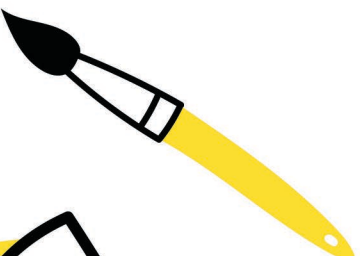
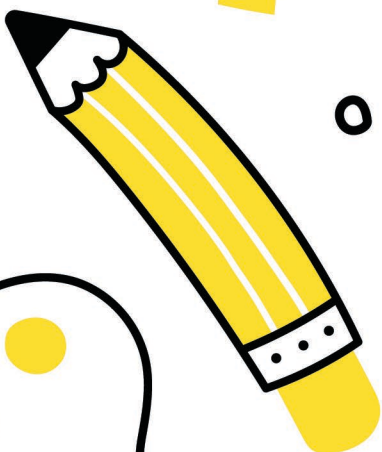
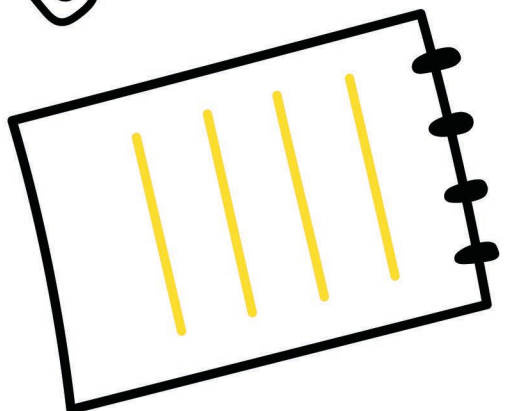
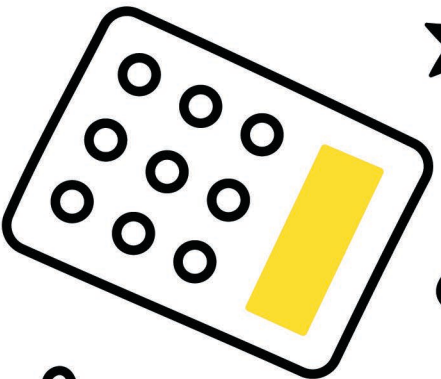
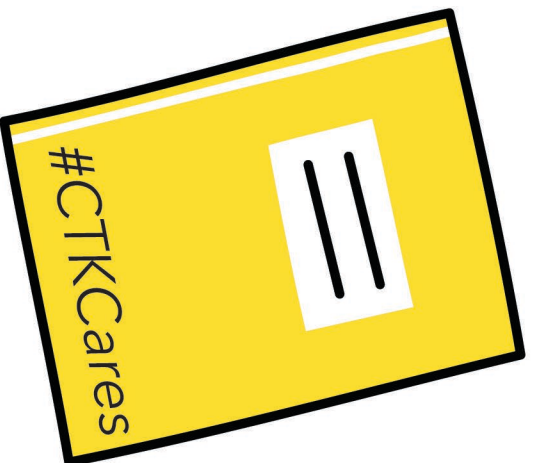
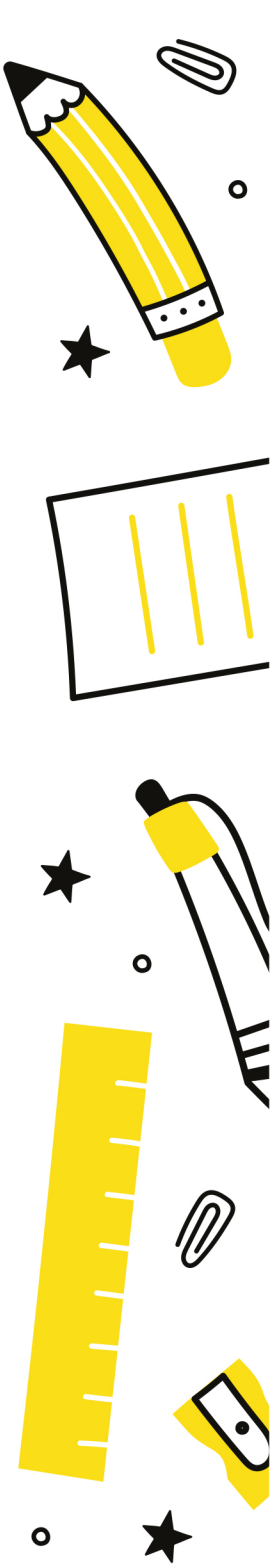




CHRIST THE KING
**KNOWLEDGE
ORGANISER**

Year 8 ADVENT
(Term 1)





Knowledge Organisers

We use knowledge Organisers at Christ the King to help all students achieve. Knowledge Organisers improve your confidence by helping you to understand how to learn and revise. We are building a seven-year revision strategy that supports you to remember the core and powerful knowledge that is required to be successful in each subject.

The Ebbinghaus Forgetting Curve demonstrates that knowledge is lost over time if it is not revisited. A simple model for memory involves working memory and long term memory; working memory is limited, and can very easily become overloaded, whereas long-term memory is effectively limitless. You can support your limited working memory by storing key facts and processes in your long-term memory. Research evidence indicates that regular recall activities, known as retrieval practice, are an effective way of ensuring that knowledge is committed to long-term memory

At the start of each term, you will receive a knowledge organiser booklet that contains content for all subject areas. You will use your knowledge organiser in your lessons, in tutor time, and during homework tasks. An important aspect of your revision for assessments and end-of-year examinations will be to use the knowledge organisers for self-quizzing. If this core knowledge is secured, you will be in a strong position to use and apply this knowledge in a range of contexts. You will be given your knowledge organiser in a plastic wallet along with a homework booklet – the expectation is that you bring this to school every day – **it should be placed on your desk in every lesson**, ready to use. Geography and History highlight the essential 'golden knowledge' in yellow to support your learning.

How to use your Knowledge Organiser

The best way to use your knowledge organisers is to regularly use one of our Core 4 Revision strategies as part of your home learning. These strategies will be explained to you in more detail in tutor time, by your class teachers and as part of your Personal Development lessons.

o **Flash Cards:** Use the information from your knowledge organiser to create flashcards – these could be double sided, with a question on one side and the answer on another, or a keyword on one side and the definition on the other.

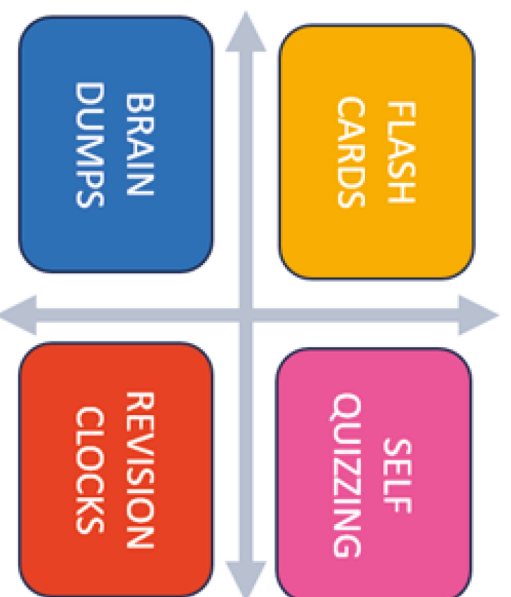
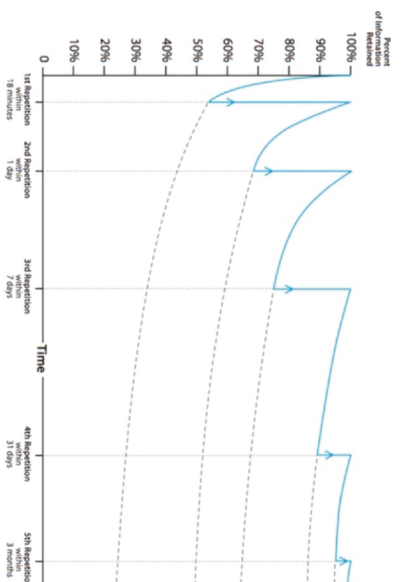
o **Self Quizzing:** There are different ways you can self-quiz:

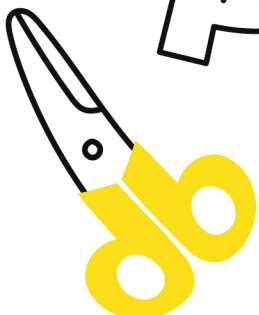
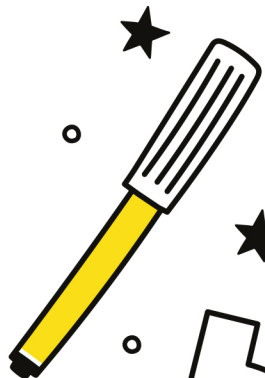
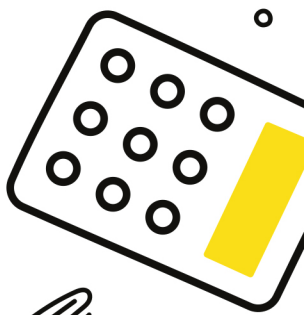
- Look, cover, write, (say), check
- Create gaps fills
- Create questions for the information you want to learn and then answer them from memory

o **Brain dumps:** These are a small but powerful revision strategy which help makes the information 'sticky' so that it goes into your long-term memory, ready for you to recall it into your working memory. They are good to use at the end of topics. An effective brain dump involves you writing down everything you can about a topic you want to revise from your memory. You then check the information against the information on your Knowledge Organiser – you then mark your work and add any missing information onto your brain dump in a different colour pen, so that you know which information you need to revisit, either through using flash cards or self-quizzing.

o **Revision Clocks:** Revision Clocks are a blank clock shape – divided into 12 segments. In each segment put a sub-heading and then include the information linked to that. They are effective as they allow you to 'chunk' up the core knowledge from the topic into the segments. You can use colours and pictures to make the information more 'sticky'.

Rate of Forgetting with Study/Repetition





Homework Schedule

You should complete at least one hour of Home Learning per school day.

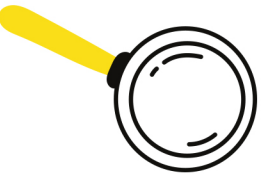
This will consist of:

- o Knowledge Organiser and Online Learning as directed by your teachers.
- o If you have no tasks set, carry out Knowledge Organiser activities as per the Knowledge Organiser timetable below.
- o Two periods of 20 minute reading each week.

Week 1					
20 Minutes Per Subject	Monday	Tuesday	Wednesday	Thursday	Friday
Subject 1	English	Science	Maths (Sparx)	Maths	English
Subject 2	RE	PE	RE	Science	Geography
Subject 3	Music	History	Technology / IT	MFL	Art

Week 2					
20 Minutes Per Subject	Monday	Tuesday	Wednesday	Thursday	Friday
Subject 1	Science	English	English	Maths (Sparx)	Science
Subject 2	RE	Maths	RE	Drama	Geography
Subject 3	Music (Practical)	History	Technology / IT	MFL	Art (Practical)

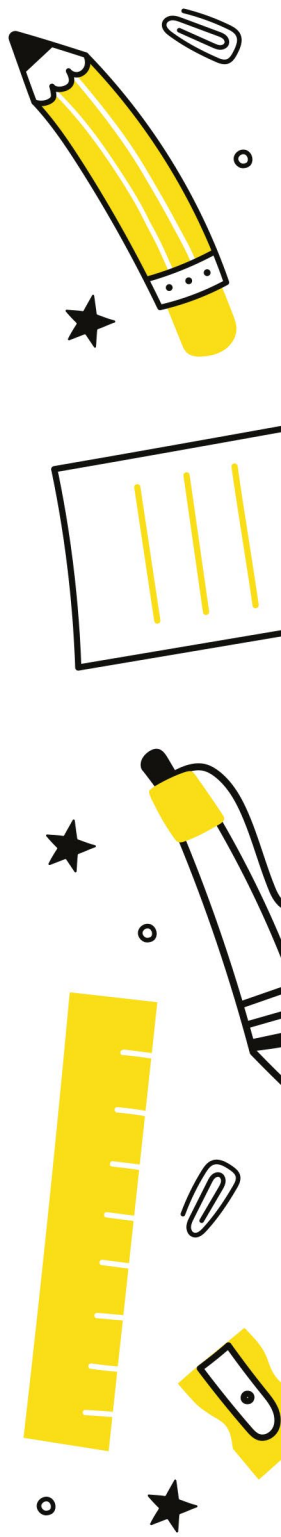
Read 20 minutes a day and you'll read 1,800,000 words per year.



Reading for 6 minutes a day reduces stress by 68%.



Children learn 4,000 to 12,000 words per year through reading,



What are the homework expectations?

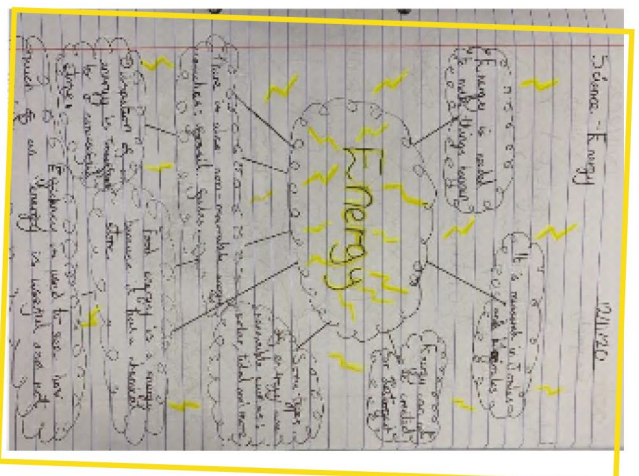
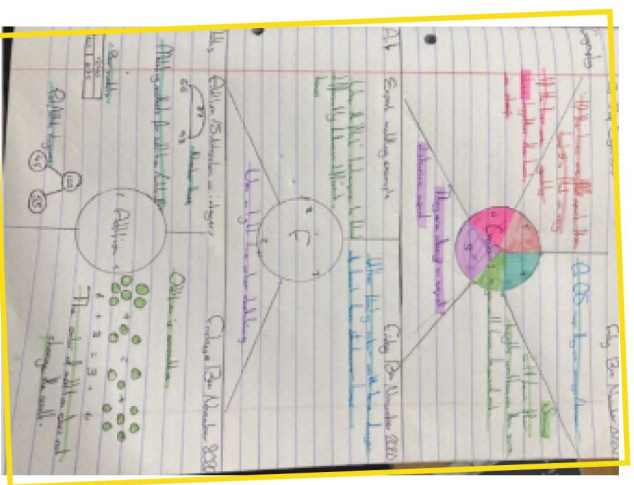
Each homework must meet the following 5 requirements:

- Write the complete title and date in full e.g *Wednesday 7th June 2023* on each page and underline.
- You should include minimum of words to summarise the topic. Do not copy the words from the text.
- Make full use of the page for each topic by scaling your notes and images appropriately to use all the space.
- You must include diagrams, sketches, or cartoon doodles to visually represent the topic, try to use humour.
- Highlight key words and phrases, using underlines and highlighter pens, and explain technical terms.

How should I present my work?

Please remember that the same rules apply to the presentation of your homework as applies for your class work: **dates and titles** (which should be the name of the subject) **need to be underlined with a ruler** and you should **present your work as neatly as you are able to**.

If you are self-quizzing correctly, there should be **evidence of green pen on your page**. Here are some examples of how to set out your work:

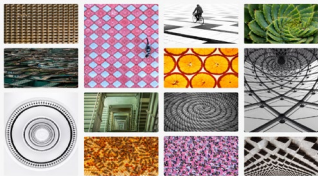


DON'T FORGET!

Always record
the date, topic,
and page
number in
your Home
Learning
Book!



Keywords	Definition
Complimentary colours	Two colours which are opposite of each other on the colour wheel which can create a contrast.
Street Art	This term describes artworks which are made to be seen in public places, often outdoors. These artworks may include murals, sculptures, photographs, drawings etc.
Portraiture	Is an artwork, often of a person's face, which may be created by using any type of medium - drawing, painting, photograph, sculpture etc.
Medium	The material used to create a piece of artwork.
Religious Icon	Is usually a portrait painting which represents saints and Jesus.

2. Formal Elements	Definition	Visual
Colour Theory	Colour theory is the study of how colours work together and how they affect our emotions and perceptions. It helps artists, designers, and creators to help them choose the right colours for their projects.	
Pattern	A pattern is created by repeating one design element. This can be a mark, line, shape or a colour.	
Tone	In painting, tone can describe the relative lightness or darkness of a colour.	

1.

SHEPARD FAIREY ARTIST

WHAT? Frank Shepard Fairey is an American 'street artist' born in 1970. He is most famous for a design he did of the then USA President Barack Obama, who used the image as part of his election campaign in 2008.

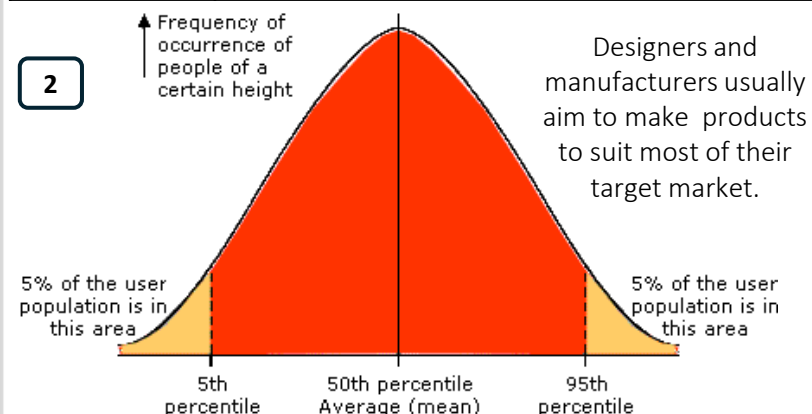
WHY? Shepard Fairey's artwork is influenced by popular culture, especially his love of contemporary music, film and skateboarding. His early work depicted portrait images of his heroes which were made into posters. These were sometimes pasted onto walls and buildings where he lived in South Carolina.

HOW? Shepard Fairey is most famous for using stencils and spray paint to create his artworks. He often uses bold flat colours which represent different tones of the face. He also can create further layers to his work by adding collages, paints and drawings.

3. Processes	Definition
Colour mixing	This term applies to mixing two or more colours together to create a new colour or tone.
Collage	Is the technique and the resulting work of art in which pieces of paper, photographs, fabric and other materials are arranged and stuck down onto a surface.
Monoprint	Is a 'one off' print which uses mark making and ink to create an image.
Grid method	Is a technique using grids which create accurate drawings which are copied from a reference image.



1 Key terms	
Anthropometrics	The study of the human body and its movement, often involving research into measurements relating to people. It also involves collecting statistics or measurements of the human body that can then be used to design products and environments that fit the users.
Ergonomics	Defined as the science of fitting a workplace to the user's needs, <i>ergonomics</i> aims to increase how comfortable, efficient and easy a product is to use.
Triangulation	Triangulation involves the use of triangular shapes to give stability to structures.
Crating	Using sketched 3D cubes/ cuboids to help structure more complex drawings.
Mood board	An arrangement of images, materials, pieces of text, colours, textures etc. Intended to embody or project a particular style or theme.
Scale	A method used to enlarge or reduce the actual size of a drawing of model whilst keeping proportions the same.



3 Modelling Tools & Equipment		
Craft Knife	As single bladed knife that easily cuts through a variety of different materials. The blade is retractable so and can be snapped off to reveal a new blade, once the old one becomes blunt.	
Cutting Board	Self-healing cutting mats are purpose-built to be extremely durable and resilient, creating the perfect cutting surface that reduces blunting but also ensures any worksurface is well protected from damage.	
Metal Rule	Metal safety Rule's features a unique M profile which allows you to keep your fingers well away from any knife edge when used for cutting or scoring. They are made from metal to prevent the rule being damaged by the blade of a craft knife.	
Glue Gun	Heats up and melts hot glue sticks. Once melted, the glue is then directed out of the nozzle of the gun. The nozzle can get very hot , so it is important to follow safety rules to ensure that you don't burn yourself. Any burns should be reported straight away.	
4 Aljoud Lootah	Aljoud's designs focus on the idea of contrasts in form and function while distinctly interpreting the Emirati culture through contemporary design. Her creative drive comes from a passion for detail and experimental approaches to materials and aesthetics.	
Philippe Starck	Stark has produced designs for large companies such as Alessi, Puma and Microsoft. He is interested in bright colours, unusual shapes and materials. He wants his designs to be mass produced and relatively affordable, but he also wants them to be durable.	
Morag Myerscough	Known globally for creating installations and immersive public artworks that transform places and champion community. Her work is instantly recognisable, combining geometric patterns with bold shapes and hand painted type, it aims to bring joy to all those who encounter it.	
Ettore Sottsass	Ettore was an Italian architect and designer, he brought bold colors, unconventional shapes and an innovative contemporary style to everyday items, creating iconic postmodern furniture pieces that shaped the history of the Memphis movement .	



The Stages of the Design Process

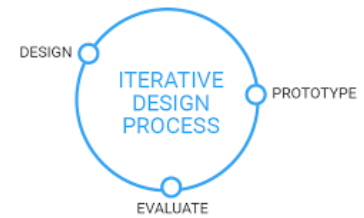
Problem	The main purpose of developing a new product is to solve a problem, this solves either a need or a want. It is important to investigate problems before you start designing.
Design brief	A design brief is a statement of intent that addresses how the product will solve the identified problem and satisfy the need or want. It normal considers; budget, function, target market, aesthetics and timescale.
Research	Market research and analysis is performed to help the designer fully understand and identify issues. This may involve looking at existing products, speaking to users, making observations and completing site visits.
Specification	This is shaped through the results of research. It is a list of SPECIFIC requirements that are measurable. It is used to test the product to assess success throughout.
Design ideas	These are produced by the designer by hand or using computer aided design (CAD). They are used to develop and communicate solutions to the identified problem.
Development	Designers often used the iterative process to model and test the design ideas against the specification, continually making improvements to get to the best solution.
Prototype Manufacture	A prototype is aa pre-production working model of a product, that is used to test the concept. The prototypes are usually manufactured using the same processes to ensure that the product meets expectations.
Evaluation	Prototypes must go though rigorous testing and analysis to ensure they are safe, fit for purpose and meet the design brief and specification. Any issues that are found, need to be resolved before the product can go into production.

Material Properties

Corrugated card	Two or more layers of card with a fluted layer in-between to add strength.
Foam core board	Two thin layers of card with a foam inner core in between.

Design & Technology - Design and Make

Iterative design is the repeated process of prototyping a design, testing it, collecting feedback, evaluating the design and making improvements based on results. The process is repeated until the final design is ready to be produced.



Scale A scale drawing is an enlarged or reduced drawing that is proportional to the original object. This means that all of the ratios between the corresponding sides of the original figure and the drawing are equal. Scale drawings are used by architects, clothing designers, and map makers among others.

2:1	The drawing is twice the size of the actual object.
1:1	The drawing is to actual size.
1:2	The drawing is half the size of the actual object.

Attachment techniques

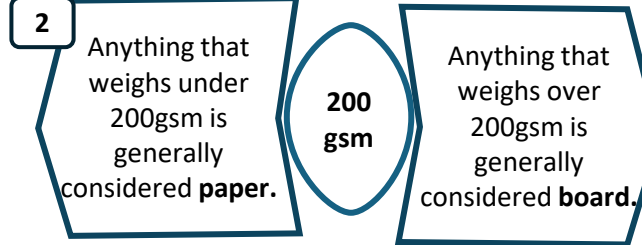
These are different ways to attach and join card together



A split pin is a standard component that can be used to join materials whilst still allowing movement.



1	Keywords
Keywords	Definition
1. Paper	A thin, flexible material made from wood pulp or recycled fibres. It is measured in grams per square metre (gsm). Used for writing, printing and sketching.
2. Board	A thicker and more rigid version of paper, made by layering or compressing pulp. It is often used for packaging, modelling. Typically, over 200gsm
3. Renewable	A sources of material that if managed responsibly will not run out.
4. Typography	The style or appearance of printed text.
5. Moodboard	An arrangement of images, materials, pieces of text, colours, textures etc. Intended to embody or project a particular style or theme.
6. Net	The 'net' of a shape is a term used to describe what a 3D shape would look like if it was opened out and laid flat.
7. Scoring	Scoring involves partially cutting into a material without going all the way through, usually to aid folding.
8. Branding	The identity of a product, including name, logo, colours and style that make it recognisable and appealing.
9. Logo	A symbol or other small design adopted by an organization to identify its products.

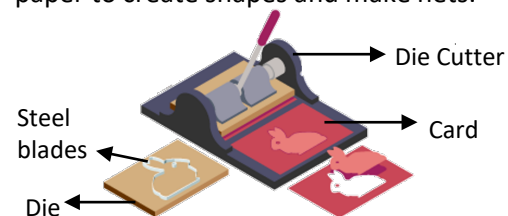


4 Typography

Serif fonts have small decorative strokes or "feet" at the ends of the letters.	Sans Serif means "without serif". These fonts do not have the small strokes at the ends of letters.
Traditional	Modern/Minimalist

5 Die cutting

Die cutters are used to cut, crease or perforate paper to create shapes and make nets.



1. The die is pressed against the card and the steel cuts into the card.
2. Sharp blades will cut through the paper/card.
3. Rounded blunt blades will crease the paper/card for folding.

3 Paper Manufacture

Harvesting of trees – cut down trees from forests or tree farms. These trees are grown just for making paper.

Remove the bark - The rough outer layer of the tree (called bark) is taken off. We don't use the bark to make paper—it's too tough!

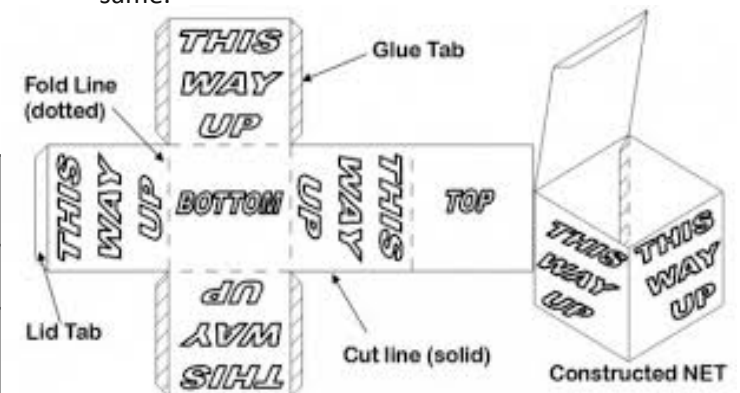
Chipping wood into small pieces - The bare logs are chopped into tiny pieces called wood chips

Cooking or pulping - The wood chips are mixed with water and sometimes chemicals in a big machine. This mix turns into mushy stuff called *pulp*.

Washing & bleaching - The pulp is cleaned to remove anything that shouldn't be there, like bits of bark or dirt. Sometimes they bleach it to make it whiter.

Pressing and drying through rollers - The clean pulp is spread out flat and squeezed between big rollers to get all the water out. The wet paper goes through hot rollers to dry it out. Then it's rolled up into huge rolls or cut into sheets.

- 6 The two-dimensional shapes that form a net can be arranged in different ways for a particular 3D shape. The relationship of **faces**, and **edges** must remain the same.



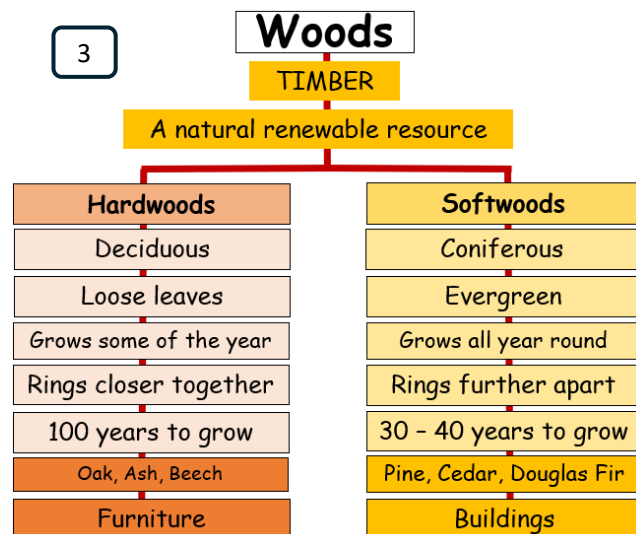


1 Keywords	
Keywords	Definition
1. Wasting	The term used to describe the process of removing material when manufacturing. This can be through drilling, sawing, filling or cutting.
2. Template	A shaped piece of rigid material that is used to draw or cut around to increase accuracy. They can also be used when shaping or drilling.
3. Finishing	The term used to describe the process of adding a 'finish' such as paint, varnish, wax or stain to a material for functional or aesthetic reasons.
4. Quality control	Quality control is when you check the quality of a product against a set standard or specification. Products will often have a tolerance of how accurate they need to be.

2 Tools		
Marking Gauge		Mark out lines by running it along an edge and using the pin to mark a line into the material.
Try Square		Used for marking out and checking 90° angles on wood, metal or plastic.
Tenon Saw		A saw used for cutting wood. Its flat blade makes it good for cutting straight lines.
Belt Sander		A machine that rotates a belt of sandpaper at high speeds. Used to neaten up edges of wood.
Coping Saw		A saw used to cut wood and plastic. Its thin blade makes it ideal for cutting curved lines.
Chisel		Is a cutting tool with a sharp edge. Sometimes used with a mallet to run along the surface of wood and remove shavings.
Sand Paper		An abrasive paper used to smooth the surface of wood. It comes in a range of 'grit sizes' which range from rough to very fine.

4 Scots Pine - softwood	
- Easy to work with, reasonably strong and lightweight. - Straight grain with lots of knots. - Pale to reddish brown.	
Uses: furniture, construction, door frames.	

5 Process of converting a tree to timber	
FELLING	The trees are chopped down into logs and taken to the sawmill.
Transport to sawmill	
DEBARKING	The bark is removed from the logs. The bark is used for fuel.
Sawing - CONVERSION	The wood is converted into different stock form sizes.
Sorting & stacking	The timber is sorted and stacked to ensure air flow.
Drying - SEASONING	The timber is then dried using air or a kiln to remove 9-14% of the moisture.



Oil – Soaks into the timber. As it penetrates the wood it provides protection and some water resistance.



Wax – a thin layer is applied with a soft cloth and pushed in to the wood. It enhances colour and gives a shine. It protects wood from moisture.



Stain – Permanently stains wood. The colour can be affected by the base wood. It does not protect.

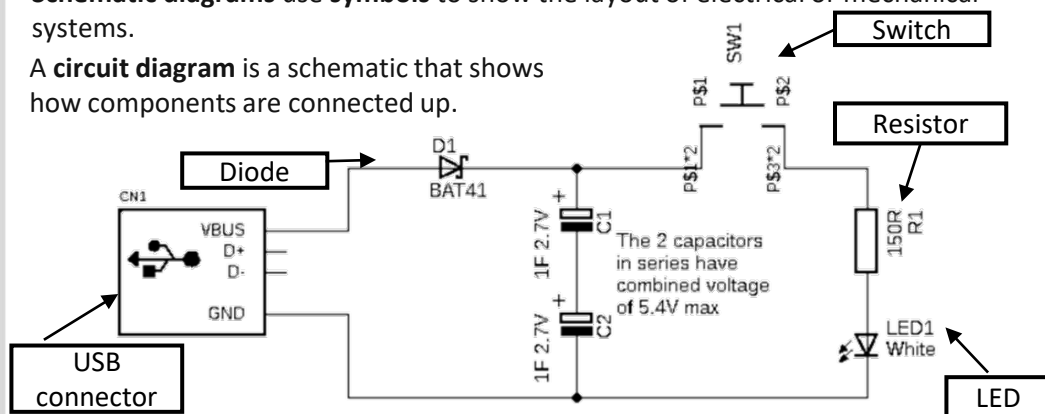




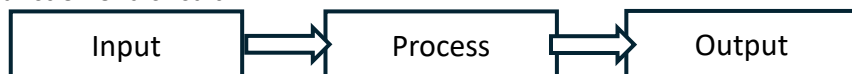
Key Word	Definition
1. CAD (Computer Aided Design)	Using a computer program to produce computer models/ designs.
2. CAM (Computer Aided Manufacture)	Machines that are controlled by computer software to determine movement and power.
3. Laser Cutter	An example of a CAM machine. A laser cuts through or etches onto a chosen material.
4. Solder	Solder is a metal alloy usually made of tin and lead which is melted using a hot iron. It is used to join electronic components to a circuit board.
5. 2D Design	The CAD software used to design models and control the laser cutter.
6. Plywood	A man-made board made by gluing together thin layers of wood (veneers) with the grain alternating direction for strength.
7. Comb joint	A strong woodworking joint made by cutting interlocking 'fingers' into two pieces of wood.

Schematic diagrams use **symbols** to show the layout of electrical or mechanical systems.

A **circuit diagram** is a schematic that shows how components are connected up.



A **system diagram** uses the logical order of an input, a process and an output to plan the function of a circuit.



Electronic Components																											
Component	Job	Image	Symbol																								
LED (Light Emitting Diode)	LED stands for Light Emitting Diode. LEDs are like normal diodes, in that they only allow current to flow in one direction, however, when the current is flowing, the LED lights up.																										
Resistor	A resistor is a device that opposes the flow of electrical current. The bigger the value of a resistor, the more it opposes the current flow. The value of a resistor is given in Ω (ohms) and is often referred to as its 'resistance'.	 Band 1 Multiplier Band 2	<table><tr><th>Colour</th><th></th><th>× Ω</th></tr><tr><td>Black (Bk)</td><td>0</td><td>1</td></tr><tr><td>Brown (Br)</td><td>1</td><td>10</td></tr><tr><td>Red (R)</td><td>2</td><td>100</td></tr><tr><td>Orange (O)</td><td>3</td><td>1000</td></tr><tr><td>Yellow (Y)</td><td>4</td><td>10000</td></tr><tr><td>Green (G)</td><td>5</td><td>100000</td></tr><tr><td>Blue (B)</td><td>6</td><td>1000000</td></tr></table>	Colour		× Ω	Black (Bk)	0	1	Brown (Br)	1	10	Red (R)	2	100	Orange (O)	3	1000	Yellow (Y)	4	10000	Green (G)	5	100000	Blue (B)	6	1000000
Colour		× Ω																									
Black (Bk)	0	1																									
Brown (Br)	1	10																									
Red (R)	2	100																									
Orange (O)	3	1000																									
Yellow (Y)	4	10000																									
Green (G)	5	100000																									
Blue (B)	6	1000000																									
Switch	A device used to interrupt the flow of electrons in a circuit. They are usually on or off.		 Switch (off) Switch (on)																								
USB Connector	Allows a circuit to connect to a USB port, charging the capacitor.																										
Capacitor	A capacitor is a component that can store electrical charge (electricity). In many ways, it is like a rechargeable battery.																										
Diode	Diodes let current flow in one direction, but stop it from flowing in the other. They are like a one way valve.																										
Circuit Board	A flat board that holds and connects electronic components using wires or metal tracks. It allows electricity to flow.																										



DEMON BARBER

1. Key Word	Definition
Characterisation	Using a range of physical and vocal skills to show a character who is different to you.
Background	Your character's past life experiences - where they come from, their upbringing, how they have been treated.
Rehearsal	Working together in a group to practice a part of the script and share ideas about how it should be performed.
Accent	The way a person speaks - can show where they are from and sometimes class or status.
Tone	The emotion behind what your character says e.g. an angry tone, a surprised tone.
Facial Expression	Showing emotion through your face- eyes, mouth, eyebrows...
Pace	The speed at which your character speaks or moves.
Stance	The way a person stands.
Gait	The way your character walks- do they have a narrow gait or a wide gait?
Posture	The position in which someone holds their body when they sit or stand- can give us clues to their personality.
Gestures	Using your hands (or sometimes eyes and head) to communicate meaning with other characters and the audience e.g. pointing/winking.
Pitch	How high or low your character's voice is.
Body Language	Showing emotion through the way you sit, stand or position yourself.

2. Character Info	Details
Sweeney Todd's Motivation	Returns to London seeking revenge for the loss of his wife and daughter.
Sweeney Todd's Past	A barber who was wrongly sent to Australia on a prison ship by an evil Judge.
The Pie Shop	Moves into his old flat which is above a pork pie shop.
Mrs. Lovett's Involvement	The pie shop is owned by Mrs Lovett who is in love with Mr Todd. They plot revenge together.
The Charming Man	A very charming man who manipulates those around him to get what he wants.

SILENT FILM

1. Characteristics of Silent Film

Keyword	Definition
Musical accompaniment	Music played alongside the film.
Slapstick violence	A type of comedy involving exaggerated physical activity.
Placards	Text cards used to display dialogue or plot information.
Simple storylines	Straightforward and easy-to-follow plots.
Stock characters	Archetypal characters (e.g., hero, villain) that are easily recognizable.
Over exaggerated	Movements & expressions that are amplified for dramatic or comedic effect.
SILENT!	Films without spoken dialogue, relying on visuals and intertitles.

2. Physical Skills

Skill	Definition
Stance	The way a person stands.
Gait	The way your character walks - do they have a narrow gait or a wide gait?
Posture	The position in which someone holds their body when they sit or stand - can give us clues to their personality.
Gestures	Using your hands (or sometimes eyes and head) to communicate meaning with other characters and the audience e.g. pointing/winking.
Body Language	Showing emotion through the way you sit, stand or position yourself.
Facial Expression	Showing emotion through your face - eyes, mouth, eyebrows...

3. Rules of Mime

Rule	Definition
Stay Silent	Communicate meaning with your physical, not vocal skills.
Over Exaggeration	All of your movements must be increased and enlarged - for clarity and for comedy.
Size	When miming an object or piece of set, it's important that it stays the same size every time you interact with it.
Weight	Make sure you show the weight of any mimed object that you interact with and that this stays consistent throughout the performance.
Disappearing Objects	Don't forget where you've 'put' mimed objects e.g. don't walk through a table you've mimed!



A. Key language devices used by writers			B. Key language devices used by writers		
1	adjective	word that gives more information about a noun	1	irony	humorous or sarcastic use of words to imply the opposite of what is being said
2	adverb	word that gives more information about a noun	2	metaphor	a description of something as though it were something else
3	alliteration	repetition of the same first letter	3	noun (abstract)	is something that you cannot touch, e.g. emotions like joy or fear
4	anecdote	when a writer uses an incident from his or her personal experience to make a point, or entertain the reader	4	noun (concrete)	is something that you can touch, e.g. a table or chair
5	comparatives	adjective that compares the quality of something	5	noun (proper)	that are given capitals identify particular places, things, people or events
6	connotation	the association that a particular image /colour / word has	6	onomatopoeia	a word that sounds like what it describes
7	emotive language / imagery	language or imagery that promotes an emotional reaction	7	opinion	a point of view that cannot be proved to be true or untrue
8	exaggeration / hyperbole	deliberately over-estimating for effect	8	paragraph	are used to sequence and organise the ideas, setting, timeframe etc. of a text. The topic sentence is particularly important for signposting the main idea in the paragraph
9	Informal language	language that uses colloquialisms (everyday sayings) or slang and so suits informal situations	9	personal pronoun	direct address to the reader, e.g. 'you'
10	formal language	language used in formal situations where the speaker / writer wishes to create a good impression	10	personification	when an object is given human characteristic
C. Key language devices used by writers			Connectives used for comparison		
1	perspective	A story can be told from the first, second or third person point of view (or perspective).	Similarly, In contrast, Likewise However, Equally, Whereas In the same way, Alternatively... As with, On the other hand...		
2	repetition	used to emphasise / reinforce a point			
3	rhetorical question	a question that is asked to draw attention to a particular point, rather than a genuine request for information			
4	sarcasm	language designed to insult or taunt			
5	appeal to senses	language or imagery connected to hearing / smell / taste / sight / touch			
6	sentence length	A variety of sentence lengths can be used for effect: e.g short sentences to create tension; long sentences to give detail	Key Terms		
7	simile	a comparison introduced by 'like' or 'as'	Fiction – literature exploring imaginary events and/or people Non fiction – based on facts and real life events e.g newspaper Compare – state the similarities and differences between 2 texts Summarise – state the key points of what is written Evaluate – offer your own critical opinion		
8	superlative	adjective that expresses the highest quality or degree			
9	triplet	using three different qualities to reinforce or stress a point			
10	verbs	simply described as 'doing words', however many verbs identify states or feelings rather than actions and can be very emotive / effective			
			How to write about texts...		
			P oint	The character is presented as ... The writer makes us think that... The language of the text is used to... The structure of the text is used to... Similarly/On the other hand the writer suggests that The technique of...is used to.... The writer shows us that.... One way in which (use the key words from the question) is...	
			E vidence	For example, ... Such as... One quote to show this is... For instance... In the line '.....' This is shown in the quotation... In the text it says '.....' This is indicated in the line '....'	
			T echnique	This is an example of a ... The use of the feature is.... The technique is used to... An example of a ... By using the technique... By using ... the writer shows that...	
			E ffect	This suggests/shows/implies/connotes/indicates... The effect on the reader is.... This is used to show that... The connotations of this are...	
			R elate back to the question	(Use keywords from the question) Therefore it can be seen that... Overall, the writer is... (relate back to the question and your ideas on this) Relate to why the writer wrote the text, what they are trying to convey) The author's intention was to...	



1. Key Vocabulary

Propaganda	Biased or misleading information used to promote a political cause.
Conscription	Compulsory enrolment into the armed forces.
Cowardice	Excessive fear that prevents an individual from taking risks or facing danger.
Patriotism	The feeling of loving your country and being proud of it.
Desertion	The act of leaving the armed forces without permission.
Court Martial	A court for trying soldiers accused of offences against military law.
Enlistment	Voluntary action of joining the armed forces.
Mustard Gas	A poisonous gas used by the Germans in trench warfare against the British. Caused blindness, choking and breathing problems and sometimes death.

3. World War 1 Facts

- World War 1 was also known as The Great War
- Dates: from 28th July 1914 to November 11th 1918.
- It is thought that 16 million [people died in the war.
- The war was between:

The Triple Alliance	The Triple Entente
Germany	Great Britain
Austria - Hungary	France
Their Allies	Russia

- newspapers were banned from printing anything that spoke out against the war.



2. Characters

Tommo	Main protagonist. Younger brother of Charlie and Joe. Feels guilty about his father's death
Charlie	Protects Tommo at school and is Tommo's hero.
Big Joe	Eldest of the three boys. He is mentally disabled. Loves animals.
Molly	Charlie and Tommo's best friend.
Mother	Raises her sons on her own. Is kind and fair.
Grandma Wolf	A relative who looks after the boys when mother is working. She is cruel, especially to Big Joe.
The Colonel	Owns the manor house and the surrounding land where many villagers live and work.
Hanley	A cruel sergeant who bullies the soldiers.
Wilkes	A kind Captain who improves the moral of the soldiers and tries to protect Charlie and Tommo.

4. Recruitment

- Only men could join up as soldiers.
- Men were made to feel morally obliged to join the army.
- You had to be at least 18 years old to join the army, and 19 years old before you could be sent abroad to fight.
- The top age limit was 41 years old (the age limit was increased to 51 years old in April 1918).
- Women were encouraged to give white feathers to men who did not sign up.
- The minimum **height limit** started at 5 feet 3 inches but was raised to 5 feet 6 inches in order to prevent an unmanageable flood of volunteers coming forward.
- The youngest person to have signed up and fought during the war was 12-year-old Sidney George Lewis.

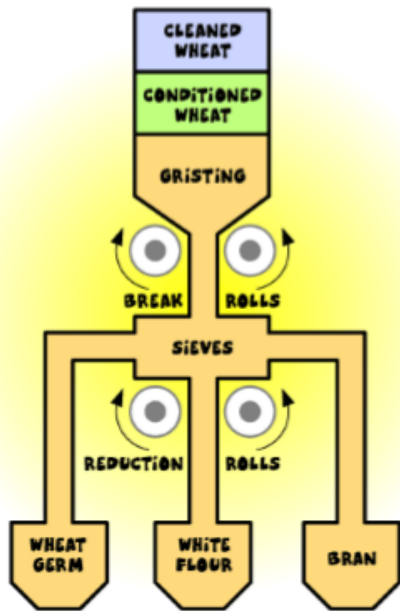
5. Early 1900s working class life

- 25% of the British population lived in poverty at the start of the 20th century. 15% were living at subsistence level which means that they barely had enough to eat. 10% were living below subsistence level.
- Women were paid much lower wages than men.
- The average working week was 54 hours.
- The only holidays most working-class people got were bank holidays.
- In the countryside, many working class people would find jobs at the big house as servants, gardeners or gamekeepers.
- Scarlet fever was the biggest killer of children at the time. Symptoms are: high fever, headache, body aches, a red bumpy tongue, bright red skin in the creases of the body.

"Women of Britain Say Go!"	Exclamatory phrase, imperative verb, emotive language
"Daddy, what did you do in the war?"	Emotive language, question.
"Boys, come over here, you're wanted."	Direct address, 2 nd person pronoun, emotive language, imperative verb.
"Your country needs you!"	Exclamatory phrase, 2 nd person pronoun – direct address, patriotic appeal.
"Don't stand looking at this. Go and help!"	Imperatives, emotive – playing on guilt.



1. Farm to Fork – How flour is made



On arrival at the mill the wheat is cleaned to remove dust, straw and other impurities.
Conditioning with water softens the bran layer of the wheat and makes it easier to separate the parts of the wheat.
The wheat is blended with other types of wheat in a process called gristing to make different kinds of flour.
It is then milled through steel rollers with teeth that break the grains open.
The fragments of wheat grain are separated by sieves.
The bran, wheatgerm and endosperm have all been separated out. They can now be blended to make different types of flour.

3. Key terms	Definition
1. Organic	Food produced without the use of chemical fertilisers, pesticides or other artificial chemicals.
2. Intensive farming	A way of producing large amounts of crops, by using chemicals and machines as well as keeping animals indoors to restrict movement.
3. Seasonal	The times of the year when the harvest or the flavour of a food is at its peak.
4. Food miles	The distance food is transported from the time of its making, until it reaches the consumer.
5. Halal 	Foods that are allowed to be eaten according to Islamic law. Foods that are not permitted are known as haram.
6. Kosher 	Is a word used to describe food and drink that complies with Jewish religious dietary law and that are fit and proper for consumption.

2	Intensive Farming	Organic Farming
Quantity (yield) 	High yield, large amounts of food produced.	Lower yield of crops and more is lost and less is grown.
Pesticides 	Artificial pesticides are used to keep pests away resulting in more crop.	Pesticides restricted; natural predators encouraged.
Animals 	Battery rearing of animals in enclosures, less humane and can cause disease to spread quickly through the animal population..	Animals have a better quality of life with access to outdoors. Animals not given antibiotics.
Labour 	Artificial chemicals and machines means fewer people are needed for work.	More people are needed to work the farms.
Fertilisers 	If too much is used, it can wash in to streams and lead to pollution.	Only natural fertilisers are used along with crop rotations.
Cost 	Low cost of production but a high initial set up, maximum output is achieved resulting in a lower cost for consumers	Production is lower and more space is needed, resulting in higher cost produce for consumers.

4



Farmed animals that have been inspected to **VERY high welfare standards** – providing them with physically and mentally stimulating environments from birth to slaughter.



This symbol means that the food you buy has been **responsibly sourced** from **British** farmers, safely produced and comes from crops and animals that have been well cared for.



This logo is stamped on to egg to certify that they are **British** and that the **hens have been vaccinated** against Salmonella.



This symbol means that the product is certified to **high organic standards** and provides an assurance of organic authenticity.



5 Food Safety	
Microorganism	Tiny living things, such as bacteria, yeasts and moulds which cause food spoilage.
Pathogen	Harmful bacteria which can cause food poisoning.
High Risk Food	Foods which are ideal for the growth of bacteria or micro-organisms (e.g., chicken and shellfish).
Contamination	When food is affected with micro-organisms.



READY TO EAT FOOD
Such as dairy products, yoghurt & cream

READY TO EAT FOOD
Such as cream cakes, butter, cooked meats, leftovers & other packaged food.

RAW MEAT, POULTRY & FISH
Always cover & keep in sealed containers.

SALAD, FRUIT & VEGETABLES
Keep ready to eat fruit and vegetables in sealed bags or containers, always wash before use.



Prevent Cross Contamination
Use correct colour coded chopping boards and knives at all times

RAW MEAT

RAW FISH

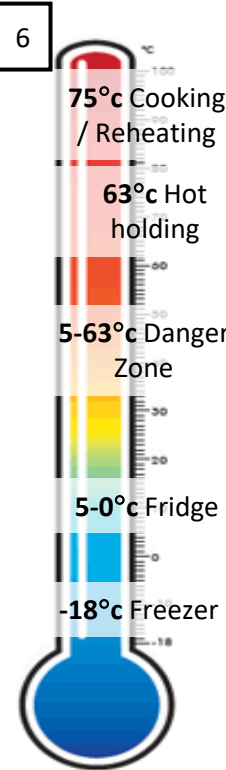
COOKED MEATS

SALADS & FRUITS

VEGETABLES

DAIRY PRODUCTS

ALLERGENS



7 Different ages have different nutritional needs	
Age	Definition
Young children	Children have small stomachs and should have small meals more frequently. Dairy is important for calcium. They should be encouraged to try new foods.
Children	They are very active and growing rapidly. Need a balanced diet, sugar and snacking should be avoided.
Teenagers	Growth is in spurts, protein required for muscles and calcium for skeleton. Teenage girls begin mensuration. Teenagers deal with stress and this can lead to poor eating habits.
Adults	Stop growing so needs don't as much. Eatwell guide should be followed. Metabolic rate slows through age. Muscle is lost and fat gained.
Elderly	Usually less active and need less energy. Taste and smell can change which affects enjoyment.
Pregnancy	Mum's diet is important for formation of a healthy fetus. Iron and calcium and supplement of B9.



8 Diet Related Health Problems	
Obesity	The most common over nutrition problem is obesity caused by too much energy being consumed, or high levels of inactivity. It is measured as a ratio of weight to height.
Dental Health	To maintain healthy teeth, you need to have a balanced diet. Bacteria feeds on the sucrose found in food and produces acid.
CHD & High blood pressure	Coronary heart disease (CHD) is related to the amount of fat in the diet and is caused by a narrowing of the blood vessels to the heart. This reduces the flow of blood to the heart. High levels of cholesterol in blood increase the risk of CHD.
Type 2 Diabetes	This is a metabolic disorder caused by poor absorption of glucose. Diet plays a strong role in preventing type 2 diabetes, a condition that causes the level of sugar (glucose) in the blood to become too high.
Anaemia	A condition caused by insufficient iron in the body and vitamin C , which is needed for absorption. Common symptoms include tiredness and lethargy.
Diverticulitis	A condition which affects the large intestine. It is linked to a low fibre diet and causes the lining of the bowel to become inflamed, infected and damaged.
Osteoporosis & rickets	Calcium is important for strong bones. Vitamin D is needed for calcium to be absorbed from food. Rickets is caused by a lack of calcium and vitamin D in children. Osteoporosis is a disease in which the bones start to lose minerals and their strength and break easily.



J'habite à Québec au Canada, parfois il fait très froid..	1	I live in Quebec in Canada, sometimes it is very cold.
Dans ma ville il y a un parc, un centre sportif et des cafés	2	In my town there is a park, a sports centre and cafes.
Aussi à Quebec on peut visiter le chateau Frontenac, c'est formidable	3	Also in Quebec, you can visit the Frontenac castle, it's amazing!
Hier je suis allé au restaurant italien, c'était délicieux.	4	Yesterday I went to an Italian restaurant, it was delicious.
Pour aller au stade, tournez à gauche après le restaurant	5	To get to the stadium, turn left after the restaurant.
Cet après-midi je vais au magasin de vêtements	6	This afternoon, I am going to the clothes shop
Je voudrais des nouveaux baskets	7	I would like new trainers
Mais ils coûtent cent dollars canadien	8	But they cost 100 Canadian dollars



1. Key words

Development	Economic progress of a country and its improving quality of life
Inequality	Extreme differences in quality of life
Resource	An item with value or purpose e.g. food
Malnutrition	Ill or weak due to too little food
Famine	Extreme shortage of food
Drought	Prolonged period of low rainfall leading to water shortages
Aid	Money, supplies and skills supplied to improve lives.
Contaminated	Infected by poisonous or polluting substance e.g. chemicals or faeces
Sanitation	Clean water, good sewerage and waste disposal
Gender Inequality	Treating people differently because they are male or female
NGO	Non-Governmental Organisation. Charities which raise money to support development and raise awareness of issues.
UN	United Nations. a group of 192 countries set up after WW2 to bring the world together to avoid future conflict.

2. Development Indicators (Measurements used to compare quality of life in different countries)

Birth rate	Number of babies born per 1000 of population
GNI	Gross National Income – the amount of money a country makes in a year
Infant Mortality Rate	The number of children who die before their first birthday per 1000 of population
Life expectancy	How long a person is expected to live
Literacy Rate	The % of the population over 15 years old who can read and write
HDI	Human Development Index – a combination of life expectancy, GNI and education
Per Capita	Per person

3. Causes of inequality

Landlocked	No access to the sea
Conflict	Ongoing violence between different groups/countries
Access to healthcare	Shortage of hospitals, doctors, nurses, and medical supplies.
Extreme weather	Temperature and rainfall which prevent effective agriculture
Natural Hazards	Disasters such as tropical storms, floods or earthquakes which are large scale and costly.
Access to education	Shortage of schools, teachers and resources
Access to resources	Shortage of water, energy and food.
Colonialism	European countries ruled over countries in Africa, Asia and the Americas.





4. Trade Key Words

Commodity`	A good for sale
Import	A good entering a country from abroad for sale
Export	A good leaving a country to go abroad for sale
TNC (Trans-National Corporation)	A large company with a headquarters in one country (often a HIC) which operates in a number of other countries.
Plantation	A large estate on which crops are grown e.g. cocoa beans, coffee beans, sugar.
Cash crop	Crops grown for sale
Free trade	Trade between countries with no restrictions which favours TNCs and HICs.
Fair trade	Trade of goods which guarantees a fair price for farmers and investment in their local community improving education, healthcare and their environment.

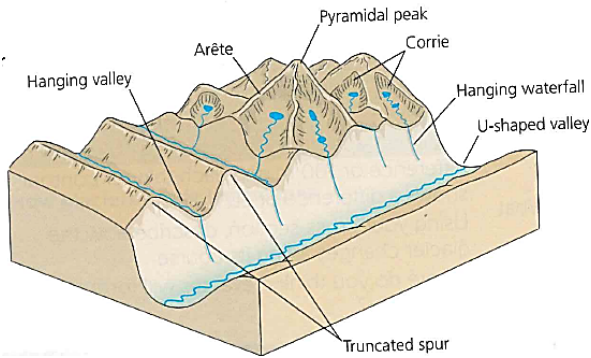
5. Types of aid

Top-down aid	A government decides how to invest aid in their country
Bottom-up aid	Local populations decide on and run smaller-scale aid projects
Short-term emergency aid	Aid to recover from a disaster e.g. earthquake
Long-term development aid	Aid to improve development indicators within a place over a number of years

6. Migration

Migrant	A person who moves from one place to another
Emigrant	A person who leaves a country to move to another one
Immigrant	A person who moves to a country from another country
Illegal Immigrant	A person who moves to another country without proper clearance
Economic Migrant	Someone who moves for money
Origin country	Where a migrant is from
Host country	Where a migrant moves to





9. Landforms in a glacial valley created by erosion

1. Physical Landscapes key words

Landscape	The visible features of an area of land
Geology	The study of rock types
Landform	Feature created by landscape processes
Coast	The land along the sea
Sediment	Small pieces of material (such as rock) moved by air and water
Glacier	Slow moving mass of ice or compressed snow
Bedrock	Hard, solid rock beneath the top layer of the ground

2. Layers of the landscapes

Physical (base) layer	The physical landscape sculpted by physical processes and geology
Biological layer	Soil, plants and trees
Human layer	Settlements, communications and farming

3. The Rock Cycle

Rock Cycle	One type of rock changes into another type of rock
Igneous	Rock formed on the surface (during eruptions) or deep underground by the cooling of molten rock
Sedimentary	Formed by deposition
Metamorphic	Undergone change due to intense heat and/or pressure

4. Landscape processes

Weathering	Breakdown of rocks in situ
Erosion	Wearing away and removal of pieces of rock
Transportation	Movement of rocks from an area of erosion to an area of deposition
Deposition	Dropping of rock particles

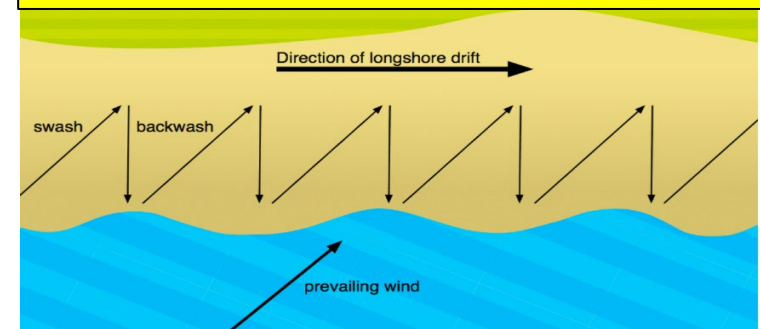
5. Features of a river valley

Drainage Basin	Area of land drained by a river and its tributaries
River Channel	The groove in the land through which water travels
Tributary	Small river which joins a larger river
Confluence	The point where two rivers meet
Source	Start of a river
V-shaped river valley	Deep river valley shaped like a V
Waterfall	A 'step' in the river over which water plunges
Meander	A bend in a river
Floodplain	The flat land either side of the channel which floods when the river bursts its banks
Mouth	End of a river

6. Coastal landforms

Cliff	Steep, often vertical rock face
Bay	Land curves in away from the sea and is surrounded by land on three sides
Headland	A tall, narrow piece of land projecting into the sea
Cave	A natural hollow in a cliff
Arch	An opening in the cliff from where a cave has collapsed
Stack	Steep, often vertical column in the sea
Beach	Sediment deposited by the sea
Spit	A narrow, jutting finger of sand projecting into the sea
Tombolo	A beach which joins an island to the mainland

7. Longshore Drift – the zigzag movement of material along a beach in the direction of wind



8. Glacial processes key terms

Plucking	The movement of glaciers pulls rock from the bedrock
Abrasion	Scraping of a glacier over bedrock
Freeze-thaw weathering	Changing temperature of water causes rock to weaken and break
Moraine	Debris mixed with ice which is transported by glaciers

10. Glacial landforms key terms

Corrie	A sheltered, over-deepened hollow with a steep back wall and lip
Arete	Sharp mountain ridge between two corries
Pyramidal Peak	A sharply pointed peak caused by the formation of three or more corries
U-Shaped valley	Deep valley with straight sides and flat bottom – shaped like a U.
Misfit river	River that is too small for a valley
Truncated spurs	Steep cliffs along the sides of a U-shaped valley
Hanging Valley	Small valley hanging high above a U-shaped valley
Fjord	Flooded glacial valley
Ribbon lakes	Long, thin lake found in a U-shaped valley
Glacial till	Debris transported by a glacier where it then melts. This is a mixture of rocks and clay.
Erratic	Very large boulder
Drumlin	Smooth, egg-shaped hills.



1. James I

James I	King of Scotland and England in 1603. Brought up as a Protestant
King James' Bible	Became the standard version of the Bible for the next 250 years
Repressive laws	Unfair laws that Catholics hoped James would end as they were introduced during Elizabeth's reign.

2. The Gunpowder Plot

Cause	James I and Parliament had issues repressive laws against Catholics. Plotters decided to commit treason to remove James I from power.
Event	Guy Fawkes was found with 36 Barrels of gunpowder placed directly under the House of Lords.
Consequence	Guy Fawkes was punished by being Hung, Drawn and Quartered.

5. Oliver Cromwell

Oliver Cromwell	Leader of the New Model Army. Ruled the country after Charles I
The Lord Protector	Cromwell didn't want to be called King, but this title gave him the powers of one
Interpretation	Historians viewpoint on a person, event, or period of history.
Dr David Smith says about him	One thing is clear: regardless of whether you love him or loathe him, it is impossible to ignore Oliver Cromwell.

3. Charles I

Absolute Monarch	A ruler who has supreme authority and power
Henrietta- Maria	French Princess. Charles I wife. A Catholic
Ship Money	A tax that Charles I expands to raise money
Personal Rule	Charles ruled for 11 years without Parliament
Raising the standard	Charles summons an army to fight parliament. This is from Nottingham
Short Parliament	Parliament were not happy with Charles about his actions over his personal rule, so he dissolved them after 3 weeks

4. The English Civil War

Roundheads	Parliaments' Army who had short hair cuts
Cavaliers	The Royalists army, fighting for Charles I. They had long hair, contrasting with the Roundheads
Civil War	A war between two sides in the same country. The English Civil War was between the Roundheads and Cavaliers
New Model Army	A professional national army and could be sent anywhere in the country. They were strictly disciplined

6. Execution of Charles I

Rump Parliament	The remaining MPs after the ones who supported Charles were banned from entering the House of Commons
Show Trial	Charles's trial was just for 'show'. The decision to execute him had already been made
Treason	Attacking a state or the authority of a country

7. Timeline of key dates

1603	James I became king of England
5th Nov 1605	The Gunpowder Plot
1625	Charles I becomes King
1642- 1651	The English Civil War
30th Jan 1649	The Execution of Charles I
1653- 1658	The rule of Oliver Cromwell
1660	Restoration of the monarchy with Charles II becoming the king

7. PEEL Structure

Point	Clear point answering question
Evidence	SPEND – Statistics, Places, Events, Names Dates
Explanation	Why does fact this matter?
Link	Link point back to the question



1. Key Words

Industry	Manufacturing goods in mills and factories
Revolution	A complete change
Urbanisation	Population shift from rural to urban areas
Mechanisation	Machines replace manual labour
Workhouses	Food and board for the poor in exchange for work
Transport	Railways, canals, steam ships

2. Living Conditions

Housing	Overcrowding, with one room per family. Housing was damp, dirty and unhygienic.
Sanitation	One shared outside water pump and toilet per street.
Cholera	Infection caused by ingestion of food or water contaminated by bacteria. Epidemics in 1832, 1849 and 1866.

3. Social Reformers

Social	Related to human society.
Reform	Make changes to improve something.
Charles Booth	Created a survey in 1886 on living and working conditions and found 30% of London lived in poverty.
Joseph Rowntree	Concerned with the living conditions of his factory workers and made improvements

4. Working Conditions

Pay	Very low pay for adults and children
Hours	6 days a week. 12 hours a day. Few breaks
Conditions	Dangerous, dirty, punishments
Accidents	Faulty machines, no safety gear, whips, fire

5. Transport

Railways	Cheaper, quicker and more comfortable
Canals	Slower, likely to freeze and more expensive to build.
Shipping	Susceptible to bad weather.
Roads	Long distance road transport went into decline.

6. Inventions

Great Exhibition 1851	The aim was to improve the manufacture and design of British goods and to cultivate public taste.
Michael Faraday	He discovered how to generate electricity. His generator worked on the same basic principle that electric power stations work on today.
Locomotive	A locomotive or engine is a rail transport vehicle that provides the motive power for a train. George Stephenson designed his first steam locomotive in 1814 – but it was no quicker than using horses to pull coal wagons.
Ada Lovelace	She worked out how the machine could be programmed with a code to calculate numbers. Lovelace's plans for a machine to carry out instruction to be the world's first ever computer program.
Telephone	Invented by Alexander Graham, Bell in 1876, but has been accused of copying other inventors.

7. Knowledge of Skills

Significance	Sufficiently great or important to be worthy of attention
What makes someone or something significant?	Importance: To people living at the time. Profundity: How deeply people's lives were affected. Quantity: How many lives were affected. Durability: For how long people's lives were affected. Relevance: The extent to which the event has contributed to an increased understanding of present life.

8. Timeline of key dates

1825	The first passenger railway opens
1837	Queen Victoria becomes the Monarch
1848	Cholera epidemic across Britain
1889	Charles Booth's survey
1901	Death of Queen Victoria



1

Keyword	Definition
Cell	Individual element of a spreadsheet
Formula	Mathematical equation
Function	A preset formula such as SUM, AVERAGE or COUNT
Filter	Used to highlight data that contain a certain value
Sort	Allows data to be placed in an order such as numerical or alphabetical

2

Type of software	Example	Used for
Web browser	Google Chrome	Searching for information / images
Word processor	Microsoft Word	Creating documents / letters / reports
Spreadsheet app	Microsoft Excel	Data analysis / graphs / charts
Email client	Microsoft Outlook	Sending and receiving emails / calendar function
Team collaboration software	Microsoft Teams	Sharing files / working on files with other people

3

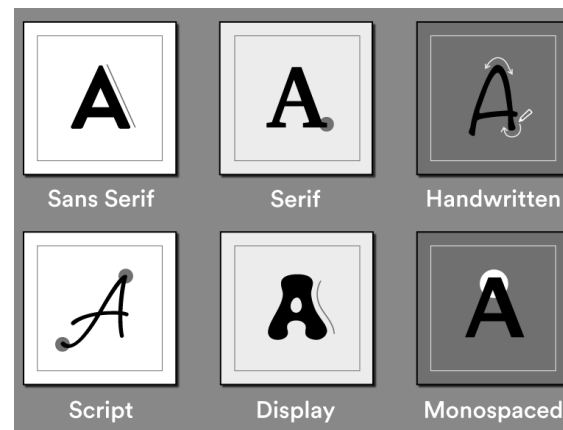
Colour swatch



Company logo



Font Style



4

Animations	Images / text can be animated to move around or appear on a slide in a specific way
Transitions	Movement between one slide and the next
Slide Show	Presenting the slides in order to an audience



1. Ration and Scale Key Words

1.	Ratio	A statement of how two or more items compare.
2.	Equal parts	All parts in the same proportion, or a whole shared equally.
3.	Proportion	A statement that links two ratios.
4.	Order	To place a number in a determined sequence.
5.	Equivalent	Of equal value.
6.	Factors	Integers that multiply together to get the original value.
7.	Scale	The comparison of something drawn to its actual size

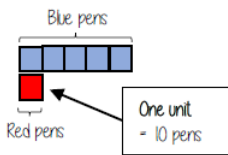
2. Finding a value given 1n (or n:1)

Inside a box are blue and red pens in the ratio 5:1
If there are 10 red pens how many blue pens are there?

Model the Question

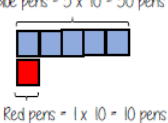
Blue : Red
5 : 1

□ = one part
= 10 pens



Put back into the question

Blue : Red
5 : 1
x 10 x 10
50 : 10



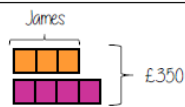
There are 50 Blue Pens

3. Sharing a whole into a given ratio

James and Lucy share £350 in the ratio 3:4.
Work out how much each person earns

Model the Question

James : Lucy
3 : 4



Find the value of one part

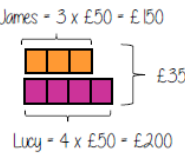
Whole: £350
7 parts to share between
(3 James, 4 Lucy)

£350 ÷ 7 = £50

□ = one part
= £50

Put back into the question

James : Lucy
3 : 4
x 50 x 50
£150 : £200



1. Multiplicative Change Key Words

1.	Proportion	A statement that links two ratios.
2.	Variable	A part that the value can be changed
3.	Axes	Horizontal and vertical lines that a graph is plotted around.
4.	Approximation	An estimate for a value.
5.	Scale Factor	The multiple that increases/decreases a shape in size
6.	Currency	The system of money used in a particular country.
7.	Conversion	The process of changing one variable to another
8.	Scale	The comparison of something drawn to its actual size.

2.

Direct Proportion



4 cans of pop = £2.40

x 0.5
2 cans of pop = £1.20

x 3
12 cans of pop = £7.20

As one variable changes the other changes at the same rate.

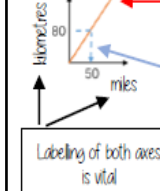
This is a multiplicative change

Sometimes this is easiest if you work out how much one unit is worth first
e.g. 1 can of pop = £0.60

4.

Conversion Graphs

Compare two variables



This is always a straight line because as one variable increases so does the other at the same rate

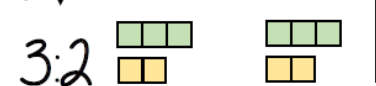
To make conversions between units you need to find the point to compare – then find the associated point by using your graph
Using a ruler helps for accuracy
Showing your conversion lines help as a "check" for solutions

4 Simplifying a ratio

Cancel down the ratio to its lowest form

"For every 6 days of rain there are 4 days of sun"

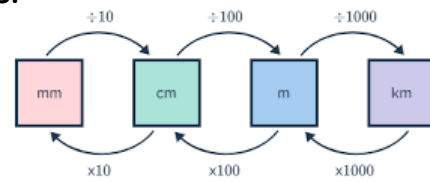
6 : 4
÷ by 2
3 : 2



Find the biggest common factor that goes into all parts of the ratio
For 6 and 4 the biggest factor (number that multiplies into them is 2)

"For every 3 days of rain there are 2 days of sun" – when this happens twice the ratio becomes 6:4

5.



Sparx Codes

M885

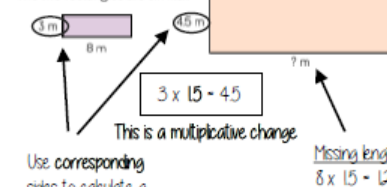
M525

M478

3.

Understand Scale Factor

The two rectangles are similar.



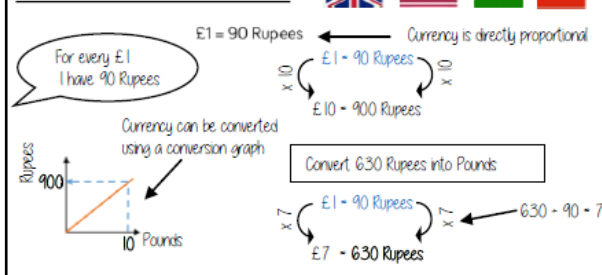
Use corresponding sides to calculate a scale factor

Scale factor can also be calculated by

Bigger corresponding side
Smaller corresponding side

5.

Conversion between currencies



Sparx Codes

M478

M377

M324



1. Multiplying and Dividing Fractions Key Words

1.	Numerator	The number above the line on a fraction, the top number represents how many parts are taken.
2.	Denominator	The number below the line on a fraction, the number represent the total number of parts.
3.	Whole	A positive number including zero without any decimal or fraction parts.
4.	Commutative	An operation is commutative if changing the order does not change the result
5.	Unit Fraction	A fraction where the numerator is one and the denominator is a positive integer.
6.	Non-Unit Fraction	A fraction where the numerator is larger than one.
7.	Dividend	The amount you want to divide up.
8.	Divisor	The number that divides another number.
9.	Quotient	The answer after we divide one number by another. Dividend ÷ Divisor = Quotient
10.	Reciprocal	A pair of numbers that multiply together to give 1.

2. Multiplying non-unit fractions

Shade in 3 parts → $\frac{3}{4} \times \frac{2}{3} = \frac{6}{12}$ → Parts shaded

Repeat it on this many rows →

This many columns →

This many rows →

Modelled: $\frac{3}{4} \times \frac{2}{3} = \frac{6}{12}$

Total number of parts in the diagram

3. Dividing any fractions Remember to use reciprocals

$\frac{2}{5} \div \frac{3}{4} = \frac{2}{5} \times \frac{4}{3} = \frac{8}{15}$

Multiplying by a reciprocal gives the same outcome

Represented:

4. The reciprocal When you multiply a number by its reciprocal the answer is always 1

$$3 \times \frac{1}{3} = 1$$

$$\frac{1}{3} + \frac{1}{3} + \frac{1}{3} = 1$$

The reciprocal of 3 is $\frac{1}{3}$ and vice versa

Reciprocals for division

eg $5 \div \frac{1}{4} = 20$

$5 \times 4 = 20$

Multiplying by a reciprocal gives the same outcome

Sparx Codes

M157

M110

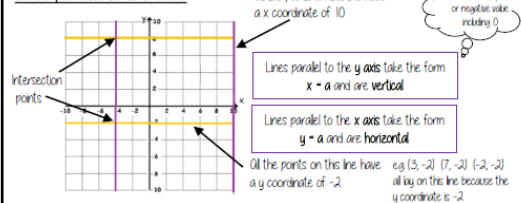
M216

1. Cartesian Plane Key Words

1.	Quadrant	Four quarters of the coordinate plane.
2.	Coordinate	A set of values that show an exact position.
3.	Horizontal	A straight line from left to right (parallel to the x axis).
4.	Vertical	A straight line from top to bottom (parallel to the y axis).
5.	Origin	(0,0) on a graph, the point the two axis cross.
6.	Parallel	Lines that never meet.
7.	Gradient	The steepness of a line.
8.	Intercept	Where lines cross.

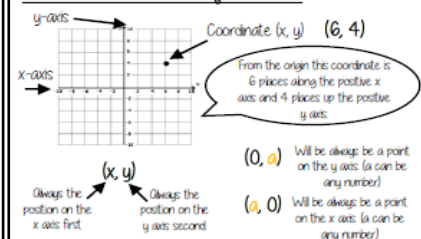
2.

Lines parallel to the axes



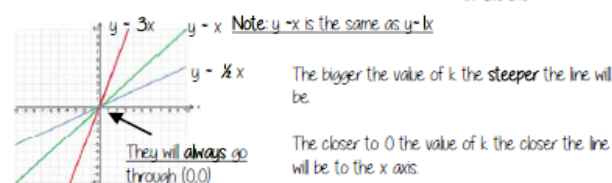
4.

Coordinates in four quadrants



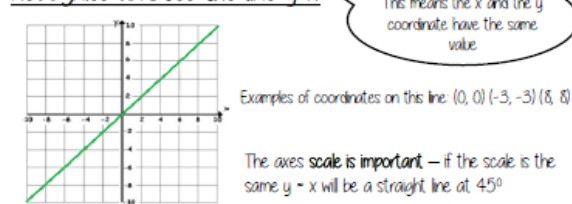
3.

Recognise and use the lines $y=kx$ The value of k changes the steepness of the line



5.

Recognise and use the line $y=x$



Sparx Codes

M618

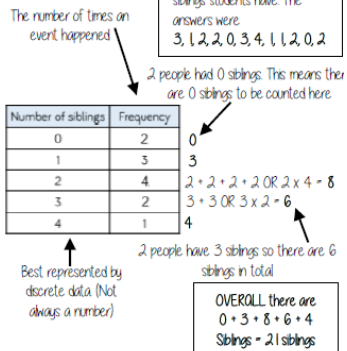
M932



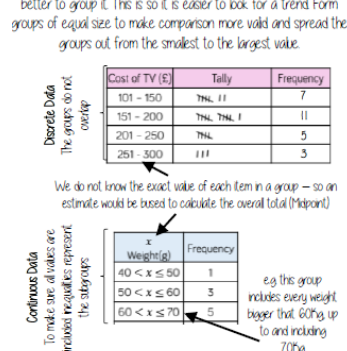
1. Representing Data Key Words

1.	Variable	A quantity that may change within the context of the problem.
2.	Relationship	The link between two variables (items), e.g. between sunny days and ice cream sales.
3.	Correlation	The mathematical definition for the type of relationship.
4.	Line of best fit	A straight line on a graph that represents the data on a scatter graph.
5.	Outlier	A point that lies outside the trend of the graph.
6.	Continuous:	Quantitative data that has an infinite number of possible values within its range.
7.	Discrete	Quantitative or qualitative data that only takes certain values.
8.	Frequency	The number of times a particular data value occurs.

2. Ungrouped Data



3. Grouped Data



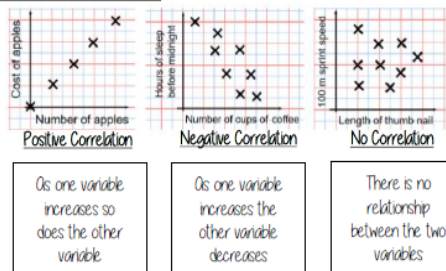
Sparx Codes

M769

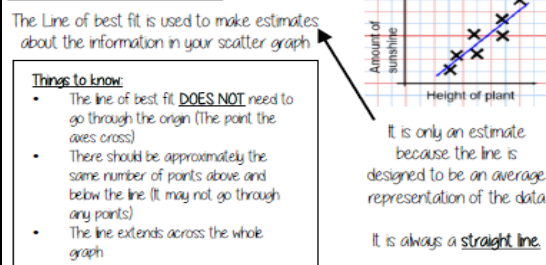
M596

M127

4. Linear Correlation



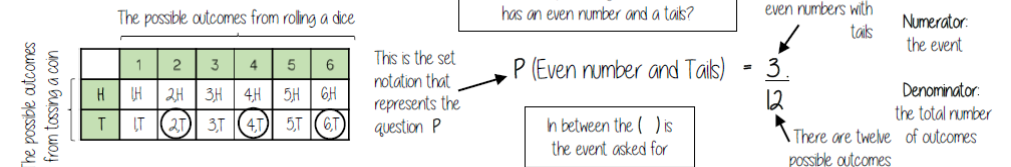
4. The line of best fit



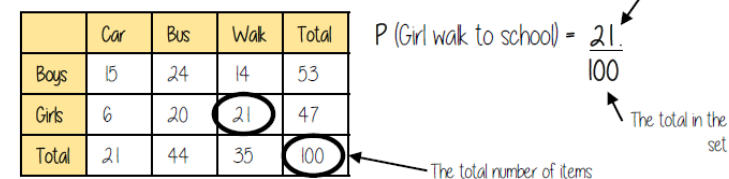
1. Tables and Probability Key Words

1.	Outcomes	The result of an event that depends on probability.
2.	Probability	The chance that something will happen.
3.	Set	A collection of objects.
4.	Chance	The likelihood of a particular outcome.
5.	Event	The outcome of a probability- a set of possible outcomes.
6.	Biased	A built-in error that makes all values wrong by a certain amount.
7.	Union	Notation 'U' meaning the set made by comparing the elements of two sets.

2. Probability from sample space



3. Probability from two-way tables



Sparx Codes

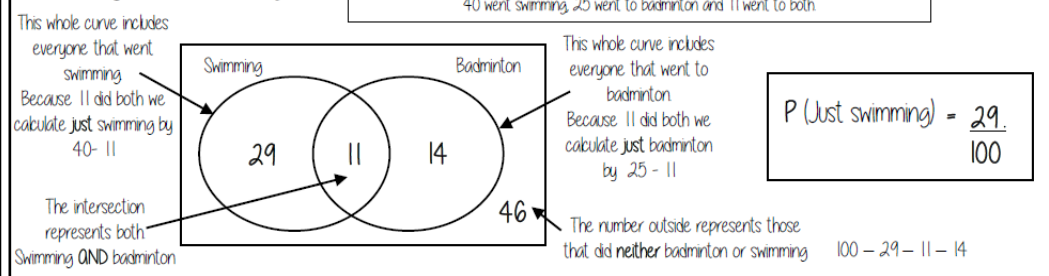
M718

M829

M419

5.

Probability from Venn diagrams





Key Words

Term	Description
12 Bar Blues	The structure used in Blues music. There are 3 lines of 4 bars.
Blues Scale	A selection of notes that are put together to create a 'bluesy' scale. The blues scale is used for the notes during improvised sections of music.
Chords	The chords are played at the beginning of each of the 12 bars. The chords used in Blues are C, F & G. Rule for a chord: play a note — miss a note — play a note — miss a note — play a note.
Improvisation	Improvisation is where music is played and made up 'on the spot'. Music that is improvised is not usually written down, and not preplanned.
Walking Bass	The name for the bassline heard in Blues music. It is usually played at a "walking" tempo.
Call and Response	A performed plays/sings a 'call' and the other performers will 'respond'.

Fundamentals of Blues Music

Origins and History

- **Origins:** African slaves brought their musical traditions with them when they were transported to work in the North American colonies.
- **Work Songs:** These were sung rhythmically in time with the task being done.
- **Oral Tradition:** Songs were passed on orally (word of mouth) and were never usually written down.
- **Country Blues:** Early styles of Blues were known as country blues and usually featured a solo singer accompanied by guitar or piano, sometimes with added harmonica or drums.
- **Lyrics:** Themes often included depression, lack of money/employability, loneliness, and missing family.

Musical Structure and Elements

- **12 Bar Blues:** The name of the structure used in blues music. It is split into 3 lines (or sections) of 4 bars each.
- **Song Structure:**
 - **Modern:** Sometimes follows modern pop structures like Verse-Chorus.
 - **Older:** Usually consists of 3 lines where Lines 1 & 2 are the same and line 3 is usually different. This pattern also applies to the lyrics.
- **Call and Response:** A technique where phrases from a lead singer (the "call") are followed or responded to by others.
- **Musical Elements:** Used separately and together to help create the mood and expression of emotion in a song.

Technical Components

Chords and Theory

- **Definition:** A chord is 3 notes played together at the same time, also called a triad.
- **The "Rule" for a Chord:** Play a note — miss a note — play a note — miss a note — play a note.
- **Blues Chords:** Blues music primarily uses 3 chords: **C, F, and G**. These are played at the beginning of each of the 12 bars.
 - **C** = CEG
 - **F** = FAC
 - **G** = GBD
- **12 Bar Progression Example:**
 - C /// C /// C /// C ///
 - F /// F /// C /// C ///
 - G /// F /// C /// C ///

Melody and Rhythm

- **Blues Scale:** A specific selection of notes put together to create a "bluesy" sound. It is often used for notes during improvised sections.
- **Improvisation:** Music that is performed and made up "on the spot". It is traditionally not written down or preplanned; performers use musical knowledge to create something from scratch.
- **Walking Bass:**
 - The name for the bassline heard in Blues music, usually played by the bass guitar.
 - It is played at a steady, "walking" tempo.



A. Key Words

HOOK	A 'musical hook' is usually the 'catchy bit' of the song that you will remember. It is often short and used and repeated in different places throughout the piece. HOOKS can either be a:
MELODIC HOOK	A HOOK based on the instruments and the singers.
RHYTHMIC HOOK	A HOOK based on the patterns in the drums and bass parts.
VERBAL / LYRICAL HOOK	A HOOK based on the rhyming and/or repeated words of the chorus.
RIFF	A repeated musical pattern often used in the introduction and instrumental breaks in a song or piece of music. RIFFS can be rhythmic, melodic or lyrical, short and repeated.
OSTINATO	A repeated musical pattern. The same meaning as the word RIFF but used when describing repeated musical patterns in "classical" and some "World" music.
BASS LINE	The lowest pitched part of the music often played on bass instruments such as the bass guitar or double bass. RIFFS are often used in BASS LINES.
MELODY	The main "tune" of a song or piece of music, played higher in pitch than the BASS LINE and it may also contain RIFFS or HOOKS. In "Classical Music", the melody line is often performed "with" an OSTINATO pattern below.

B. Famous Hooks, Riffs and Ostinatos

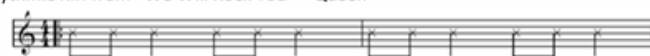
Bass Line Riff from "Sweet Dreams" – The Eurythmics



Riff from "Word Up" – Cameo



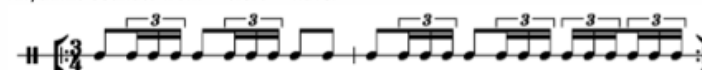
Rhythmic Riff from "We Will Rock You" – Queen



Vocal and Melodic Hook from "We Will Rock You" – Queen



Rhythmic Ostinato from "Bolero" – Ravel



Bass Line Ostinato from "Habanera" from 'Carmen' – Bizet



Ostinato from 2nd Movement of Symphony No.101 (The Clock) – Haydn



C. Music Theory

Symbol / Term	Description
REPEAT SYMBOL 	A musical symbol used in staff notation consisting of two vertical dots followed by double bar lines showing the performer should go back to either the start of the piece or to the corresponding sign facing the other way and repeat that section of music.
TREBLE CLEF 	A musical symbol showing that notes are to be performed at a higher pitch. Also called the G clef since it indicates that the second line up is the note G.
BASS CLEF 	A musical symbol showing that notes are to be performed at a lower pitch. The BASS LINE part is often written using the BASS CLEF. Also called the F clef since it indicates that the fourth line up is the note F.



Key Words		
1	Imago Dei	The belief that humans are created in the image and likeness of God.
2	Discrimination	Treating someone unfairly because of who they are or what they believe.
3	Individual liberty	The freedom to make personal choices and express oneself, within the law.
4	Digital footprint	The record of what a person does online, including websites visited and content shared.
5	Self-control	The ability to manage one's emotions, desires, and actions responsibly.
6	Justice system	The legal structure that upholds laws and ensures fair treatment for all.
7	Respect	Showing regard and consideration for others' feelings, rights, and traditions.
8	Stewardship	Taking responsibility for the care and protection of people, property, and the environment.



Key Facts	
1	Every human is scientifically and spiritually unique, sharing 99.9% of DNA but still completely individual.
2	Sexual attraction is natural but requires self-control, patience, and respect to navigate responsibly.
3	Sharing sexual images under the age of 18 is illegal in the UK and can have serious social, personal, and legal consequences.
4	British Values such as democracy and individual liberty protect the rights and freedoms of all UK citizens.
5	Laws are official rules enforced by the government; breaking them can lead to legal consequences such as fines or prison.
6	The age of criminal responsibility in the UK is 10, meaning children can be charged with crimes from that age.
7	Religious discrimination includes both direct and indirect unfair treatment based on someone's faith or beliefs.
8	Understanding and practicing virtues like equality, compassion, and stewardship can help build a fairer, more inclusive society.

Key Virtues & Scripture			
1	Equality	Believing that all people are of equal value and should be treated fairly.	In modern society, this means treating classmates, neighbours, and colleagues with fairness regardless of their background, religion, or abilities.
2	Self-control	The ability to manage one's emotions, desires, and actions responsibly.	This can be shown today by thinking before speaking in anger, resisting peer pressure, and making positive choices even when tempted to do wrong.
3	Compassion	Showing kindness and a desire to help others, especially those who are suffering.	People live out compassion by supporting friends who are struggling, helping the homeless, or speaking up when someone is being bullied.
"There is neither Jew nor Greek... for you are all one in Christ Jesus." Galatians 3:28			This scripture speaks to the core message of Advent — unity, hope, and dignity for all. It reminds us that every person is of equal value and should be treated with respect. It challenges us to reject prejudice and discrimination and to act with fairness and love to all.

Components of Fitness

Health Related Components

1. Cardiovascular Fitness	The ability to exercise the entire body for long periods of time without tiring
2. Muscular Endurance	The ability to use voluntary muscles many times without getting tired
3. Muscular Strength	The amount of force a muscle can exert against resistance
4. Flexibility	The range of movement possible at a joint
5. Body Composition	The relative ratio of fat mass to fat-free mass in the body

Skill Related Components

6. Agility	The ability to change the position of the body quickly while maintaining control of the movement
7. Balance	The ability to retain the body's centre of mass above the base of support
8. Coordination	The ability to use two or more body parts together
9. Reaction Time	The time it takes to respond to a stimulus
10. Power	The ability to do strength performance quickly (power = strength x speed)
11. Speed	The amount of time it takes to perform a particular action

Muscular System

1, Antagonistic Muscle Pairs

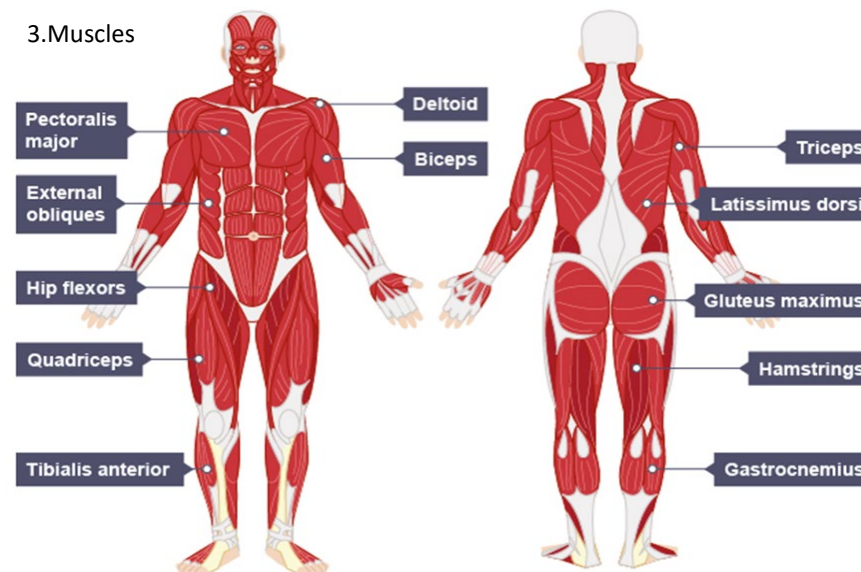
One muscle relaxes for the other to contract. Examples:

Muscle 1	Muscle 2
Biceps	Triceps
Hamstrings	Quadriceps
Gluteus maximus	Hip flexors
Gastrocnemius	Tibialis anterior

2. Muscle Fibres

	Type I	Type IIa	Type IIx
Speed of contraction	Slow	Fast	Very fast
Force produced	Low	Medium	High
Resistance to fatigue	High	Medium	Low

3. Muscles



Principles of Training

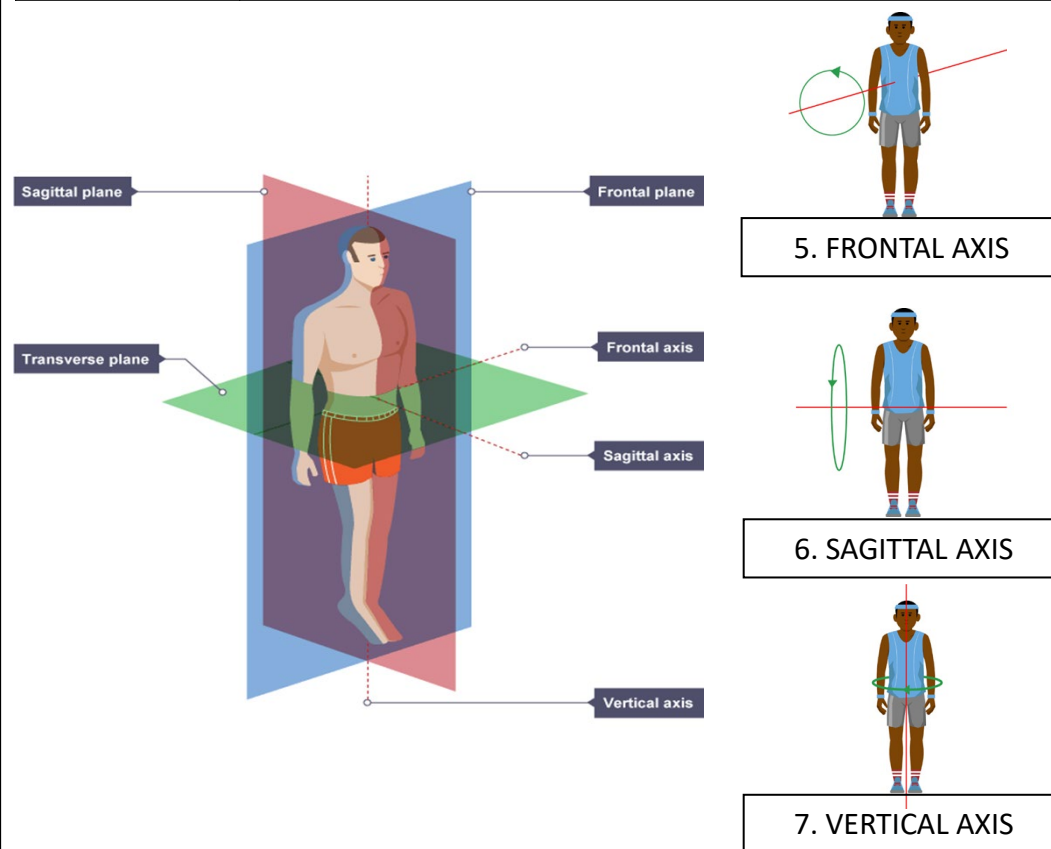
1. Specificity	Ensuring that the training is relevant and specific to the sport you are training for
2. Progressive Overload	Training frequency, intensity, time and type must be increased over time to ensure the body is pushed beyond its normal rhythm
3. Individual Needs	Training must be related to an athlete's age, gender, injury status and fitness level
4. Reversibility	Systems and progress are reversed if training stops or is reduced
5. Rest and Recovery	Physical adaptations occur during the recovery and rest periods of the training cycle
6. Overtraining	If an athlete doesn't have sufficient rest periods then their body doesn't have time to adapt and overall fitness declines

FITT Principle

1. Frequency	This is increased by training a greater number of times each week
2. Intensity	This is increased by lifting a greater resistance when weight training, or training at a higher percentage of your maximum heart rate
3. Time	This can be when you train for longer periods or when you reduce recovery time between sets of exercise
4. Type	This is where you offer a variety of training types and experiences for the athlete by combining different training methods

Movement Analysis

<u>Type of Plane</u>	<u>Movement Available</u>
1. Sagittal	Divides the left and right side of the body, vertically.
2. Frontal	Divides the front and the back of the body, vertically.
3. Transverse	Divides the top and bottom of the body, horizontally.



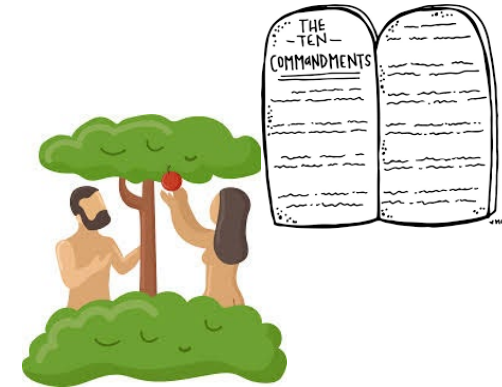


Key Words

1	The Fall	the story in Genesis 3 where humans commit the first sin and fall away from God's grace.
2	Original Sin	The state of sin in which all humans are born, meaning they inherit the consequences of Adam and Eve's first sin.
3	Concupiscence	The natural temptation to sin that all humans have, following the Fall.
4	Covenant	A promise between God and his people.
5	The Decalogue	The ten 'words' or sayings of God that guided the Jewish people to live as God wanted; also called the Ten Commandments.
6	Freedom	The power or right a person has to act, speak or think as they want; being able to choose their own destiny, independent or influence from anyone or anything else.
7	Responsibility	Having control or power over something, which leads to a duty or moral obligation to behave correctly.
8	Conscience	An intuitive knowledge of right and wrong, which leads to an instinctive desire to do right and avoid wrong.
9	Baptism	The Sacrament of Initiation that welcomes new members into the Catholic Church and washes a person clean of the original sin all humans inherit following the first sin by Adam and Eve.

Key Quotes

1	'Go therefore and make disciples of all nations, baptizing them in the name of the Father, and of the Son and of the Holy Spirit.' <i>Matthew 28:19</i>
2	'we all carry within us a drop of the poison of that way of thinking, illustrated by the images in the Book of Genesis... the human being does not trust God' <i>Pope Benedict XVI</i>



Key Facts

1	Adam and Eve were tempted by the serpent to disobey God and eat the fruit from the Tree of Knowledge. God knew they had sinned because Adam and Eve hid from him. This is called The Fall
2	For disobeying God, Eve was punished by having painful childbirth. Adam was to work hard on the land to get the food that he needs. The serpent had to crawl on the ground.
3	Sin is the act of going against God. This damages the relationship between God and humanity. All humans are born with Original Sin
4	God gave Moses the 10 Commandments (the Decalogue) to give His people guidance on how to live in a way which is pleasing to him. They are divided into those which help to show love of God and those which show love of neighbour.
5	Humans need to educate their conscience to allow them to make moral decisions. Some of the ways they can do this include studying the Bible, prayer and receiving the sacraments.
6	During Baptism symbols such as water, white garments and a candle are used to show that a person has had their original sin washed away and welcomed into the Church community.
7	Sophie Scholl was a Christian teenager who lived in Nazi Germany. She disagreed with Nazi rule and stood up for those who were being persecuted. As a result, she was arrested, found guilty of treason and beheaded.



Key Words		
1	Prophet	A person anointed by God and inspired by God through the Holy Spirit to share God's messages.
2	Priest	A person anointed by God to make thanksgiving offerings on behalf of the people; today it also refers to an ordained minister of the Catholic Church, who celebrates the sacraments in which all Catholics participate.
3	King	An anointed person who has authority, power and responsibility for people in his care; also a ruler of a country.
4	Messianic	Relating to the Messiah
5	Advent	The first season in the liturgical year, in which Christians prepare and wait for both the birth of Jesus and the Second Coming of Christ.
6	Amos	An early Hebrew prophet who called people back to God and warned of divine judgement on people who have sinned.
7	Elijah	An Old Testament prophet who foretells the coming of the Messiah in the books 1 Kings and 2 Kings.
8	John the Baptist	A New Testament prophet who prophesied and prepared the way for Jesus as the Messiah; also the cousin of Jesus.

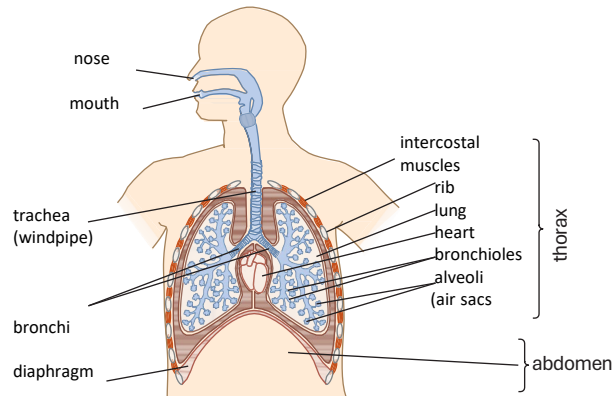


Key Quotes	
1	'And you, child, will be called the prophet of the Most High; for you will go before the Lord to prepare his ways...' Luke 1
2	'before I formed you in the womb I knew you, and before you were born I consecrated you; I appointed you a prophet to the nations.' Jeremiah 1
Key Facts	
1	There are many prophets in the Old Testament who share God's messages with humanity. They can be warnings, encouragements or predictions.
2	Jeremiah is known as 'the weeping prophet ' because his prophecies suggested that terrible things would happen unless people started living life according to God's laws.
3	The prophets talk about common themes. These include encouraging repentance, caring for the poor and judgement.
4	John the Baptist is said to be the final prophet . He was called by God to prepare the way for Jesus and fulfil Zephaniah's prophecy by baptising people.
5	Catholics are called to be priest , prophet and king . This means that they should participate in the sacraments, share the words of God with others and show people how to behave by setting a good example.
6	St Oscar Romero was a man who worked in El Salvador and spoke out about the corruption of his country. This led to him being shot and killed whilst celebrating Mass.
7	Advent is a time of preparation for Catholics. They prepare for the arrival of Jesus, the Incarnation. Catholics anticipate the coming of Jesus just like the prophecies said.
8	Advent is celebrated around the world in different ways. In the UK many primary school children take part in Nativity plays whereas in South America they celebrate Las Posadas.



1. Gas exchange and breathing

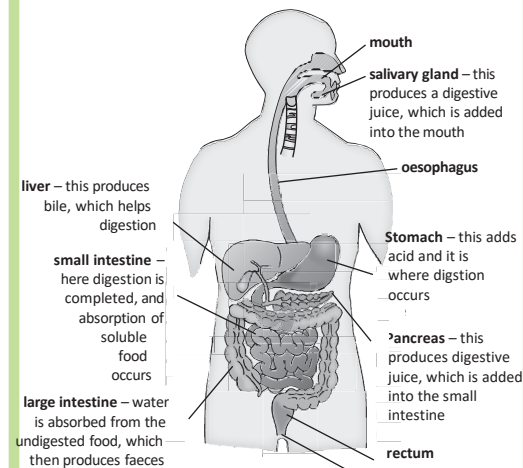
- **Gas exchange** is the process of taking in oxygen and giving out carbon dioxide
- This occurs in the **respiratory system**
- The proportions of gases in the air we **inhale** and **exhale** changes due to using oxygen in **respiration** and producing carbon dioxide



2. What happens when you breathe in and out

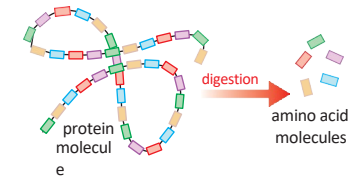
When you breathe in (inhale)	• muscles between the ribs contract • ribs are pulled up and out • diaphragm contracts and flattens • volume of the chest increases • pressure inside the chest decreases • air rushes into the lungs
When you breathe out (exhale)	• muscles between ribs relax • ribs are pulled in and down • diaphragm relaxes and moves up • volume in the chest decreases • pressure inside the chest increases • air is forced out of the lungs

3. The digestive system



4. Enzymes

- **Enzymes** are biological **catalysts**, they speed up the digestion of **nutrients**
- Each enzyme is specific to each nutrient
- The way the enzyme and nutrient bind with each other is called a **lock and key model**
- **Carbohydrases** break **carbohydrates** down into simple sugars
- **Proteases** break **proteins** down into amino acids
- **Lipase** breaks **lipids** (fats) down into fatty acids and glycerol



6. Drugs

- **Drugs** are chemicals that affect the way that our body works
- **Medicinal drugs** are used in medicine, they benefit health
- If medicinal drugs are not taken in the correct way they can harm health
- Examples include antibiotics and pain killers
- **Recreational drugs** are taken by people for enjoyment
- Recreational drugs normally have no health benefits and can be harmful for health
- Examples include alcohol and tobacco
- **Drug addiction** is when your body gets so used to a drug, it feels it cannot cope without it
- If someone who has an addiction stops taking the drug, they will experience **withdrawal symptoms**

5. Nutrients

- A **balanced diet** involves eating the right amount of nutrients for your body to function
- Not eating enough of a nutrient means you have an unbalanced diet, and this can lead to a **deficiency**

Nutrient	Role in your body
carbohydrates	main source of energy
lipids	fats and oils provide energy
proteins	growth and repair of cells and tissues
vitamins and minerals	essential in small amounts to keep you healthy
water	needed in all cells and body fluids
fibre	provides bulk to food to keep it moving through the gut

Keyword	Definition
Addiction	A need to keep taking a drug in order to feel normal
Balanced diet	Eating food containing the right nutrients in the correct amounts
Carbohydrate	Nutrients that provide the body's main source of energy
Carbohydrase	Enzyme that breaks down carbohydrates into smaller sugar molecules
Catalyst	Substances that speed up chemical reactions but are not unchanged at the end
Deficiency	A lack of minerals that causes poor health
Drug	Chemical substance that affects the way your body works
Enzyme	Substances that speed up the chemical reactions of digestion
Exhale	Breathing out, removing carbon dioxide

Fibre	Food matter that supports movement through the intestines and prevents constipation
Gas exchange	The transfer of gases between an organism and its environment
Inhale	Breathing in, to take in oxygen
Lipid	A type of fat
Medicinal drug	A drug that has a medicinal benefit to your health
Mineral	Essential nutrient needed in small amounts to keep healthy
Nutrient	Essential substances that your body needs to survive, provided by food
Protease	Enzyme that breaks down proteins into amino acids

Protein	Nutrient required for growth and repair
Recreational drug	Drug taken for enjoyment
Respiration	Chemical reaction where energy is released from glucose
Respiratory system	Organ system which replaces oxygen and removes carbon dioxide from the blood
Vitamin	Essential nutrients needed in small amounts for health
Withdrawal symptoms	Unpleasant symptom a person with a drug addiction suffers from when they stop taking the drug

1. Elements and atoms

- An **element** is a substance that only contains one type of atom, it is found on the **Periodic Table**
- Each element has it's own unique chemical symbol which is the same in every language, these are also found on the Periodic Table
- An **atom** is the smallest part of which an element can be broken down into
- As there are around 100 types of elements that can occur naturally, there are around 100 different atoms

2. Compounds

- **Compounds** are formed when two or more different elements chemically bond together
- The compound will have different **physical properties** to the elements which make up the compound, for example water is a liquid, but it made from oxygen and hydrogen which are both gases
- Compounds are hard to separate and need a chemical reaction to do this

- When naming a compound, we always mention the metal first and the non metal second
- The name of the metal will not change but the name of the non metal will, for example oxygen can change to oxide
- Chemical formulae tells us how many atoms of each element are in the compound in relation to each other



- The small number tells us the number of each element which is in front of the number

3. Polymers

- **Polymers** are long chains of groups of atoms which are repeated many times
- Natural polymers are not man-made and include wool, cotton, starch and rubber
- Synthetic polymers are man-made and include polythene, polystyrene and nylon

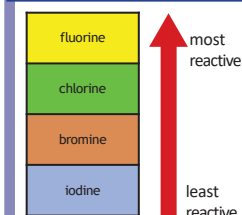
4. Groups and periods

- **Groups** are the columns in the Periodic Table, they go downwards
- **Periods** are the rows in the Periodic Table, they go sideways
- Elements in the same group normally follow the same trends in properties such as melting point, boiling point and reactivity
- By placing these elements into these groups, scientists can make predictions about their properties

6. Group 0

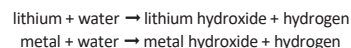
- **Group 0** elements are known as the **noble gases**
- They are all non metals with low melting and boiling points, meaning all are gases at room temperature
- The boiling point decreases going down the group
- All of the group 0 elements are unreactive
- When electricity is passed through the gas, they emit a brightly coloured light, this can be seen in neon signs

7. Halogens



5. Group 1

- **Group 1** elements are also known as the **alkali metals**
- They share similar properties with other metals such as:
 - Being shiny when freshly cut
 - Being good conductors of electricity and heat
- Group 1 metals are much softer than other metals and also have much lower melting and boiling points
- Group 1 elements react with water to form alkali solutions



- The further down the group that the metal is, the more vigorous the reaction will be. This is called a **trend**
- Another trend seen in Group 1 is with the boiling and melting points: the further down the group, the lower the boiling and melting points are

8. Group 7

- **Group 7** elements are also known as the **halogens**
- They share similar properties with other non-metals such as:
 - Having low melting and boiling points
 - Not conducting electricity
 - Moving down the groups the elements have an increased melting and boiling point
- The halogens also react in a similar way to one another, for example with iron:

$$\text{iron} + \text{chlorine} \rightarrow \text{iron chloride}$$

$$\text{iron} + \text{bromine} \rightarrow \text{iron bromide}$$
- Halogens can undergo **displacement reactions**, this is where a more reactive halogen will take the place of a less reactive halogen
- The most reactive halogens are at the top of the group, and the least reactive halogens are at the bottom of the group
- If the most reactive halogen is on its own, it will take the place of the less reactive halogen in a compound



$$\text{calcium bromide} + \text{chlorine} \rightarrow \text{calcium chloride} + \text{bromine}$$



Keyword	Definition
Atom	The smallest part of an element that can exist
Alkali metals	The elements in the left column of the periodic table including lithium, sodium etc. also called group 1
Compound	Pure substances made up of atoms of 2 or more elements strongly joined together
Displacement reaction	A reaction involving a metal and a compound of a less or more reactive metal
Element	Substances which contain only one type of atom
group	A column in the periodic table. The elements have similar properties
Group 1	The elements in the left column of the periodic table, including sodium and lithium. Also known as the alkali metals

Group 7	Elements in the right column of the periodic table including fluorine and chlorine. Also known as the halogens
Group 0	Elements in the farthest right column of the periodic table including helium and neon, also known as the noble gases
Halogen	An element in group 7 of the periodic table
Noble gas	An element in group 0 of the periodic table
Period	A row in the periodic table
Periodic table	A table which shows all known elements. Elements with similar properties are grouped together
Physical properties	Features of a substance that can be observed without changing the substance itself
Polymer	A molecule made by joining up thousands of smaller molecules in a repeating pattern
Trend	A pattern in properties, such as an increase or decrease



1. Elements and atoms

- An **element** is a substance that only contains one type of atom, it is found on the **Periodic Table**
- Each element has its own unique chemical symbol which is the same in every language, these are also found on the Periodic Table
- An **atom** is the smallest part of which an element can be broken down into
- As there are around 100 types of elements that can occur naturally, there are around 100 different atoms

2. Compounds

- Compounds** are formed when two or more different elements chemically bond together
- The compound will have different **physical properties** to the elements which make up the compound, for example water is a liquid, but it is made from oxygen and hydrogen which are both gases
- Compounds are hard to separate and need a chemical reaction to do this

- When naming a compound, we always mention the metal first and the non metal second
- The name of the metal will not change but the name of the non metal will, for example oxygen can change to oxide
- Chemical formulae tell us how many atoms of each element are in the compound in relation to each other



- The small number tells us the number of each element which is in front of the number

3. Polymers

- Polymers** are long chains of groups of atoms which are repeated many times
- Natural polymers are not man-made and include wool, cotton, starch and rubber
- Synthetic polymers are man-made and include polythene, polystyrene and nylon

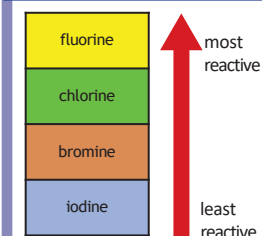
4. Groups and periods

- Groups** are the columns in the Periodic Table, they go downwards
- Periods** are the rows in the Periodic Table, they go sideways
- Elements in the same group normally follow the same trends in properties such as melting point, boiling point and reactivity
- By placing these elements into these groups, scientists can make predictions about their properties

6. Group 0

- Group 0** elements are known as the **noble gases**
- They are all non metals with low melting and boiling points, meaning all are gases at room temperature
- The boiling point decreases going down the group
- All of the group 0 elements are unreactive
- When electricity is passed through the gas, they emit a brightly coloured light, this can be seen in neon signs

7. Halogens



8. Group 7

- Group 7** elements are also known as the **halogens**
- They share similar properties with other non-metals such as:
 - Having low melting and boiling points
 - Not conducting electricity
 - Moving down the groups the elements have an increased melting and boiling point
- The halogens also react in a similar way to one another, for example with iron:

$$\text{iron} + \text{chlorine} \rightarrow \text{iron chloride}$$

$$\text{iron} + \text{bromine} \rightarrow \text{iron bromide}$$
- Halogens can undergo **displacement reactions**, this is where a more reactive halogen will take the place of a less reactive halogen
- The most reactive halogens are at the top of the group, and the least reactive halogens are at the bottom of the group
- If the most reactive halogen is on its own, it will take the place of the less reactive halogen in a compound

$$\text{calcium bromide} + \text{chlorine} \rightarrow \text{calcium chloride} + \text{bromine}$$

1 2																		3 4 5 6 7 0	
Li	Be																	H	He
Na	Mg																		
K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr		
Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe		
Cs	Ba	La	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn		
Fr	Ra																		

5. Group 1

- Group 1** elements are also known as the **alkali metals**
- They share similar properties with other metals such as:
 - Being shiny when freshly cut
 - Being good conductors of electricity and heat
- Group 1 metals are much softer than other metals and also have much lower melting and boiling points
- Group 1 elements react with water to form alkali solutions

$$\text{lithium} + \text{water} \rightarrow \text{lithium hydroxide} + \text{hydrogen}$$

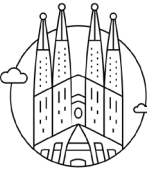
$$\text{metal} + \text{water} \rightarrow \text{metal hydroxide} + \text{hydrogen}$$
- The further down the group that the metal is, the more vigorous the reaction will be. This is called a **trend**
- Another trend seen in Group 1 is with the boiling and melting points: the further down the group, the lower the boiling and melting points are

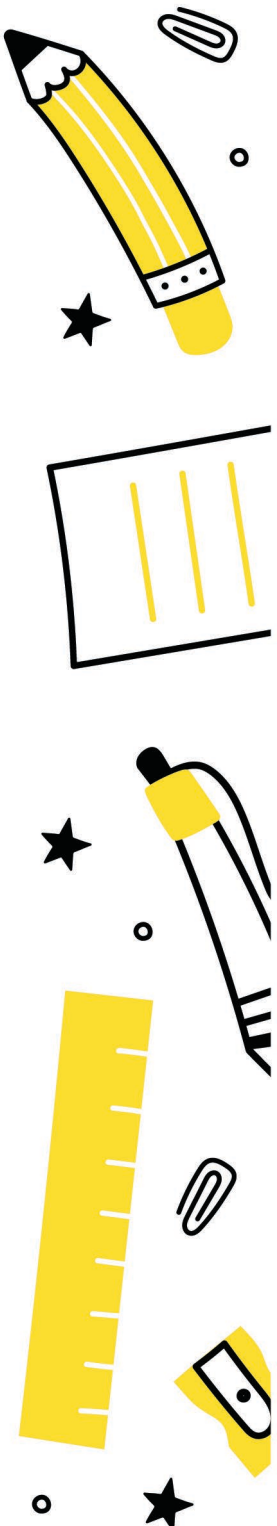
Keyword	Definition
Atom	The smallest part of an element that can exist
Alkali metals	The elements in the left column of the periodic table including lithium, sodium etc. also called group 1
Compound	Pure substances made up of atoms of 2 or more elements strongly joined together
Displacement reaction	A reaction involving a metal and a compound of a less or more reactive metal
Element	Substances which contain only one type of atom
group	A column in the periodic table. The elements have similar properties

Group 1	The elements in the left column of the periodic table, including sodium and lithium. Also known as the alkali metals
Group 7	Elements in the right column of the periodic table including fluorine and chlorine. Also known as the halogens
Group 0	Elements in the farthest right column of the periodic table including helium and neon, also known as the noble gases
Halogen	An element in group 7 of the periodic table
Noble gas	An element in group 0 of the periodic table

Period	A row in the periodic table
Periodic table	A table which shows all known elements. Elements with similar properties are grouped together
Physical properties	Features of a substance that can be observed without changing the substance itself
Polymer	A molecule made by joining up thousands of smaller molecules in a repeating pattern
Trend	A pattern in properties, such as an increase or decrease



Hola, me llamo Miguel y tengo trece años. 	1	<i>Hello, I am called Miguel and I have thirteen years.</i>
Mi hermana se llama María y tiene catorce años. 	2	<i>My sister is called Maria and she has fourteen years.</i>
Vivo en Barcelona y hablo español y catalán. 	3	<i>I live in Barcelona and I speak Spanish and Catalan.</i>
Me gusta el fútbol porque es divertido 	5	<i>I like football because it is fun</i>
pero no me gusta el flamenco porque es difícil. 	6	<i>but I don't like Flamenco because it is difficult.</i>



THE CORE FOUR

How to Create Flash Cards



1. Identify Knowledge



- What are you creating flashcards on?
- Do you have your knowledge organiser?
- Use your book to look at previous misconceptions from whole class feedback.

2. Colour Coding



- Use different coloured flash cards for different topics. This helps with organisation, NOT recall.

3. Designing



- 1 Question per flash card - make them concise and clear
- Use a one-word prompt, so that you can recall as much as you can
- No extended answer questions
- Number your cards for self-quizzing.

4. Using



- Write your answers down, then check, or say your answers out loud. This clearly shows the gaps in your knowledge.
- Do not just copy and re-read.
- Shuffle the cards each time you use them.
- Use the Leitner system to use flash cards every day.

5. Feedback



- How have you performed when you look back at your answers?
- Is there anything you need to revisit in more detail?
- Is your knowledge secure? If so, move on to applying knowledge in that area in specific extended exam questions.

THE CORE FOUR REVISION TECHNIQUES



Brain Dumps



1. Identify Knowledge

- Identify the knowledge / topic area you want to cover.

2. Write it Down



- Take a blank piece of paper/white board and write down everything you can remember about that topic (with no prompts)
- Give yourself a timed limit (e.g 10 minutes)

3. Organise Information



- Once complete and you cannot remember any more, use different colours to highlight / underline words in groups.
- This categorises / links information

4. Check Understanding



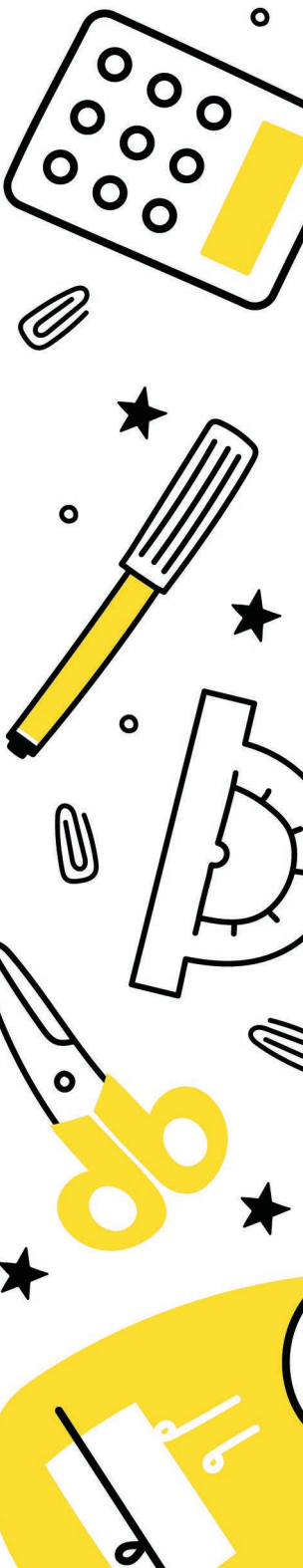
- Compare your brain dump to your Knowledge Organiser or book and check your understanding.
- Add any key information you have missed (key words) in a different colour.

5. Store and Compare



- Keep your brain dump safe and revisit it.
- Next time you attempt the same topic, try and complete the same amount of information in a shorter period of time or add more information.

THE CORE FOUR REVISION TECHNIQUES



THE CORE FOUR



Revision Clocks



1. Identify Knowledge

Select a topic you wish to revise. Have your class notes, knowledge organiser or revision books ready.



2. Designing

You can make your own revision clock by drawing a clock in the centre of a page and dividing it into 12 chunks. You can also use an existing template from your teacher, or one you can find online.



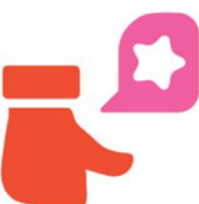
3. Manageable Chunks

Organise your revision notes into 12 sub-topics and make brief notes for each sub-topic into one of the segments on the page, creating manageable chunks of information. Combine text with images to help retain the information.



4. Using Revision Clocks

Revise each segment for 5 minutes. Turn the clock over and recite the sections out loud or ask someone to quiz you.



5. Check Understanding

How have you performed when you compare you answers to what you have written? Is your knowledge secure?

Remember to repeat the process regularly, using different techniques to answer the questions. Put it somewhere visible for you to use again.

THE CORE FOUR REVISION TECHNIQUES

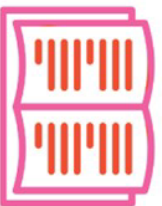


Self Quizzing



1. Identify Knowledge

- Identify knowledge / content you wish to cover



2. Review and Create

- Spend around 5 - 10 minutes reviewing content (knowledge organisers / class notes / textbook.)
- Create 10 questions on the content (if your teacher has not provided you with questions already)



3. Cover and Answer

- Cover up your knowledge and answer the questions from memory.
- Take your time and where possible answer in full sentences.



4. Self Mark and Reflect

- Go back to the content and self-mark your answers in green pen.



5. Next Time

- Revisit the areas where there were gaps in knowledge and include these same questions next time.

THE CORE FOUR REVISION TECHNIQUES