covoiturage	I car share
Je vais au collège à vélo	I go to school by bike
Je prends une douche au lieu d'un bain	I have a shower instead of a bath
J'évite les sacs en plastique	I avoid plastic bags
Je recycle le verre/le papier/le plastique	I recycle glass/paper/plastic
J'utilise le papier recyclé	I use recycled paper
Je réutilise les sacs en plastique	I re-use plastic bags
Je suis végétarien	I am vegetarian
Je ne mange jamais de viande	I never eat meat
Je protège l'environnement	I protect the environment

Qu'est-ce qu'on devrait faire pour aider l'environnement? What should we do to help the environment?	
trier les déchets	to separate the rubbish
réduire la pollution	reduce pollution
réutiliser le plastique	to reuse plastic
acheter des produits verts	to buy green products
aller au collège à vélo	to go to school by bike
prendre une douche au lieu d'un bain	to have a shower instead of a bath
éviter les sacs en plastique	to avoid plastic bags
recycler	to recycle



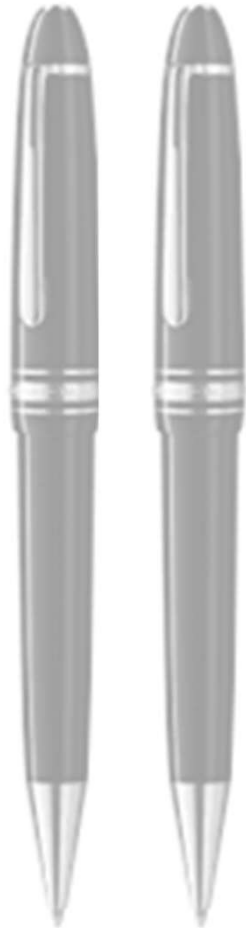
Equipment



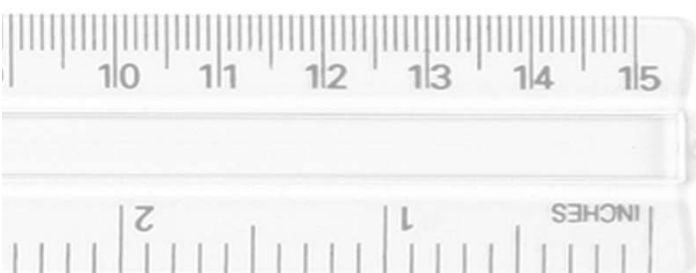
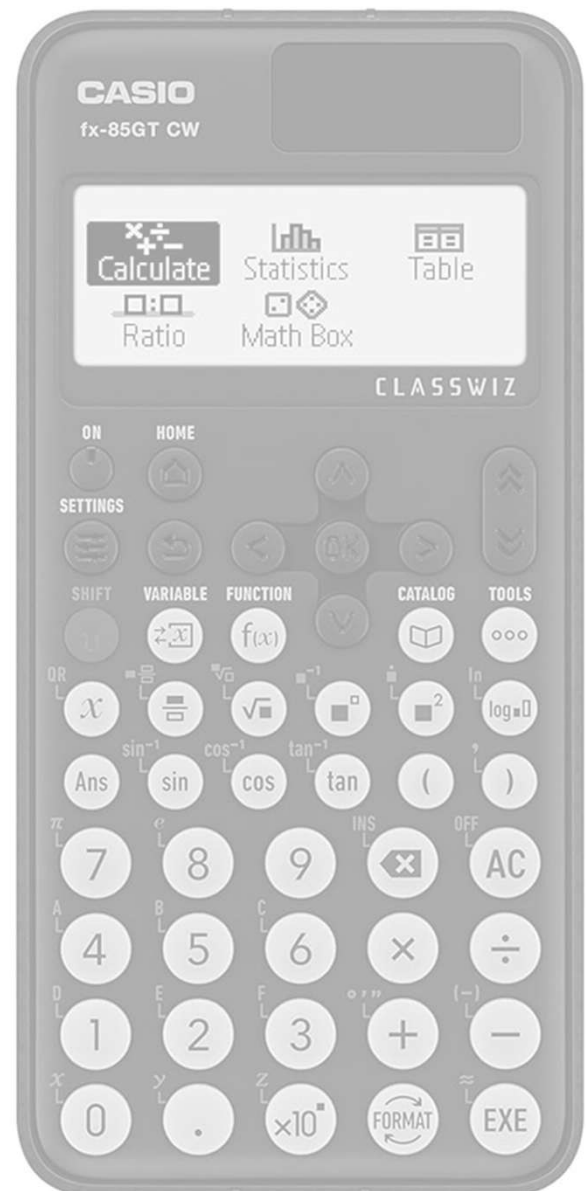
Check



- ID card
- Green and purple pens
- Whiteboard pens
- Black/blue pens
- Glue stick
- Pencil
- Ruler
- Calculator
- Whiteboard rubber



Whiteboard
Rubber



Stages of fieldwork enquiry <input type="checkbox"/>	Sampling types <input type="checkbox"/>	For both of your investigations you need to know:
<p>1 Identifying suitable fieldwork questions and enquiry processes.</p> <p>2 Understanding fieldwork techniques and measurement methods.</p> <p>3 Processing and presenting data using maps, GIS, and graphs.</p> <p>4 Analysing field data with case studies and theories.</p> <p>5 Drawing conclusions from fieldwork data.</p> <p>6 Critically reflecting on data, methods, and conclusions.</p>	<p>Random sampling</p> <ul style="list-style-type: none"> ☺ Results can be generalised for a population. It is more time efficient than asking the entire population. Reduced bias. ☹ Expensive. Time consuming. Not always possible if there is no sampling frame or list to sample from. <p>Stratified sampling</p> <ul style="list-style-type: none"> ☺ Sample is representative of the population so the results can be generalised. It is more time efficient than asking the entire population. Minorities given fair representation. ☹ Requires another sampling method to select individual items of data from a list (random / systematic etc.). <p>Systematic sampling</p> <ul style="list-style-type: none"> ☺ It is more time efficient than asking the entire population. Easy to implement (regular intervals). ☹ Every member of the population must be listed. The first member of the population must be chosen at random to avoid bias. 	<ul style="list-style-type: none"> • Hypothesis and aims • Reason location is suitable for enquiry • Primary data collected • Secondary data used • How you presented data • General conclusions made • Evaluations

Types of Data <input type="checkbox"/>		Analysing Data <input type="checkbox"/>		Improving data collection methods <input type="checkbox"/>	
Primary Data Data you collect yourself	Secondary Data Data collected by someone else	Mean	Add all data together and divide by the number of values.	Make it ACCURATE & RELIABLE (Enough data that we can trust what we find out)	Make it REPRESENTATIVE (Enquiry covers the whole area and not just a small part)
<ul style="list-style-type: none"> • Beach profile • Groyne Height • Field sketch • Wave count • Soundscape • Interviews • Environmental quality survey • Questionnaires • Pedestrian counts • Photographs 	<ul style="list-style-type: none"> • BGS Geology Map • Shoreline management plans • Census data • House price data • Crime statistics • OS map – locations of services / houses / roads / buildings 	Median	Put the data in numerical order and find the middle number.	<ul style="list-style-type: none"> • Collect more data and generate an average – reduce the risk of anomalies. • Ask a wider variety of questions on a questionnaire. • If something is opinion based, consulting with other people to reduce bias. • Collect data at different times of day / year / weather conditions. 	<ul style="list-style-type: none"> • Collect data at more sites to cover a larger area – reduces the risk of anomalies. • Ask a lots of different people for a questionnaire to cover all ages / genders / ethnicities etc. • Collect data at different times of day / year / weather conditions.
		Mode	Most common number.		
		Range	Highest number minus the smallest number.		
		Interquartile Range	Upper quartile value minus the lower quartile value. More accurate than the range as it removes the extreme values.		
Types of Data <input type="checkbox"/>		WHY?			
Quantitative Data Data that is statistical / numbers	Qualitative Data Data that is descriptive	<ul style="list-style-type: none"> + Averages can remove the risk of anomalies skewing the data. + Easily see a general trend / what is most common in the data. + Easily compare changes between areas. 			
<ul style="list-style-type: none"> • Beach profile • Groyne height • Wave count • Pedestrian count • Environmental quality survey 	<ul style="list-style-type: none"> • Photographs • Field sketch • Questionnaires • Interviews • Soundscape 				

Holidays

Half Term 6

Year 10 GERMAN

Ich möchte eine Reservierung machen – I would like to make a reservation		Probleme, Probleme – problems, problems		Fragewörter – Question Words	
Für wen ist die Reservierung?	Who is the reservation for?	Probleme im Urlaub	problems on holiday	Wann?	When?
Sie ist für...	It is for ...	Was ist das Problem?	What is the problem?	Was?	What?
meine Familie/ Kollegen/mich	my family/ colleagues/me	Ich habe ... verloren/ vergessen.	I have lost/forgotten ...	Wie?	How?
Was für ein Zimmer möchten Sie?	What kind of room would you like?	meinen Pass/ Schlüssel/Koffer	my passport/ keys/suitcase	Wie viel?	How much?
Ich möchte ein/zwei ... reservieren	I would like to reserve one/two ...	meine Fahrkarte/ Kreditkarte/Tasche	my ticket/credit card/bag	Wie viele?	How many?
Einzelzimmer/ Doppelzimmer	single room/ double room	mein Gepäck/Handy/ Tablet	my luggage/ mobile phone/tablet	Wie lange?	How long for?
mit Bad/mit WLAN	with bath/with wi-fi	meine Kopfhörer/ Ohrhörer	my headphones/ earbuds	Welch-?	Which?
Mit wem reisen Sie?	Who are you travelling with?	Ich möchte mich beschweren.	I would like to complain.	Um wie viel Uhr?	At what time?
mit meiner Familie/ mit meinen Eltern	with my family/ with my parents	Mein Fernseher/ Meine Tür ist kaputt.	My TV/door is broken.	Warum?	Why?
mit meinen Freunden/ mit meinen Kollegen	with my friends/ with my colleagues	Mein Bett ist unbequem.	My bed is uncomfortable.	Wo?	Where?
Und noch eine Frage: was kostet ...?	And another question: How much does ... cost?	Mein Zimmer ist schmutzig.	My room is dirty.	Wohin?	Where to?
Mit oder ohne Frühstück?	With or without breakfast?	Die Mitarbeiter sind unhöflich.	The employees are rude.	Woher?	Where from?
Inklusive Frühstück, bitte.	Including breakfast, please.	Picture description		Was für?	What kind of?
Wie lange möchten Sie bleiben?	How long would you like to stay?	Im Bild/Im Foto	On the photo	Wer?	Who?
Ich möchte ... lang bleiben.	I would like to stay ...	Ich/Man kann ... sehen	I can see/You can see	Möchten Sie?	Would you like?
eine Nacht/drei Nächte	one night/ three nights	Im Bild gibt es	In the picture there is	Gibt es?	Is/Are there?
eine Woche/zwei Wochen	one week/ two weeks	Auf der linken/rechten Seite	On the left/on the right	Kann man ...?	Can you...?
Wann kommen Sie an?	When are you arriving?	Im Hintergrund (V2)	In the background	Haben Sie ...?	Do you have?
Ich komme um ... an	I will arrive at ...	Im Vordergrund (V2)	In the foreground	Role Play essentials	
Wann fahren Sie ab?	When will you leave?	Das Foto wurde gemacht	The photo was taken	Guten Tag.	Hello
Ich fahre am ... ab.	I will leave on	Sie spielen, essen , tragen	They are playing, eating, wearing	Wie geht's?	How are you?
Wie möchten Sie bezahlen?	How would you like to pay?	USE PRESENT TENSE TO SAY WHAT PEOPLE ARE DOING – “AM-ING”, “NO IS-ING” OR “ARE-ING”		Auf Wiedersehen.	Goodbye.
Kann ich mit Kreditkarte/ online bezahlen?	Can I pay by credit card/ online?			Danke	Thank you.
				Bis später/bald!	See you later/soon
				Können Sie das/ die Frage bitte wiederholen?	Can you repeat that/ the question please?
				Ich möchte	I would like
				Ich will	I want

Holidays

Half Term 6

Year 10 GERMAN

Wie waren die Schulferien? – How were the school holidays?	
Wo hast du übernachtet?	<i>Where did you stay?</i>
Ich habe/Er hat/ Sie hat/Wir haben ... übernachtet.	<i>I/He/She/We spent the night ...</i>
auf einem Campingplatz	<i>at a campsite</i>
mit/bei der Familie	<i>with the family</i>
in einem Ferienhaus	<i>in a holiday home</i>
in einem Hotel	<i>in a hotel</i>
in einem Zelt	<i>in a tent</i>
in einer Ferienwohnung	<i>in a holiday apartment</i>
auf einer Insel	<i>on an island</i>
an der Küste	<i>on the coast</i>
am Meer	<i>at the seaside</i>
an einem See	<i>at/by a lake</i>
Ich bin zu Hause geblieben.	<i>I stayed at home.</i>
Das Wetter – the weather (past tense)	
Das Wetter war ...	<i>The weather was</i>
heiß/kalt	<i>hot/cold</i>
neblig/wolkig/windig/sonnig	<i>foggy/cloudy/windy/sunny</i>
Es gab Regen.	<i>There was rain.</i>
Es gab Schnee.	<i>There was snow.</i>
Es gab Wind.	<i>There was wind.</i>
Es gab viel Sonne.	<i>There was a lot of sun.</i>
Es hat geregnet.	<i>It rained.</i>
Es hat geschneit.	<i>It snowed.</i>

Wie waren die Schulferien? – How were the school holidays?	
Was hast du gemacht?	<i>What did you do?</i>
Ich habe/Er hat/ Sie hat/Wir haben einen Ausflug gemacht.	<i>I (have) ... went on an excursion.</i>
Volleyball gespielt.	<i>played volleyball.</i>
das Schloss besichtigt.	<i>visited the castle.</i>
die Museen besichtigt.	<i>visited the museums.</i>
leckeres Essen gegessen.	<i>ate some delicious food.</i>
Bücher gelesen.	<i>read some books.</i>
Ich möchte um die Welt reisen! – I would like to travel (around) the world!	
Was wirst du in den Ferien machen?	<i>What will you do in the holidays?</i>
Was wäre dein Traumurlaub?	<i>What would be your dream holiday?</i>
Ich werde/Wir werden ...	<i>I will/We will ...</i>
Ich würde/Wir würden ...	<i>I would/We would ..</i>
in den (Sommer)ferien	<i>in the (summer) holidays</i>
in der Zukunft/ nächstes Jahr	<i>in the future/ next year</i>
nach den Prüfungen	<i>after the exams</i>
zu Hause bleiben	<i>stay at home</i>
mit dem Boot/Flugzeug/ Zug	<i>by boat/airplane/ train</i>
nach ... fahren/reisen	<i>go/travel to ...</i>
Afrika/Asien	<i>Africa/Asia</i>
Amerika	<i>America</i>
Deutschland	<i>Germany</i>

Ich möchte um die Welt reisen! – I would like to travel (around) the world!	
Welche Aktivitäten wirst/würdest du dort machen?	<i>Which activities will/would you do there?</i>
Was wirst/würdest du dort machen?	<i>What will/would you do there/</i>
Ich werde/würde ...	<i>I will/would</i>
mit meinem Partner/ meiner Partnerin	<i>with my partner</i>
mit meinem Freund/ meiner Freundin	<i>with my friend</i>
mit meiner Familie	<i>with my family</i>
mit meinen Eltern	<i>with my parents</i>
mit meinen Freunden/ meinen Freundinnen	<i>with my friends</i>
(zehn) Tage in (Köln) sein.	<i>be in (Cologne) for (ten) days.</i>
(zehn) Tage in (Köln) verbringen.	<i>spend (ten) days in (Cologne).</i>
durch (Asien) fahren/ reisen/wandern.	<i>go/travel/hike through Asia.</i>
diese Schlösser besichtigen.	<i>view these castles.</i>
diese Museen besuchen.	<i>visit these museums.</i>
die Kultur entdecken/ erleben.	<i>discover/ experience the culture</i>
im Meer/See schwimmen.	<i>swim in the sea/lake.</i>
einkaufen gehen.	<i>go shopping.</i>
spazieren gehen.	<i>go for a walk.</i>
Ausflüge/Fotos/ einen Kurs machen.	<i>go on excursions/take photos/do a course.</i>
Tennis/Handball spielen.	<i>play tennis/handball.</i>
in der Sonne liegen.	<i>lie in the sun.</i>

Oceanarium Brief – Summer term

Keyword	Colour theory – apply in experiments	tick
Triadic	The triadic color scheme uses three colours equally spaced around the color wheel. It's great for providing balance, richness and contrast, although not as much contrast as the complimentary scheme.	
Split complementary	The split complementary scheme is a variation of the standard complementary scheme. Take one color on the wheel and two colours adjacent to its complementary. The advantage of this scheme over a complimentary scheme is that it can be a little more sophisticated while still keeping a strong visual contrast.	

KEY VOCABULARY to use in annotations

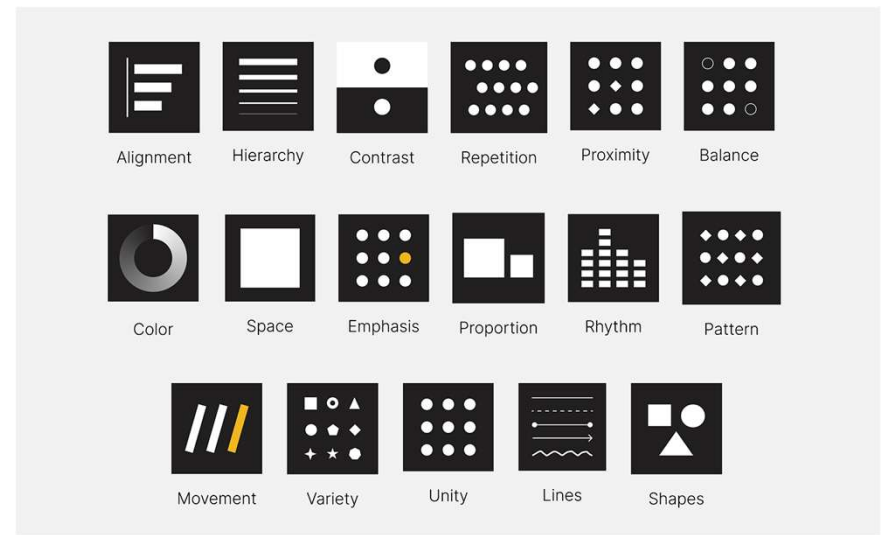
Shape – Geometric, natural, abstract.
 Colour – Complementary, tertiary, harmonious, gradient.
 Typography – Serif, sans serif, hierarchy, kerning, legibility.
 Layout – Alignment, balance, proportion, focal point.
 Contrast – Using colour/size/shape/type for emphasis.

Focus - Refinement is the improvement of the idea. It does not involve radical changes, but is about making small changes which improve the idea in some way.

This might be done by:

- Modification of the composition – eg replacing one object with another or changing a colour, tone font or shape slightly
- Variation of a technique - eg trying an oil pastel filter rather than a painting one to achieve an expressive style
- Adaptation of the idea - eg including some detail in the foreground of an illustration to add more depth and distance
- Alteration of an aspect - eg arranging objects in a triangular composition instead of a linear grouping, or changing the colour of the typography to achieve a more dramatic design
- Enhancing an element of the idea - eg improving the application of a particular technique, or harmonising the background colours with other aspects of the composition
- Fine-tuning a technique or an aspect of the composition/layout.
- Tweaking the positioning of a subject to make the composition more balanced, or to create more tension, as appropriate.

AO1: Develop ideas through investigations, demonstrating critical understanding of sources.
 AO2: Refine work by exploring ideas, selecting and experimenting with appropriate media, materials, techniques and processes.
 AO3: Record ideas, observations and insights relevant to intentions as work progresses.
 AO4: Present a personal and meaningful response that realises intentions and demonstrates understanding of visual language.



Design Principles





A comprehensive list of Visual Hierarchy rules for Better Design

- Focal Point**: Draws attention to main element
- Size**: Larger elements draw more attention
- Proximity**: Close items indicate a connection
- Colour**: Colour psychology affects moods
- Contrast**: High contrast highlights key points
- Rule of Thirds**: Aligns key elements for better emphasis
- Movement**: Directs visual flow through design
- Alignment**: Consistent alignment forms structured layout
- Whitespace**: Spacing improves focus and clarity
- Aa Typography**: Fonts and sizes distinguish info
- Lines**: Guides viewer's eye through design
- Golden Ratio**: Proportions to make nicer compositions
- Texture**: Adds depth and draws attention
- Balance**: Harmonises elements for visual stability
- Pattern**: Symbolic repeated design elements
- Repetition**: Repeated elements create unity
- Perspective**: Depth highlights focal points effectively
- Random**: Adds spontaneity to break pattern

1000 - 1500: Key terms/definitions			1000 – 1500: Law Enforcement and Trials	√
Crimes	Definition	√	Tithings: groups of 10 men responsible for each others' behaviour	
Against property	Theft of clothing, food and smaller amount of money: this accounted for 73% of crime in 1300's. Another crimes against property would be arson		Hue and Cry: loud shouting to raise the alarm; everyone expected to join the hunt for the suspect	
Against the person	Murder, assault, slander. Violent crime made up 18% of crime in 1300		Local Jury: A jury of peers would assess the guilt of the accused. Witnesses would swear oaths to support the defendant	
Against Authority	Hunting in the King's forest (Forest Laws), Treason (disobedience to the monarch), heresy: holding different religious beliefs to the monarch, Murdrum: murder of a Norman (from 1066)		Church courts: Tried moral crimes: bigamy, drunkenness etc	
			Trial by Ordeal: Hot water, iron, cold water, blessed bread	
			Royal Judges: Oversaw on quarter sessions from the 1200s.	
How did the Normans change Crime & Punishment 1066-1170s?		√	1000 – 1500: Punishments	√
1. The Sheriff: introduced to catch criminals			Wergild: A form of compensation paid to the victims of crime in the Saxon period	
2. Murdrum Fine: William introduced a new law which said that if a Norman was murdered, all the people in that region had to pay an expensive fine.			Murdrum Fine: A fine paid by a community for death of a Norman	
3. Trial by Combat: The accused fought with the accuser until one was killed or unable to fight on. The loser was then hanged as God had judged him to be guilty.			Forest Laws: A form of poaching, punishable by mutilation or death	
4. Ending the Wergild: William ended the Wergild system, all fines for crimes were paid to the King and no longer the victim's family.			Corporal Punishment: Mutilation for repeated crimes such as theft	
5. Women: Women had less rights than men in law			Capital Punishment: Hanging for serious crimes like treason	
6. Church Courts: The Normans introduced Church courts.				
7. Forest Laws: This created new crimes where previously none had existed and made other crimes more serious:				
Case Study: What role did the Church have in Crime & Punishment?		√	What changes occurred by the later Middle Ages 1170s-1500?	√
1. Church Courts: often dealt with 'moral offences': failing to go to Church, drunkenness, adultery, playing football on a Sunday			1. The King's peace: if someone committed a crime close to the location of the King at any time, the punishment was made far harsher	
2. Benefit of the Clergy: If a person was accused of a crime they were allowed to claim the right to be tried in a Church court (where the punishments were less severe). You had to prove you worked for the church by reading out a passage from the Bible.			2. Travelling Justices: People given power by the king to hear court cases on his behalf and pass sentence on people found guilty.	
3. Sanctuary: A criminal could spend up to 40 days there before deciding either to leave the Church and be arrested or to leave the country.			3. Ending of trial by ordeal: All cases now had to be settled by jury.	
4 Trial by ordeal: Trial by hot iron, water, blessed bread or cold water. The Church ended trial by ordeal in 1215. It was seen as unreliable as it was possible that some guilty men and women could escape punishment whilst others were wrongly found guilty.			4. Justices of the Peace (JPs): 1361 – these men had the right to fine and arrest people who were disturbing the peace.	
			5. Country Coroners: People specifically appointed to investigate unexpected deaths.	

Bournemouth School: History Department: Knowledge Organiser: Year 10: Summer 2: Crime and Punishment 1500-1700

1500-1700: Key terms/definitions		1500-1700: Law enforcement and trials: effective?	
Crimes	Definition	✓	✓
Against property	Continuity of theft of clothing, food and smaller amounts of money: New crimes against property would be witchcraft, vagabondage (depending on type of crime).		Parish constables: still main defence against crime but did not patrol. Hue and Cry: still used. Citizens still expected to go out looking for the criminal if the alarm was raised. Local posse could also still be called out.
Against the person	Continuity of murders, assaults, slander, theft. New crimes: witchcraft, vagabondage (depending on type of crime).		Town watchmen and sergeants: employed in larger towns, expected to arrest drunks and vagabonds. Sergeants could enforce market regulations on traders. Poorly paid and not very effective.
Against authority	New crimes of Treason (disobedience to the monarch), Heresy: (holding different religious beliefs to the monarch) Poaching and trespassing.		Habeus Corpus: Act passed in 1679 preventing imprisonment without trial. Justices of the Peace: their role developed from Middle Ages. Held status.
			Courts: Manor Courts, County Quarter Sessions, Country Assizes.

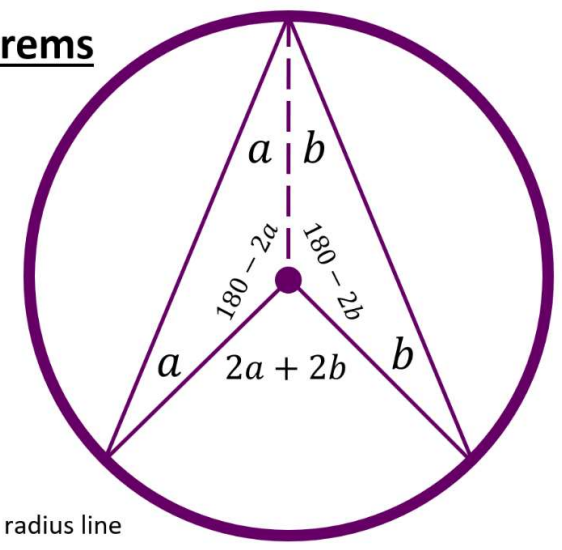
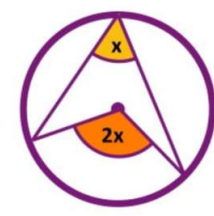
Key dates of the Early Modern Period:	✓	Key people:					
<p>1534: Henry VIII 'broke with Rome', marking the beginning of religious turmoil continuing during the reigns of Edward VI (Protestant) Mary I (Catholic) until Elizabeth I's Religious Settlement of 1559.</p> <p>1530's – 1590's: various Acts to deter vagabonds: less harsh from 1593</p> <p>1604: King James I declared his 'utter detestation!' for Catholics</p> <p>1605: Gunpowder Plotters uncovered and executed for Treason</p> <p>1642 – 1649: English civil wars: Royalists v Parliamentarians</p> <p>1645 – 1647: Peak of executions for witchcraft, led by Matthew Hopkins, the Witchfinder General, in East Anglia (Essex)</p> <p>1688: Beginning of harsh punishments for minor crimes: the Bloody Code</p>	✓						
			King Henry VIII (1509-1547) broke with Rome and began the Reformation of the Church in England.	✓		Matthew Hopkins, 'Witchfinder General' 1645-47: led witch-hunts in East Anglia.	✓
			1560's: Thomas Harman wrote about the dangers of vagabonds.			Gunpowder Plotters 1605 Hanged, drawn and quartered for treason against King James I.	

Which social and economic changes affected crime and punishment 1500 – 1700?	✓	1700 – 1900: Industrial Period: new crimes?		
<p>1. Population growth: Population steadily increased, making it harder for some to find work. Numbers of unemployed increased.</p> <p>2. Increasing gaps between rich and poor: Some people became richer but the majority remained poor, making them vulnerable to the rising cost of food. caused by bad harvests. The depressed cloth trade also meant more unemployment and hardship for many. Wealthy feared the poor...</p> <p>3. More printing: More publications of books and pamphlets covered topics such as witchcraft and vagabondage, increasing the fear of such crimes.</p> <p>4. Reformation and religious turmoil: After the Reformation of the 1530's, there was much religious confusion and unrest, fuelling public beliefs of evil and supernatural explanations for events: accusations of witchcraft increased...</p> <p>5. Upheaval of political change: English civil wars fuelled further feelings of insecurity and fear.</p> <p>6. More influential landowners: Their wealth and influence grew, leading to them passing laws protecting their property and them regarding the poor with suspicion.</p>	✓			
		Causes of changes in society	Urbanised and rising population, factory work, increased voting rights, faster travel, more government involvement, increased wealth and taxation, improved literacy, Darwin and new ideas about human nature.	✓
		Highway robbery: reasons for rise and fall	Caused by better roads, technology, poverty, growth of towns, lack of centralised government. Fell due to changes in banking, better patrols (Fielding Brothers) Justices of the Peace's influence.	
		Poaching	Seen as a social crime (esp. during poor harvests) caused by poverty and the growth of towns.	
		Smuggling	Caused by better roads, poverty (tempting wages!) viewed as a social crime, difficult to tackle gangs.	
		Tolpuddle Martyrs	Unionisation viewed as a crime, prioritising the interests of the landowners. They were exiled to Australia in 1834, but the pardoned in 1836 after a petition signed by 250,000 people.	

Keyword	Definition
Theorem	A theorem is a rule that can be proved by a chain of reasoning.
Chord	A chord is a straight line connecting two points on a circle.
Tangent	A tangent is a straight line that touches a circle at only one point.
Cyclic Quadrilateral	A quadrilateral inscribed in a circle (vertices sit on the circumference).
Segment	Two segments are created when you cut a circle along any one chord.

Proving Circle Theorems

Prove this circle theorem:



- Step 1:
Draw in additional radius line
- Step 2:
Label the two parts of the angles created a and b.
- Step 3:
Use the isosceles triangle property to define the two angles at the bottom as a and b respectively.

- Step 4:
Use the sum of angles in any triangle to express the two angles around the centre as "180 - 2a" and "180 - 2b" respectively.

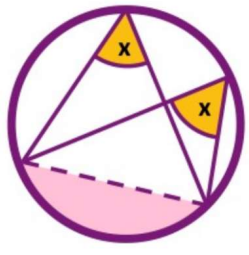
- Step 5:
Use the sum of angles around a point to express the bottom angle in terms of a and b.

$$360 - (180 - 2a) - (180 - 2b) = 2a + 2b$$

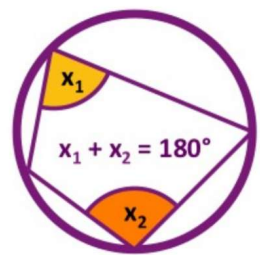
- Step 6:
Express this angle as 2(a + b) and close proof with the statement of fact.



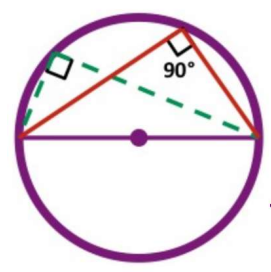
The angle at the centre is twice the angle at the circumference



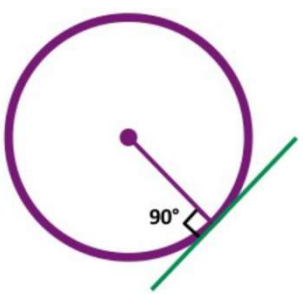
Angles in the same segment are equal



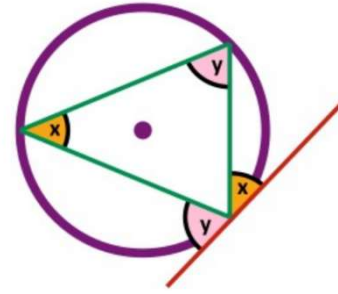
Opposite angles in a cyclic quadrilateral add to 180°



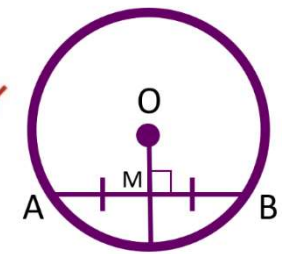
The angle subtended from a diameter is 90°



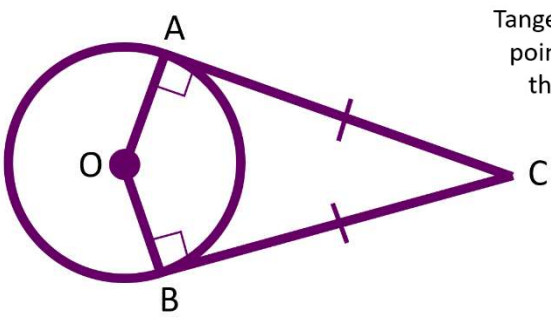
The angle between a tangent and the radius that meets it is 90°



The angle between a tangent and a chord is equal to the angle in the alternate segment



The radius that bisects a chord, does so at 90°



Tangents drawn to a circle from an external point are equal in length, and OC bisects the angles inside quadrilateral OACB.

Year 10

Unit: *Samba em prelúdio*

See set work support guide and other resources:

[Student resources > 10 > AOS4 - Fusions > Samba Em Prelúdio](#)

Context

Chopin, Frédéric Polish composer of Romantic piano music (1810-49)

Cover a new version of an existing song

Fusion the blending of two or more musical styles, usually from different cultures

Rhythm

Augmentation increasing the duration of the original notes

Syncopation accenting the offbeat or the weak beats in a bar

Clave the rhythm closely associated with the claves



Cross rhythms rhythms that cross the usual pattern of accented and unaccented beats, creating irregular accents and syncopation

Groove rhythmic feel

Texture

Broken chord when the notes of a chord are played one at a time rather than sounding together

Contrapuntal written in counterpoint – two melodies played against each other.

Monophonic a texture made up of a single line without accompaniment



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Polyphonic a texture where many lines overlap

Independent parts instruments or voices doing different things. A part simply harmonising another (e.g. in thirds) is not independent

Structure

Solo an extended, often improvised, melodic line played by a single instrument over a given chord sequence, usually as an instrumental interlude in the middle of a song

Outro a concluding section, like a coda in classical music

Melody

Conjunct movement by step

Disjunct movement by leap

Syllabic one note sung per syllable

Sequence repetition of a musical phrase at a higher or lower pitch than the original

Instrumentation

Acoustic guitar does not require amplification (unlike an electric one)

Articulation the manner in which a note or sequence of notes is played (e.g. staccato, legato)

Claves Latin percussion instrument – two short sticks struck together

Capo a clamp fastened around the neck of a string instrument, holding down all the strings and raising their pitch

Pull-off when a note is sounded on the guitar by lifting a finger of the fretting hand

Multi-track a recording of a performance on separate audio tracks, which can be edited individually

Harmony

Added notes notes added to a basic triad, such as a seventh or ninth

Added sixth chord a triad with the sixth above the tonic added, common in jazz and popular music.

Altered notes notes in a chord that have been sharpened or flattened, for example a flattened fifth

Chord voicing how the notes in a chord are spaced out

Consonant chords or harmonic intervals that sound pleasant (e.g. thirds and sixths)

Dissonant chords or harmonic intervals that clash (e.g. sevenths)

Extended chord a chord with at least one added note

Inversions chords with a note other than the root as their bass

Turnaround a set of faster moving chords to get the music back to a repeated section – most common in jazz



This QR code will take you to a Spotify playlist with listening for *Samba em prelúdio*. You will find it helpful to listen to it as you learn.



Year 10

Unit: *Afro Celt Soundsystem*

See set work support guide and other resources:
[Student resources > 10 > AOS4 - Fusions > Release - Afro Celt Sound System](#)

Dynamics

Fading a gradual increase or decrease in the levels of the track

Rhythm

BPM beats per minute—an indication of tempo used in popular music

Lack of pulse music which has no discernible pulse

Polyrhythmic two contrasting rhythms which are played simultaneously

Texture

Heterophonic a texture where there is simultaneous variation of a melody

Homophonic a texture with a melody and an accompaniment

Layers different parts in the texture which can be added or removed at any given time

Loops a short repeated pattern, electronically produced

Ostinato a short phrase or rhythm which is repeated several times

Structure

Build a section in which the layers of the music are built up gradually—more instruments are introduced

Intro short for introduction, the opening section of a piece

Outro the ending section of a piece—like a coda

Solo a section featuring a solo instrument



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music department

Outro the ending section of a piece—like a coda

Verse section of music which is repeated, but with different lyrics each time

Melody

Pentatonic melody which uses a 5 note scale

Instrumentation

Accordion an instrument where bellows are pumped by squeezing the instrument and buttons or keys determine which note or chord is played

Bodhran Irish frame drum played with a double headed stick called a tipper. Pitch can be altered by applying pressure to the drum head

Djembe African goblet shaped hand drum

Drum machine a device which allows a pre-recorded drum pattern to be repeated on a loop

Hurdy Gurdy a string instrument which has a wheel which is turned to rub against the strings to cause the vibration. Sometimes known as the wheel fiddle

Kora African instrument which is a cross between a harp and a lute

Low Whistle a low pitched tin whistle

Multitracking a recording where each instrument or part is recorded on a separate track so that each track can be individually edited to add effects, change levels etc

Panning giving a particular track different levels in the left and right speaker

Reverb an effect which creates the impression of being in a physical space

Shaker maracas like instrument

Synthesiser an electronic instrument that creates sounds by manipulating waveforms or modifying existing sounds

Uilleann Pipes a type of bagpipe used in Celtic music. Played by pumping the bellows with the arm

Tambourine frame drum with metal discs in the frame which 'jangle' when the drum is hit.

Talking Drum Hourglass shaped African drum where the pitch can be altered by squeezing the ropes which keep the drum head under tension

Tonality

Aeolian mode found by playing A-A on the white notes. Sometimes called the natural minor. Can be transposed to start on any note.

Dorian mode found by playing D-D on the white notes. Can be transposed to start on any note.

Harmony

Diatonic harmony which uses only notes from within the key.

Drone a continuously sounding note, usually low in pitch

Harmonic rhythm the speed at which the chords change eg every bar, every beat

Static harmony when the harmony doesn't change for extended periods of time



This QR code will take you to a Spotify playlist with listening for *Afro Celt Soundsystem*. You will find it helpful to listen to it as you learn.



Keyword	Learn	✓
Marriage	The legal union of two people through a wedding ceremony	
Civil Partnership	A legal relationship that has been registered between two people	
Spouse	A married person; another way of referring to a husband or a wife	
Cohabiting	Living together in a relationship without being married or in a civil partnership	
Role	The position that someone has within the family; what their 'job' is (e.g. a parent or carer)	
Responsibilities	The tasks that someone might do to carry out their role (e.g. providing a home and food for their child)	
Arranged marriage	a marriage planned and agreed by the families or guardians of the couple concerned rather than by the couple themselves.	
Forced marriage	Is an arranged marriage where one or both of the people do not or cannot consent to the marriage	
Secured (or unsecured) debt	Loan backed by collateral, usually property. (unsecured – not backed by collateral)	
Credit card	A card used to purchase goods with borrowed money	
Overdraft	a deficit in a bank account caused by drawing more money than the account holds	
Mortgage	A loan used to buy real estate, with the property as collateral.	

Help and support:

ChildLine: www.childline.org.uk 0800 1111
Samaritans: www.samaritans.org 116 123
Refuge: www.refuge.org.uk
Women's Aid: www.womensaid.org.uk
Mankind: www.mankind.org.uk
'Dorset together' - Dorset County Council Vulnerable support line - 01305 221000
communityresponse@dorset.gov.uk
'Together we can' - BCP Vulnerable person support line - 0300 1237052
<https://dorsetmind.uk/>
Tapper Funeral Services - Outlook Bereavement Support 01202 630111
<https://www.tapperfuneralservice.co.uk/tapper/outlook-bereavement-support#cookieagree>

Relationship advice:

- **Be respectful** at all times
- **Communicate clearly**, share your thoughts and seek the thoughts of others without judgement
- **Safety**, keep each other safe
- **Consent**, it is the person seeking consent who is responsible for ensuring that these conditions are met. Ask, do not assume.

Student loan

A loan from the Government specifically to cover the costs of education.
Advantages: No repayments until you graduate - and even then only after you reach a certain annual salary (currently £27,000).
Disadvantages: Can take many years to pay off and the loan is taken straight from your salary. Government can change the interest and the repayment threshold whenever they want.

3.2.2.1 Socio-cultural influences and Commercialisation

Key Terms. LCWC	Barrier to participation: An obstacle that prevents a group within society from participating in sport or physical activity and therefore reduces overall levels of participation.	Social Groups: People who interact with one another, share similar characteristics, and have a sense of unity / togetherness.	Engagement Patterns: Trends / tendencies in involvement.	Stereotype: Widely held but fixed and oversimplified idea of a particular type of person e.g. females.	Discrimination: The unjust or prejudicial treatment of different groups of people, especially on the grounds of race, age or gender.
					

<p><u>FIVE SOCIAL GROUPS YOU NEED TO KNOW</u></p> <p>1) Gender There are several barriers that affect participation rates for women: Typical Stereotypical Views:</p> <ul style="list-style-type: none"> • Women lack the strength or endurance to play the same sports as men. • Women who play sport are not feminine. • A women's role is as a carer and manager of the home. <p>Male Dominated Culture in Sport: Women's sport receives less media coverage and less financial investment. As a result, there are less role models for girls and young women to look up to.</p> <p>Support from Peers and Family: Girls and women can receive less support from their peers and family. For example, girls may be encouraged to avoid playing contact sports by their friends or family.</p> <p>Body Image: The media often portrays sportswomen as feminine and objects of desire, rather than as athletes and competitors.</p> <p>Facilities / Funding: Facilities for women have developed more slowly than those for men.</p>	<p>2) Ethnicity <u>ETHNIC GROUP</u> A group of people who share common origins – i.e. racial, religious or cultural</p> <p><u>Barriers Affecting Participation</u></p> <ul style="list-style-type: none"> • May live in poorer areas of the country – less facilities / lack of money for equipment • Sporting prejudices/stereotypes e.g. black people can't swim, white people can't jump • Family commitments may mean less time is available to participate in sport. • In some sports there are fewer role models for black/ethnic people to look up to. • Discrimination – Many people don't take part in sports as they are afraid of being racially abused. <p><u>Examples of how ethical issues effects a person's participation?</u></p> <ul style="list-style-type: none"> • Muslim women have to keep their bodies covered up preventing them from doing sports e.g. gymnastics / swimming. • During Ramadan people are not allowed to eat food during daylight hours. This means they have less energy when taking part in sports. • Muslim men are expected to pray at their local mosque every day, reducing time for sport. 	<p>3) Disability A physical or mental condition that limits a person's ability to perform certain activities.</p> <p><u>Three main categories of disability:</u> -Mobility impairments -Sensory impairments -Mental impairments</p> <p><u>What prevents disabled people from taking part in sport?</u></p> <ul style="list-style-type: none"> • Lack of facilities in the local area. • Lack of clubs / teams. • Lack of specialist coaching. • Lack of specialist equipment. • Lack of media coverage (apart from when the Paralympics is on) • Knowledge of activities available in local area e.g. advertising. <p><u>Adapted Sports:</u> Competitive sports for individuals with disabilities. The sports have been modified in equipment, rules or facilities to meet the needs of the performers. E.g. Boccia, wheelchair basketball.</p> <p><u>Benefits of Integration</u></p> <ul style="list-style-type: none"> • Reduced possibilities of discrimination • Less stereotyping • Fewer barriers 	<p>4)Age</p> <ul style="list-style-type: none"> • All school children participate in sport, but when they leave school participation often drops. This is referred to as 'post-school dropout' • Older people often take part in less sport due to family and work commitments as well economic issues which they might have. • Fitness levels typically decline as people get older, resulting in lower participation levels. • Older people are more likely to take part in sport or exercise which benefits their fitness or well-being – e.g. yoga or swimming. They are less likely to take part in competitive sport or contact sports where the risk of injury is higher. 	<p>5) Family / Friends / Role models</p> <p><u>Family</u> Positive:</p> <ul style="list-style-type: none"> • Parents will encourage their children to take part in certain sports/activities • Children rely on their parents to get them to the sport/activity. • Parents/brothers or sisters may play a sport which you may watch resulting in you getting involved in. <p>Negative:</p> <ul style="list-style-type: none"> • Some parents may not provide support or encouragement due to safety concerns over participation or lack of interest in sport or may have had a negative experience of the sport (earlier in life). • Some parents may pressure young people to concentrate on academic work rather than practical physical activity. • Some parents cannot supply financial support / in the form of equipment or kit / coaching / transport. <p><u>Friends:</u> Positives:</p> <ul style="list-style-type: none"> • People are more likely to play sports / for teams that their friends play for. • Peers / friends often encourage other children to take part in their sport as they understand / appreciate the benefits that can be gained from the activities. <p>Negatives: Peers might not be interested in the activity. As they are not interested / they may encourage friends not to train / take part in sport.</p> <ul style="list-style-type: none"> • Verbally pressure friends by saying they are better going out with them or that they will not be their friend.
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Topic 5b – Force and Motion

Keyword	Learn	✓
Scalar	A quantity with size (magnitude) only.	
Vector	A quantity with both size and direction.	
Displacement	Distance travelled in a given direction. Displacement is a vector.	
Velocity	Speed in a given direction. Velocity is a vector.	
Acceleration	The rate of change of velocity. Acceleration is a vector.	
Resultant force	A single force that can replace multiple forces acting on an object.	
Newton's First Law	If no resultant force is acting on an object, it will be stationary or it will continue to move at same speed in same direction.	
Newton's Second Law	Force = mass x acceleration	
Newton's Third Law	For a pair of interacting objects, the forces they exert on each other are equal but opposite.	
Terminal velocity	When air resistance and weight are equal, no resultant force acts so object reaches a constant velocity.	
Inertia	The tendency of objects to continue in their state of rest or of uniform motion.	
Momentum	Momentum = mass x velocity	
Conservation of momentum	Total momentum before and after a collision/explosion is the same.	
Force	Force is equal to the rate of change of momentum.	
Stopping distance	Thinking distance + braking distance	
Thinking distance	The distance travelled whilst the driver reacts.	
Braking distance	The distance travelled under the braking force.	

Factors <u>increasing</u> thinking distance	Factors <u>increasing</u> braking distance
Drinking alcohol Taking medication Tiredness Distracted (using mobile phone)	Wet or icy roads Worn brakes or worn tyres Smooth road surface Smaller braking force

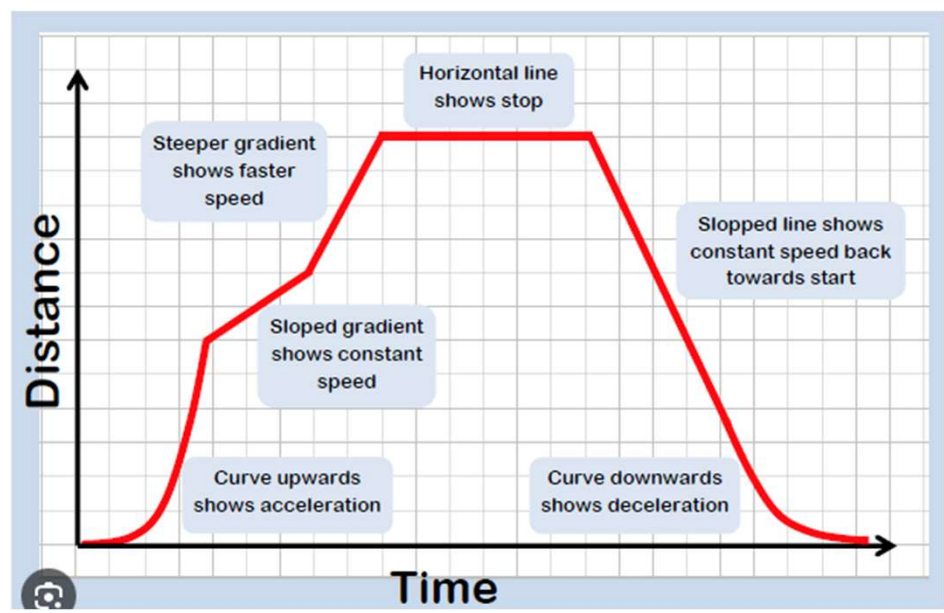
$$a = \frac{v - u}{t} \quad \text{and} \quad v^2 = u^2 + 2as$$

u = velocity at start
 v = velocity at end
 a = acceleration
 s = distance
 t = time

Speed	
Walking	1.5 m/s
Running	3 m/s
Cycling	6 m/s
Speed of sound	330 m/s
Speed of light	300,000,000 m/s (300 million)

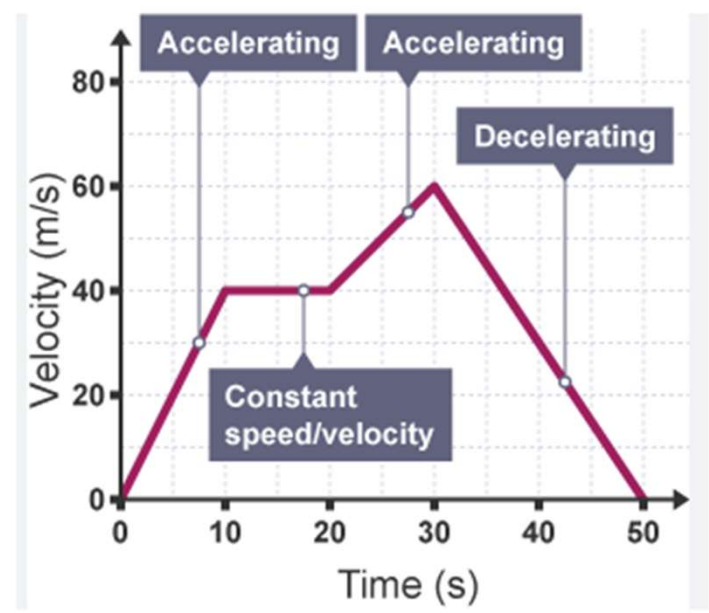
Topic 5b – Force and Motion

Distance – time graph



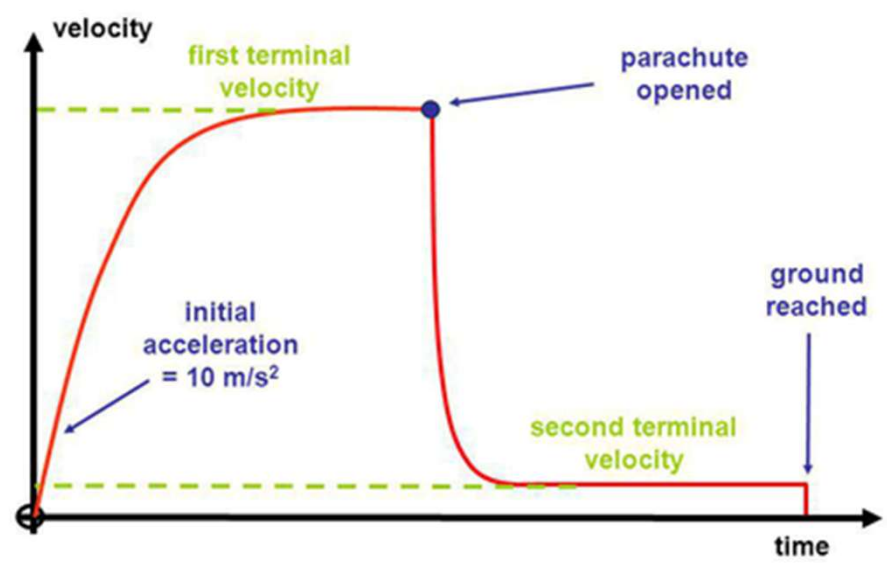
Gradient is the speed.

Velocity – time graph



Gradient is the acceleration.
Area is the distance travelled.

Velocity – time graph for a skydiver



Keywords: Issues of Life and Death

- Afterlife:** Life after death; the belief that existence continues after physical death.
- Environmental Sustainability:** Ensuring that the demands placed on natural resources can be met without reducing capacity to allow all people and other species to live well now and in the future.
- Euthanasia:** Sometimes referred to as 'mercy killing'. The act of killing or permitting the death of a person who is suffering from a terminal illness.
- Evolution:** The process by which different living creatures are believed to have developed from earlier less complex forms during the history of the earth.
- Abortion:** When a pregnancy is deliberately ended so that it does not result in the birth of a child.
- Quality of Life:** The extent to which life is meaningful and pleasurable.
- Sanctity of Life:** The belief that life is precious or sacred. For many religious believers, only human life holds this special status.
- Soul:** The spiritual aspect of a being; that which connects someone to God. It is often regarded as non-physical and lives on after death.

Non-religious views:

- Humanism**
- Charles Darwin**
- Richard Dawkins**
- Peter Singer and Speciesism**
- Stephen Hawking**
- Humanist Climate Action**
- Humanist Dying in Dignity movement**
- Big Bang**
- Evolution**

Judaism and Euthanasia

- The Jewish tradition regards the preservation of human life as one of its supreme moral values and forbids doing anything that might shorten life.
- However, it does not require doctors to make dying last longer than it naturally would.
- Jewish law and tradition regard human life as sacred, and say that it is wrong for anyone to shorten a human life this is because our lives are not ours to dispose of as we feel like.
- All life is of infinite value, regardless of its duration or quality, because all human beings are made in the image of God
- Saving someone from pain is not a reason to kill them nor is it lawful to kill oneself to save oneself from pain but there is a limit to the duty to keep people alive.

Christian Funeral rites

- Last rites are sometimes said by a priest close to death.
- Funeral service in a church-close to God.
- Candles lit- reminder Jesus is 'light of the world' and there is a new life in heaven.
- Some have Communion/Eucharist-reminder of Jesus' sacrifice.
- Readings from Bible-to remind them of eternal life and guidance from God.
- Cremation or Burial-depends some allow cremation now as soul is thought to be separate from body.

Jewish Funeral rites

- Burial
- No cremation
- Simple casket
- Brief service with prayers and eulogy. Readings from the Torah
- Shiva – 7 day mourning, helped by Chevra Kaddisha or burial society.
- Shiva involves covering mirrors and sitting on low seats
- Mourners may tear clothes at heart- loss

Christianity and Euthanasia:

- Christians are mostly against euthanasia.
- The arguments are usually based on the beliefs that life is given by God, and that human beings are made in God's image.
- Some churches also emphasise the importance of not interfering with the natural process of death.
- Life is a gift from God. all life is God-given
- Birth and death are part of the life processes which God has created, so we should respect them
- No human being has the authority to take the life of any innocent person, even if that person wants to die.

Christianity and Abortion :

- Some argue we should be compassionate and permit abortion if the mother's life is in danger.
- Other Christians say it is a moral evil because every life is a gift from God.
- Human life begins at conception, not when the baby is born or at some other point in the development of the foetus.
- 'Thou shalt not kill'.
- Some would allow if the Mother's life is at risk and in cases of rape.
- Abortion is playing at being God and therefore unacceptable.
- Some accept it as the law allows it at 24 weeks.

Judaism and Abortion:

- Judaism does not forbid abortion, but it does not permit abortion on demand.
- Abortion is only permitted for serious reasons.
- Strict Judaism permits abortion only in cases where continuing the pregnancy would put the mother's life in serious danger.
- The argument for allowing such abortions is normally based on the pain that will be caused to the mother if the pregnancy is allowed to continue.
- 'Live by the Torah but do not die by it'.

El perfecto		
he	I have	+ ado (-ar verbs) (e.g. he jugado)
has	You have	
ha	He / she has	
hemos	We have	+ ido (-er/ir verbs) (e.g. he comido / he salido)
habéis	You (pl.) have	
han	They have	

¿Qué has hecho en tu ciudad?		
he ido	I have been	
he visitado	I have visited	
he alquilado	I have rented	
he viajado	I have travelled	
he hecho*	I have done	
¿Has visto...?	Have you seen...?	
¿Has probado...?	Have you tried...?	
hemos viajado	we have visited	
hemos caminado	we have walked	
hemos ido	we have been	
ya	already	
todavía	yet	

Prepositions of place		
delante de	in front of	
detrás de	behind	
al lado de	next to	
cerca de	near to	
lejos de	far from	
el banco	the bank	
la estación de metro	the metro station	
el puente	the bridge	

Pros & cons		
Por un lado	On one hand	
Por otro lado	On the other hand	
Una ventaja es que	An advantage is that	
Una desventaja es que	A disadvantage is that	
Lo bueno es que	The good thing is that	
Lo malo es que	The bad thing is that	
Lo mejor es que	The best thing is that	
Lo peor es que	The worst thing is that	
Lo que más me gusta es	The thing I like the most is	
Lo que menos me gusta es	The thing I like the least is	
Lo positivo es que	The positive thing is that	
Lo negativo es que	The negative thing is that	
No obstante	However	

Cuando + subjunctive		
When you use cuando + future plans, use the present subjunctive (a verb form that is used in Spanish, but is used very rarely in English.)		
Quando sea mayor	When I am older	
Quando vaya (a la universidad)	When I go (to university)	
Quando haga mis exámenes	When I do my exams	
Quando tenga dieciocho años	When I am eighteen	

Ahora y antes		
When talking about what your city used to be like, you can use the following key verbs in the imperfect tense		
era	it was	
eran	they were	
tenía	it had	
había	there was	
e.g. La ciudad era más tranquila. (The city was / used to be calmer) Había menos edificios modernos. (There were fewer modern buildings.)		

Photo description phrases		
Hay	There is / there are	
Se puede ver	You can see	
En la foto	In the photo	
En el primer plano	In the foreground	
Al fondo	In the background	
A la derecha	On the right	
A la izquierda	On the left	
Parece que	It seems that	
Use the present continuous to say what someone is doing in a photo.		
Use <i>está / están + present participle (-ando / -iendo)</i>		
For <i>-ar</i> verbs, take off the <i>-ar</i> and add -ando For <i>-er / -ir</i> verbs, take off the <i>-er / ir</i> and add -iendo		
e.g. <i>Está jugando al fútbol = he is playing football</i> <i>Están comiendo = they are eating</i>		
Está...	He / she is	
Están...	They are	

The imperfect tense

-ar verb endings		
-aba	-ábamos	
-abas	-abais	
-aba	-aban	

-ir / -ir verb endings		
-ía	-íamos	
-ías	-íais	
-ía	-ían	





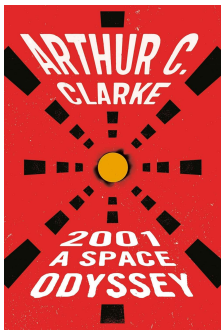
Demonstrative adjectives	
Demonstrative adjectives are words like ‘this’, ‘that’, ‘these’ and ‘those’. They are used to identify things. They are positioned before the noun and must agree with the noun.	
Este	This (masculine singular)
Esta	This (feminine singular)
Estos	These (masculine plural)
Estas	These (feminine plural)
Ese	That (masculine singular)
Esa	That (feminine singular)
Esos	Those (masculine plural)
Esas	Those (feminine plural)
Aquel	That over there (masc. sing.)
Aquella	That over there (fem. sing.)
Aquellos	Those over there (masc. pl.)
Aquellas	Those over there (fem. pl.)

A la tienda	
probar	to try (on)
devolver	to return
cambiar	to exchange
esta camisa	this shirt
este jersey	this jumper
estos pantalones	these trousers
porque es / son demasiado	because it is / they are too
pequeño/a(s)	small
largo/a(s)	long
grande(s)	big
ajustado/a(s)	tight

Talking about the future	
There are three ways to express the future in Spanish: - The near future (e.g. voy a ir – I am going to go) - The simple future (e.g. iré – I will go) - The conditional (e.g. me gustaría ir – I would like to go)	
The near future Form of ‘ir’ + a + infinitive (e.g. voy a ir)	
Voy a ir	I am going to go
Vas a ir	You are going to go
Va a ir	He / she is going to go
Vamos a ir	We are going to go
Vais a ir	You (plural) are going to go
Van a ir	They are going to go
The simple future Infinitive + ending (e.g. ir + é = iré)	
Iré	I will go
Irás	You will go
Irá	He / she will go
Iremos	We will go
Iréis	You (plural) will go
Irán	They will go
The conditional	
Me gustaría ir	I would like to go
Me encantaría ir	I would love to go
Comparing & contrasting	
es más...que	it’s more...than
es menos...que	it’s less...than
es tan...como	it’s as...as...
es mejor que	it’s better than
es peor que	it’s worse than
tanto/a(s)	as much / many as

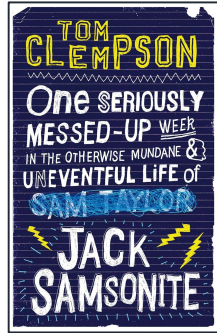
¿Dónde prefieres ir de compras?	
Suelo	I usually
ir a las tiendas de mi barrio	go to the shops in my neighbourhood
comprar ropa de segunda mano	buy second-hand clothes
ir al centro comercial	go to the shopping centre
es / son	it is / they are
barato/a(s)	cheap
económico/a(s)	cheap
caro/a(s)	expensive
práctico/a(s)	practical
sostenible(s)	sustainable

Key Phonics	
Spanish	English
e	like "e" in <i>met</i>
i	like "ee" in <i>see</i>
o	like "o" in <i>dot</i>
u	like "oo" in <i>boot</i>
c + e/i	like "th" in <i>think</i> (Spain)
c + a/o/u	like "k" in <i>cat</i>
g + e/i	a throaty 'h' sound
g + a/o/u	like "g" in <i>go</i>
h	silent
J	a throaty 'h' sound
ll	like "y" in <i>yes</i>
ñ	like "ny" in <i>canyon</i>
qu	like "k" in <i>kite</i>
v	like "b" in <i>bat</i>
z	like "th" in <i>thin</i>



2001 A Space Odyssey by Isaac Asimov

On the Moon an enigma is uncovered. So great are the implications that, for the first time, men are sent out deep into the solar system. But before they can reach their destination, things begin to go horribly wrong.



One Seriously Messed-Up Week : in the Otherwise Mundane and Uneventful Life of Jack Samsonite by Tom Clempson

Our hero? Sam Taylor aka Jack Samsonite. His mission? 1. Pass his GCSEs 2. Get the girl (to notice he exists) 3. Survive the week without a serious face punching. Good thing he's got a plan. Well, half a plan.



Gone for Good by Sarah Crossan

Connie Ryder is taken from her home in the dead of night and sent to Silver Lake Academy – a remote, high-security facility for 'troubled' teens. At Silver Lake, the vulnerable and the violent are locked in together under a brutal regime that aims to improve their behaviour. But when Connie learns she's been given the bed of a missing girl named Belle, she is drawn deep into a chilling web of secrets and lies...



Vango: Between Sky & Earth by Timothée De Fombelle

In a world between wars, Vango is on the cusp of taking priestly vows when he is suddenly made a fugitive. Fleeing from the police who blame him for murder, as well as more sinister forces with darker intentions, Vango attempts to trace the secrets of his shrouded past and prove his innocence before all is lost.



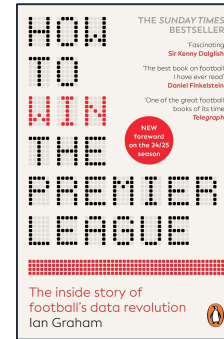
Dead Straight Line by Malcolm Duffy

A friend is seriously hurt after playing a game that Rory invented. Shunned by friends and facing pressure from his furious parents, Rory becomes even more angry and disruptive. When his school suggests helping out a care home, he's unimpressed. But paired up with Tanker, an eighty-year-old Geordie military veteran, who fought in the Falklands War, things slowly begin to change.



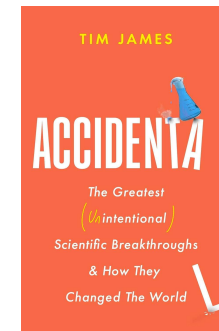
Metro 2033 by Dmitry Glukhovskiy

The world has been reduced to rubble. Humanity is nearly extinct. A few thousand live on, not knowing if they are the only survivors on the planet. They live in the Moscow Metro - the biggest air-raid shelter ever built. But now a new and terrible threat has appeared. Artyom, a young man, is given the task of penetrating to the heart of the Metro to alert everyone to the awful danger.



How to Win the Premier League: The Inside Story of Football's Data Revolution by Ian Graham

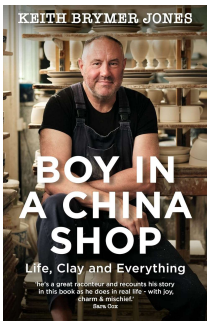
Between 2012 and 2023, Ian Graham worked as Liverpool FC's Director of Research. His tenure coincided with the club's greatest period of success since the 1980s. In a game that is increasingly dominated by an elite few, Graham charts a path for the future where a data-savvy competitor will always find the edge.



Accidental by Tim James

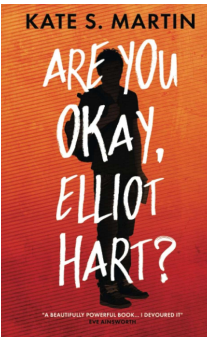
From an untimely sneeze in a petri dish leading to the groundbreaking creation of antibiotics, to the incredible discovery of microwaves via melted chocolate, Accidental is a rip-roaring adventure through science gone wrong, and accidentally changing humanity for the better.





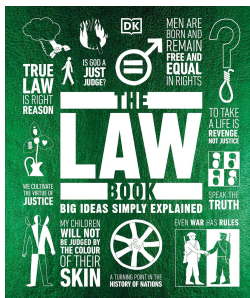
Boy in a China Shop by Keith Brymer Jones

Ballet dancer. Front man in an almost famous band. Judge on The Great Pottery Throwdown. How did all that happen?



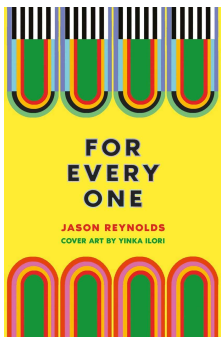
Are You Okay, Elliot Hart? by Kate S. Martin

Fifteen-year-old Josh McBride spends his days tormenting Elliot and avoiding his abusive stepdad. Hoping to save his mum, Elliot embarks on an adventure inspired by a picture in an old newspaper. Little does he know that Josh has decided to join him. On their journey, strangers and surprises force them to look at each other in a different light. As secrets are revealed, will they reconcile their differences or will the secrets tear their families apart?



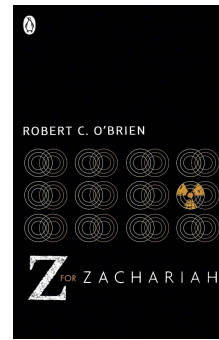
The Law Book by Paul Mitchell et al.

Learn about the most important legal milestones in history. Discover the most important milestones in legal history, from the Code of Hammurabi to groundbreaking legislation including Magna Carta and the Abolition of the Slave Trade Act.



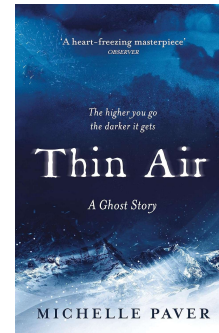
For Every One by Jason Reynolds

This book is a challenge to think beyond the expected and go for what you want, even if the going for it is the scariest part.



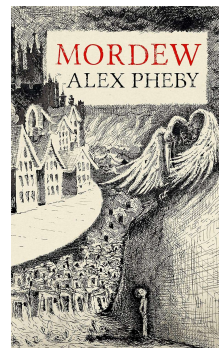
Z for Zachariah by Robert C. O'Brien

A powerful post-apocalyptic novel in which nuclear war has devastated America. Ann Burden has been living alone in a valley for over a year - until Loomis, a scientist in a radiation-proof suit, arrives. She hopes they will be companions but his behaviour towards her becomes increasingly threatening, and although there may be no one else alive, Ann steals his suit and leaves the valley in search of humanity.



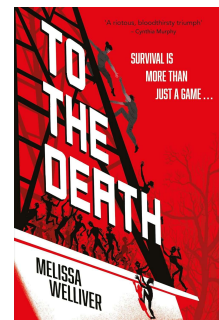
Thin Air by Michelle Paver

The Himalayas, 1935. Kangchenjunga. Third-highest peak on Earth. Greatest killer of them all. Five Englishmen set off from Darjeeling, determined to conquer the sacred summit. But courage can only take them so far - and the mountain is not their only foe. As the wind dies, the dread grows. Mountain sickness. The horrors of extreme altitude. A past that will not stay buried. And sometimes, the truth does not set you free.



Mordew by Alex Pheby

Nathan Treeves lives with his parents, eking out a meagre existence - until one day his mother, desperate and starving, sells him to the mysterious Master of Mordew. When Nathan discovers the source of the Master's magical power, he must learn how to use it, if he has any hope of fighting his way through the secrets and betrayals that have plagued his city.



To the Death by Melissa Welliver

When Bloodwatch, a shadowy organisation, descends upon the island to shoot a new high-stakes reality show, Astrid finds herself thrust into the spotlight. Caught in a deadly game where the undead and other contestants close in, Astrid must navigate the treacherous terrain of reality TV, where there can be only one winner.



