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# Knowledge Organiser

## Year 8 - 2025/26

**Student Name:** \_\_\_\_\_



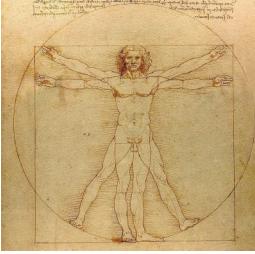
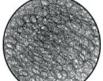
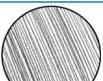
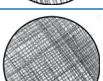
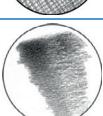
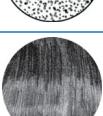
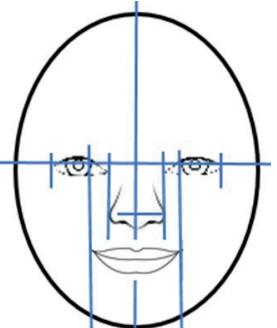
Need to ask your teacher about any of these topics? Make a note here!

# Table of Contents

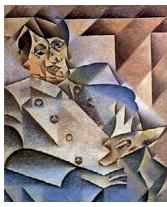
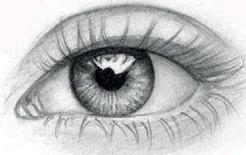
Subject (Tick Once Studied)	Page	Notes
Art	1-3	
<input type="checkbox"/> Portraiture and Anatomy <input type="checkbox"/> Cubism and Culture <input type="checkbox"/> Noh Mask and Totem Poles	1 2 3	
Computer Science	4-8	
<input type="checkbox"/> Autumn 1– Computational Thinking <input type="checkbox"/> Autumn 2– Data Representation <input type="checkbox"/> Spring 1 and 2– Text-based Python Game <input type="checkbox"/> Summer 1– Graphic Design Project <input type="checkbox"/> Summer 2– HTML Web Development	4 5 6 7 8	
Design Technology, Food/Catering	9-14	
<input type="checkbox"/> Food/Catering <input type="checkbox"/> Graphics <input type="checkbox"/> Product Design <input type="checkbox"/> Textiles	9-10 11 12 13-14	
English	15-20	
<input type="checkbox"/> Autumn 1– Social Justice Poetry <input type="checkbox"/> Autumn 2– Animal Farm <input type="checkbox"/> Spring 1– Richard III <input type="checkbox"/> Spring 2– Creative Writing <input type="checkbox"/> Summer 1– Creative Reading <input type="checkbox"/> Summer 2– Dystopian Fiction	15 16 17 18 19 20	
Ethics/Religious Studies	21-23	
<input type="checkbox"/> Islam <input type="checkbox"/> Buddhism <input type="checkbox"/> Hinduism	21 22 23	
Geography	24-29	
<input type="checkbox"/> Population <input type="checkbox"/> Coasts <input type="checkbox"/> Tectonics	24-25 26-27 28-29	
History	30-48	
<input type="checkbox"/> Henry VIII and the Reformation <input type="checkbox"/> Late Tudor England <input type="checkbox"/> The English Civil War <input type="checkbox"/> The Transatlantic Slave Trade <input type="checkbox"/> Industrial Revolution <input type="checkbox"/> British Revolution	30-32 33-35 36-38 39-42 43-45 46-48	

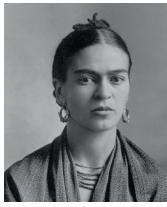
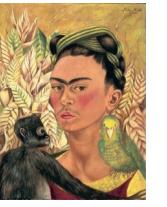
Mathematics	49-56	
<input type="checkbox"/> Number <input type="checkbox"/> Algebra <input type="checkbox"/> Statistics <input type="checkbox"/> Geometry and Measure	49-50 51 52 53-56	
Modern Foreign Languages (MFL )	57-68	
<input type="checkbox"/> French - Les Vacances <input type="checkbox"/> Spanish - Les Vacaciones <input type="checkbox"/> French - Le Temps Libre <input type="checkbox"/> Spanish - El Tiempo Libre <input type="checkbox"/> French - Le collège et le travail <input type="checkbox"/> Spanish - El Colegio	57-58 59-60 61-62 63-64 65-66 67-68	
Performing Arts	69-76	
<input type="checkbox"/> Dance <input type="checkbox"/> Drama <input type="checkbox"/> Music	69-70 71-73 74-76	
Physical Education	77-81	
<input type="checkbox"/> Curriculum and Keywords <input type="checkbox"/> Warm up <input type="checkbox"/> Cool Down and Components of Fitness <input type="checkbox"/> Nutrition <input type="checkbox"/> Muscles	77 78 79 80 81	
Science	82-93	
<input type="checkbox"/> Heating and Cooling <input type="checkbox"/> Material and the Earth <input type="checkbox"/> Forces and Motion <input type="checkbox"/> Plants and Photosynthesis <input type="checkbox"/> Electricity <input type="checkbox"/> Interactions and Interdependence <input type="checkbox"/> Forces in Action <input type="checkbox"/> Acids and Alkalies <input type="checkbox"/> Digestion and Nutrition <input type="checkbox"/> Space	82 83-84 85 86 87 88-89 90 91 92 93	

# Art Year 8 Autumn Term—Portraiture and Anatomy

Leonardo Da Vinci			Pencil Techniques		Key Terms	
			<b>Scumbling</b>	Using small circular motions to create tone		<b>Shape</b> A two-dimensional enclosed space built with line.
			<b>Hatching</b>	Closely spaced parallel lines		<b>Proportion</b> The size relationship between different elements
			<b>Cross Hatching</b>	Intersecting parallel lines		<b>Chalk</b> A white soft earthy limestone (calcium carbonate) formed from the skeletal remains of sea creatures.
			<b>Blending</b>	Intermingling colours or values to create a gradual transition or to soften lines.		<b>Charcoal</b> A porous black solid, consisting of an amorphous form of carbon, obtained as a residue when wood, bone, or other organic matter is heated in the absence of air.
			<b>Smudging</b>	Smudging or smearing the pencil graphite after you have applied it to your drawing		<b>Anatomy</b> Study of the human body
			<b>Pointillism/ Stippling</b>	Small dots placed closer or further apart to achieve a desired tone		<b>Symmetry</b> When one side of an object mirrors the other.
			<b>Highlights</b>	Using a rubber to create a illuminated section, showing strong contrast from light and shadow		<b>Accuracy</b> The extent to which one piece of work looks like another.
			<b>Directional Marks</b>	Creating a sense of movement/direction with lines		<b>Portrait</b> A painting, drawing, photograph, or engraving of a person, especially one depicting only the face or head and shoulders
			Portraits and proportions			<b>Gradient</b> A smooth variation in tones from light to dark
			The width of 4 eyes should fit across the width of your head The eye line is half way down the face The nose is halfway between the eyes and the chin The lips are half way between the nose and the chin The length of the body is equal to roughly 8 heads			<b>Observational drawing</b> Drawing from life. In art we recognise the benefit of drawing from objects that are sitting directly in front of you.
						<b>Measuring</b> The process of finding the exact size, amount, or degree of something often using a ruler
						<b>Estimating</b> When we roughly calculate or judge the value
						<b>Contrast</b> The difference between the darkest black and the brightest white
						<b>Shadow</b> The dark shape that is created when an object blocks light
						<b>Profile</b> The side view of a face
						<b>Wash</b> A lighter layer of colour created by mixing paint with water
			Pencils			
			In art we use B pencils			

# Art Year 8 Spring Term—Cubism and Culture

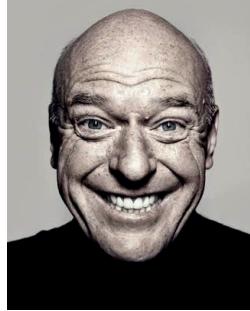
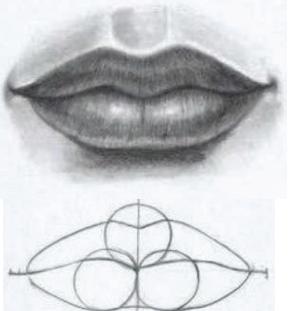
Juan Gris		
		
<b>Date of birth</b>		23rd March 1887 (Spain)
<b>Date of death</b>		11th May 1927
<b>Materials</b>		Oil on Canvas, Gouache Paint, Crayons.
<b>Locations</b>		Lived and worked most of his life in Paris, France
<b>Education</b>		Studied mechanical drawing at University in Madrid
<b>Art Movement</b>		Cubist
<b>Relationships</b>		Married to Josette Gris, son Georges Gonzalez – Gris
<b>Inspiration</b>		Artists and Matisse use of colour
<b>Context, Concepts and Characteristics</b>		<p>Artist friends such as Henri Matisse, Pablo Picasso and Georges Braque</p> <p>Studied painting with artist Jose Maria Carbonero</p>
Skill Building Tasks		
	<p>Practice drawing a realistic eye. Ensure you press lightly with your pencil and create a flicking motion for eyelashes</p> 	
	<p>Draw a circle with your compass and practice using scumbling to create shadow and tone on the sphere</p> <p>Stretch: create the shade shadows with only Hatching or Stippling</p>	

Frida Kahlo												
												
<b>Date of birth</b>		6th July 1907 (Mexico)										
<b>Date of death</b>		13th July (1954)										
<b>Materials</b>		Oil paint										
<b>Education</b>		Attended national preparatory school in New Mexico where she was one of 35 female students										
<b>Art Movement</b>		Magical Surrealism										
<b>Relationships</b>		Married Diego Rivera, unable to have children										
<b>Inspiration</b>		Herself and Mexican culture										
<b>Context, Concepts and Characteristics</b>		<p>Contacted Polio as a child</p> <p>Was hit by a bus as a teenager which resulted in many operations</p>										
The Day of the Dead and Mexican symbolism												
<p>Mexican holiday where family members gather to remember and pray for loved ones that have died. Families build 'altars' honouring the deceased relatives. These include calaveras (stone skulls), marigolds and the favourite food/drink of the deceased family member.</p> <table border="1"> <tr> <td><b>Hummingbird</b></td><td>Freedom</td></tr> <tr> <td><b>Marigolds</b></td><td>Guide the human spirit using colour and smell</td></tr> <tr> <td><b>Mexican hairless dog/ monarch butterfly</b></td><td>Travelling spirit</td></tr> <tr> <td><b>Monkey</b></td><td>Protector</td></tr> <tr> <td><b>Black cat</b></td><td>Death or unlucky</td></tr> </table>			<b>Hummingbird</b>	Freedom	<b>Marigolds</b>	Guide the human spirit using colour and smell	<b>Mexican hairless dog/ monarch butterfly</b>	Travelling spirit	<b>Monkey</b>	Protector	<b>Black cat</b>	Death or unlucky
<b>Hummingbird</b>	Freedom											
<b>Marigolds</b>	Guide the human spirit using colour and smell											
<b>Mexican hairless dog/ monarch butterfly</b>	Travelling spirit											
<b>Monkey</b>	Protector											
<b>Black cat</b>	Death or unlucky											

Cubism		
<b>Key Features</b>		<ul style="list-style-type: none"> <li>Fragmentary images with multiple viewpoints</li> <li>Overlapping planes</li> <li>Subdued colours</li> <li>Emphasised lines by adding gradients</li> </ul>
<b>Analytical Cubism</b>		<ul style="list-style-type: none"> <li>Early Phase of Cubism (1908-1912)</li> <li>Artworks look more severe</li> <li>Made of interweaving planes which structurally dissect the subject, viewpoint-by-viewpoint, resulting in a fragmentary image of multiple viewpoints and lines</li> <li>Simplified palette of colours using muted tones of blacks, greys and ochres</li> </ul>
		
<b>Synthetic Cubism</b>		<ul style="list-style-type: none"> <li>Later Phase of Cubism (1912-1914)</li> <li>Simple shapes and brighter colours</li> <li>Often includes collage</li> <li>Began when artists started to add textures and patterns in their paintings</li> </ul>
		

# Art Year 8 Summer Term—Noh Mask and Totem Poles

Noh Masks		
What?	Masks used in traditional Japanese ritual and performance	
Dates	Dated back to the 8th Century	
Location	Japan	
Materials	Wood, cloth or clay	
Purpose	To represent characters/emotions during performance	
Value	Noh Masks are extremely valuable and are commonly passed down as heirlooms through families	
Types of Noh Mask		
Kishin Mask	Onna-Men Mask	Okina Mask
		
Demon masks	Women masks	Old men masks
Usually embellished with patterns, horns or colours	Commonly the most varied and popular masks	Oldest type of Noh masks
Usually display an angry expression/ animalistic features	Categorised by age and character	Commonly have facial hair made from animal hair
Tints		
Tints are made by mixing a colour into white		

Key Terms		
Expression	The changes in facial features depending on mood/ emotion	
Exaggeration	Representing something as being larger, better, or worse than it really is	
Noh	Japanese traditional theatre	
Symbolism	Use of an image or idea to represent something different.	
Carving	Designs created by removing and incising using tools.	
Commemorate	Recall and show respect for	
Totem Pole	carved wooden pole used to honour important members of a tribe. Originated in northwest America	
Potlatch Ceremony	ceremony used to honour deceased and distribute gifts and wealth.	
Carving	Designs created by removing and incising using tools.	
Animal Characteristics	Features taken from animals, symbolic of a character.	
Skill Building tasks		
		
Use the portrait guide in your KO to draw an expressive mask based on the above reference	Practice drawing lips using the guide above. Add shadow and highlight to the lips	

Totem Poles	
	
	
What?	Hand carved columns first made by the early Native American tribes of the Northwest. Depicting supernatural beings and animals.
Date	Date back to the 19th century
Place	Pacific coast of the United States, the coast of British Columbia and all the way up to southern Alaska.
Material	Wood (tree trunk)
Function	To honour a deceased elder who was of great importance to the tribe, they are inspired by the animals inhabiting the northwest coast of America.
Key characteristics	Simplified features
	Blends human and animal characteristics together
	Animals are often shown sitting
	Common use of colour
	Carved by expert carvers and their apprentices. The experts would commonly carve the first 10ft as they knew this would be closely examined
	The animals are often symbolic of the deceased persons spirit
	Totems are comprised of 3D details
Size	It varies from 5 feet high and a few inches wide to 10 feet high and a few feet wide

# Computer science—Autumn 1—Computational Thinking

1 Computational Thinking			
	Key term	Definition	Example
Core Concepts in Computational Thinking	Computational Thinking	A method of solving problems by breaking them into parts, analysing each piece, and planning a logical solution.	Planning a school project by splitting it into research, writing, and presentation.
	Decomposition	Breaking a complex task into smaller, easier-to-manage pieces.	Designing a website by dividing work into layout, content, and coding.
	Abstraction	Focusing only on the important details of a problem while ignoring unnecessary ones.	Drawing a simple map that shows only the main roads and landmarks around school.
	Pattern Recognition	Identifying repeating elements or trends that can simplify problem solving.	Noticing that a coding problem repeats similar steps, which helps in writing a shorter programme.
	Logical Reasoning	Using clear, step-by-step thinking to solve problems.	
	Analysis	Examining the details of a problem to understand its parts.	
	Modelling	Creating a simplified representation of a system or process.	
Algorithm Development and Efficiency	Algorithm	A set of clear, step-by-step instructions used to solve a problem or complete a task.	Writing a list of instructions to calculate the average of test scores.
	Pseudocode	A simplified, plain language version of an algorithm that outlines the logic before actual coding.	Drafting the steps needed to sort a list of numbers before writing the real programme code.
	Flowchart	A diagram that uses shapes and arrows to show the sequence of steps in an algorithm.	Drawing a flowchart to illustrate how a programme decides if a student has passed or failed.
	Efficiency	Completing a task in the simplest and fastest way possible, using minimal resources.	Optimising a search programme so that it finds information quickly without extra steps.
	Step-by-Step Instructions	A clear breakdown of each action needed to solve a problem.	
	Optimisation	Making a solution better and faster by removing unnecessary steps.	
Error Handling and Correction	Debugging	The process of finding and fixing errors in a programme or algorithm.	Checking a coding script to find the mistake that causes a computer game to crash.
	Testing	Running a programme to check that it works correctly and to spot any errors.	Trying out a new app feature in class to ensure it functions as expected.
	Troubleshooting	Systematically identifying problems and finding solutions when something doesn't work.	Investigating why a classroom computer isn't printing and resolving the issue.
	Iteration	Repeating a set of steps to gradually improve a solution or fix errors.	Revising and re-running a programme several times until it works smoothly during a coding lesson.
	Refinement	Making small improvements to a programme based on testing feedback.	
	Correction	The act of fixing mistakes to ensure proper functioning.	

# Computer science—Autumn 2– Data Representation

2 Data Representation			
Number Systems and Conversions	Binary	A number system that uses only two digits—0 and 1—to represent data in computers.	Representing the number 5 as 101 in binary.
	Denary	The standard base-10 number system we use every day.	The number 27 is written as 27 in denary.
	Bit	The smallest unit of data in computing, represented by a 0 or 1.	A single light switch that can be off (0) or on (1).
	Byte	A group of 8 bits that can represent a character or number.	The letter “A” might be stored as one byte in a computer.
	Conversion	The process of changing a number from one system to another, such as denary to binary.	Converting the denary number 10 into binary, which is 1010.
Character Encoding and Data Representation	Character Set	A collection of characters that a computer can recognise and process, such as letters, numbers, and symbols.	The English alphabet and digits 0–9 are part of a character set used in many programmes.
	ASCII	A standard that uses binary numbers to represent text characters, part of a character set.	In ASCII, the capital letter “A” is represented by the binary number 01000001.
	Unicode	A character encoding system that includes a much larger set of characters than ASCII, covering many languages and symbols.	Unicode allows computers to display characters from languages around the world, such as Chinese and Arabic.
	Encoding	The process of converting information (like text) into a form (usually binary) that a computer can store and process.	Turning the word “hello” into binary code using ASCII encoding.
	Decoding	The process of converting encoded binary data back into readable text or information.	Changing a binary message back into the word “school” using the appropriate character set.
Digital Images and Visual Data	Bitmap Image	An image made up of pixels, where each pixel is assigned a binary value.	A simple digital drawing stored as a bitmap, where each tiny dot (pixel) has a colour value.
	Resolution	The number of pixels in an image, which affects its clarity and quality.	A 1920x1080 resolution means the image is 1920 pixels wide and 1080 pixels tall.
	Pixel	The smallest unit in a digital image, often a single dot of colour.	When you zoom in on a digital photo, you can see individual pixels making up the picture.
	Colour Depth	The amount of colour information available for each pixel, affecting how many colours can be displayed.	An image with a colour depth of 24-bit can show millions of different colours.

# Computer science—Spring 1&2 – Text-based Python Game

3 Text-based Python Game Project			
Fundamental Programming Constructs	Sequence	The order in which instructions are executed in a programme.	In a text-based game, the story introduction is shown first, then the game asks for the player's name.
	Selection (Conditional Statements)	A control structure that lets the programme choose different actions based on whether a condition is true or false (using if/else statements).	In the game, if a player chooses "open door", the story continues one way; if not, it follows a different path.
	Iteration (Loops)	The process of repeating a section of code until a condition is met, using loops such as for and while.	The game repeatedly asks the player to choose a direction until a valid option is given.
	Conditional Statement	A statement that executes different code blocks based on a condition.	
	Loop	A control structure that repeats code until a condition is met.	
Game Elements and Randomness	Random Number Generation (RNG)	The use of functions (from Python's random library) to generate unpredictable numbers, adding chance to a programme.	The game randomly selects an enemy or event, so each play-through is different.
	Probability	The chance of a particular outcome occurring, often used with RNG to create varied scenarios.	A game might give a 50% chance for a bonus round to appear after a level.
	Random Library	A collection of functions in Python that can produce random values and numbers.	
	Event Simulation		Using randomness to mimic events in a game, such as rolling a die.
Development Tools and Testing	Debugging	The process of finding and fixing errors (bugs) in a programme to ensure it runs correctly.	A student runs their Python game, finds that a choice does not work, and corrects the code.
	Integrated Development Environment (IDE)	A software tool that helps write, test, and debug code by offering features like a code editor, error highlighting, and running the programme.	Using an IDE such as IDLE or PyCharm to write and test the Python game.
	Testing (Refining a Programme)	The systematic process of checking a programme for errors and making improvements before finalising it.	A classmate plays the game to spot any issues, and then the programmer adjusts the code accordingly.
	Code Editor	A tool within an IDE where you write and edit code.	
	Error Checking	The practice of reviewing code to find mistakes before running the programme.	

# Computer science—Summer 1 – Graphic Design Project

4 Graphic Design			
Project Planning and Documentation	Design Brief	A document that outlines the project's goals, target audience, requirements, and key tasks.	A teacher provides a design brief that explains a poster must include school colours and a clear message.
	Creative Brief	A concise guide that details the creative direction, style, and ideas for a project.	A creative brief might state that a logo should be modern, simple, and use a bold font.
	Project Objectives	The main goals and outcomes that the project must achieve.	In a graphic design task, objectives can include creating a balanced layout and using effective typography.
	Requirements	The specific tasks and standards that need to be met for the project to be successful.	A requirement may be that the design must include the school's emblem and adhere to a set colour palette.
Digital Tools and Techniques	Layers	Separate elements in a digital design that can be arranged, edited, or hidden independently.	When designing a flyer, text is on one layer while the background image is on another, making editing easier.
	Image Editing	The process of modifying an image using software tools to adjust colour, size, and attributes.	Using a graphic design programme to crop, brighten, and resize a photograph for a school project.
	Digital Tools	Software applications and features (such as brushes, filters, and adjustment layers) used for creating or modifying digital media.	A student uses a graphic design tool like Adobe Photoshop or GIMP to create digital art.
	File Formats	Different ways of saving and storing digital images (e.g. JPEG, PNG, GIF) that affect quality and file size.	Saving a design as a PNG for clear quality or as a JPEG for smaller file size.
Visual Design Principles	Composition	The arrangement and placement of visual elements (images, text, shapes) within a design to create balance and harmony.	A poster that places the headline at the top, supporting images in the centre, and details at the bottom shows clear composition.
	Typography	The style, arrangement, and appearance of text in a design, affecting readability and visual impact.	Choosing a clear, bold font for a school announcement ensures the message is easy to read.
	Contrast	The difference between visual elements, such as colour, size, or shape, used to create emphasis and interest.	Using dark text on a light background makes the words stand out in a classroom presentation.
	Alignment	The arrangement of text and images along a common edge or centreline to create order.	Aligning titles and images in a grid layout gives a neat, professional look to a digital brochure.
	Colour Theory	The study of how colours interact and the effects they have on mood and readability in design.	A design that uses complementary colours (like blue and orange) can make school event posters more vibrant.
	Balance	The distribution of visual weight in a design, ensuring no one part is too heavy compared to the rest.	A well-balanced layout might have an image on one side and text on the other, creating visual harmony in a project.

# Computer science—Summer 2 – HTML Web Development

5 HTML Web Development			
Markup Language and Structure	HTML (HyperText Markup Language)	A markup language that uses tags to structure and display content on the web.	A student creates a simple webpage using HTML to add headings, paragraphs, and lists.
	Tag	A command within HTML, enclosed in angle brackets (e.g., <code>&lt;p&gt;</code> , <code>&lt;h1&gt;</code> ), that tells the browser how to display content.	The <code>&lt;p&gt;</code> tag is used to create a paragraph in a school report webpage.
	Element	A complete component in HTML that includes a start tag, content, and an end tag (if needed).	An <code>&lt;h1&gt;</code> element is used for the main title on a school project webpage.
	Document Structure	The overall layout of an HTML document, usually consisting of a head (with meta-data) and a body (with visible content).	A webpage's structure is defined with <code>&lt;head&gt;</code> for the title and <code>&lt;body&gt;</code> for the article content.
	Markup	A system of annotating text in a way that is syntactically distinguishable from the text itself.	HTML markup is used to tell the browser which parts of a school blog post are headings, paragraphs, or lists
Content, Media, and Navigation	Hyperlink	A clickable link (often created with the <code>&lt;a&gt;</code> tag) that directs users to another webpage or resource.	A school website includes a hyperlink to the library's page so students can click and visit it.
	Image Source (src)	An attribute within an image tag (e.g., <code>&lt;img src="path/to/image.jpg"&gt;</code> ) that specifies the file path of the image.	A student adds a school logo to a webpage by setting the <code>src</code> attribute to the logo file.
	Anchor Tag	The HTML element <code>&lt;a&gt;</code> used to create hyperlinks.	A student uses an anchor tag to link a "Click here for more info" button to a related webpage.
	Multimedia	Digital content such as images, videos, or audio that is integrated into a webpage.	A class project webpage may include multimedia elements like photos from a school event.
	Navigation	The method and structure used to move between different sections or pages on a website.	A navigation bar on a school website helps users quickly find the timetable, news, and contact information.
Styling and Formatting	CSS (Cascading Style Sheets)	A stylesheet language used to control the visual appearance of HTML elements, such as fonts, colours, sizes, and layout.	A student uses CSS to set the background colour and font style for a personal blog page.
	Formatting Tags	HTML tags (such as <code>&lt;strong&gt;</code> , <code>&lt;em&gt;</code> , <code>&lt;u&gt;</code> ) that change the appearance of text by making it bold, italic, or underlined.	In a class assignment, students use <code>&lt;strong&gt;</code> to highlight important points in a webpage article.
	Attribute (Styling)	Additional information in a tag that defines its appearance or behaviour; for styling, these can include attributes like <code>style</code> , <code>class</code> , and <code>id</code> .	A student adds a <code>style</code> attribute to a <code>&lt;div&gt;</code> tag to change its background colour to match the school colours.
	Inline Style	CSS rules applied directly within an HTML element using the <code>style</code> attribute.	Writing <code>&lt;p style="color: blue;"&gt;</code> changes the text colour of that paragraph to blue in a school project webpage.
	Class and ID	Attributes used to assign names to HTML elements for grouping (class) or unique identification (id) when applying CSS.	A student gives a navigation bar a class name "menu" so that the same style can be applied to all similar elements on the school site.
	Layout	The arrangement of visual elements on a webpage, often controlled through CSS to ensure a neat and clear design.	Using CSS grid or flexbox, a student designs a school website that clearly separates the header, content area, and footer.

# Design and Technology (Food) - Nutrition

## Hygiene and safety

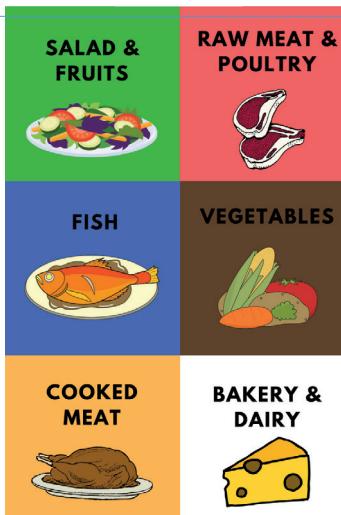
<b>Hazard</b>	Anything that could cause harm
<b>Food Poisoning</b>	Illness caused by bacteria in food.
<b>Bacteria</b>	Single celled organisms, some can cause food poisoning
<b>Cross Contamination</b>	The spread of bacteria from one place to another
<b>Food Hygiene</b>	Food hygiene is the practice of handling, preparing, and storing food in a way that prevents foodborne illnesses
<b>Personal Hygiene</b>	Washing your hands before handling food, never cough / sneeze over food, or where it is being prepared or stored.
<b>Safety</b>	Working in a way to prevent accidents or injuries e.g. tie back long hair, put bags away, using the right equipment for the job

## Practical skills

<b>Claw hold</b>	Little finger and thumb hold the food down, the knife
<b>Bridge hold</b>	Food is held by the fingers and thumb creating a bridge. The knife should go through the bridge to cut.
<b>Rubbing in</b>	Using the fingertips to rub a solid fat such as butter or
<b>Boiling</b>	The method of cooking food in boiling water. The boiling
<b>Baking</b>	The method of preparing food that uses dry heat,

## Chopping boards

<b>Red</b>	Raw meat and poultry
<b>Blue</b>	Raw fish
<b>Green</b>	Salad vegetables and fruit
<b>Brown</b>	Root vegetables
<b>Yellow</b>	Cooked meat, poultry and fish
<b>White</b>	Dairy and bakery products



## Eatwell guide food groups

<b>Yellow</b>	Potatoes, rice, bread, pasta, and other starchy carbohydrates
<b>Blue</b>	Dairy and alternatives
<b>Green</b>	Fruits and vegetables
<b>Pink</b>	Beans, pulses, fish, eggs, meat and other proteins
<b>Purple</b>	Oils and spreads

# Design and Technology (Food) - Food Science

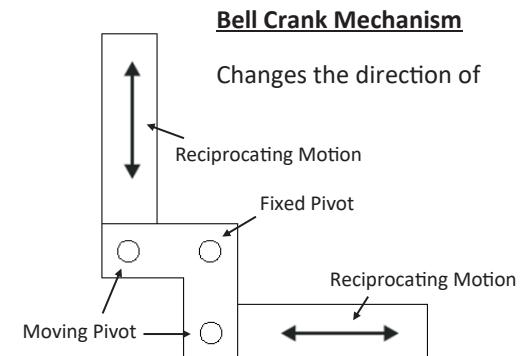
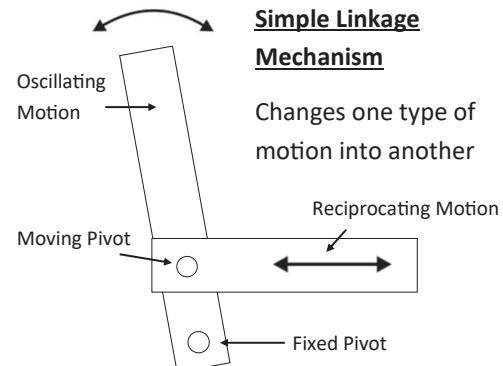
Hygiene and safety		Practical skills	
<b>The 4 Cs</b>		Kneading is when you work the dough, usually by hand, for the purpose of developing the gluten in the flour, which is what gives bread its texture	
<b>Pathogens</b>		Melting	
<b>Danger zone</b>		Zesting	
<b>Binary fission</b>		Stir fry	
<b>Food poisoning</b>		Breading	
<b>Contaminate</b>		Coating food in bread crumbs (using egg and flour to help the bread crumbs stick) before frying or baking.	
<b>Pests</b>		Nutrition	
Pests are animals or insects that need to be kept out of the kitchen as they can carry food poisoning causing bacteria. Their hair and faeces could also contaminate the food.		Nutrients	
Food science		a substance that provides nourishment essential for the maintenance of life and for growth.	
<b>Food science</b>		Micro nutrients	
Food science is the study of the physical, biological (including microbiological) and chemical makeup of food.		Micronutrients are vitamins and minerals needed by the body in very small amounts. However, their impact on a body's health are critical.	
<b>Raising agents</b>		Macro nutrients	
Substances that are added to baking mixtures which react chemically to release carbon dioxide which helps the product rise.		Macronutrients are the nutrients we need in larger quantities that provide us with energy: in other words, fat, protein and carbohydrate.	
<b>Yeast</b>		Protein	
One celled fungus. They are used by bakers because they can produce carbon dioxide to make bread to rise.		Protein is needed for the growth and repair of our cells. Its secondary function is providing energy.	
<b>Carbon dioxide</b>		Carbohydrates	
A chemical compound composed of one carbon and two oxygen atoms produced by raising agents to make a mixture rise.		Carbohydrates provide us with our main source of energy. They also provide us with fibre, which is important for our gut health.	
<b>Coagulate</b>		Fats	
The change in the structure of protein (from a liquid form to solid or a thicker liquid) brought about by heat, mechanical action or acids.		Fat is needed for warmth, insulation, and protection in the body. It is also a secondary source of energy	

# Design and Technology (Graphics) - Mechanical Card

ACCESSFM	
<b>Aesthetics</b>	How a product looks
<b>Cost</b>	How much a product costs to make or buy
<b>Customer</b>	Who a product is aimed at
<b>Environment</b>	Where a product will be used
<b>Size</b>	How big a product will be
<b>Safety</b>	How safe a product is, and how safe the manufacture
<b>Function</b>	What a product does
<b>Materials</b>	What a product is made from

The Design Process	
<b>Task analysis</b>	Picking apart a task to try and solve the problem within it
<b>Mood board</b>	A collection of images to help you when designing
<b>Product Analysis</b>	Investigating and evaluating products to find out more about them
<b>Design brief</b>	A statement saying what you are going to design and make
<b>Specification</b>	A list of points saying what your project is going to be and do
<b>Model</b>	Making part of your product to check that you like it and to check that it works

Mechanisms	
<b>Motion</b>	The ways in which things move
<b>Mechanism</b>	A device that you can make to transform one type of motion into another
<b>Bell crank</b>	Part of a mechanism that allows reciprocating motion to change direction
<b>Collar</b>	Holds the arms of a mechanism in place
<b>Pivot point</b>	The point that motions move around
<b>Split pin</b>	A small metal component used to make pivot points on cards
<b>Linear</b> 	Motion that moves forwards in one straight line
<b>Rotary</b> 	Motion that moves in a circular path around a fixed point
<b>Oscillating</b> 	Motion that swings back and forth from a fixed point
<b>Reciprocating</b> 	Motion that moves continuously, and repetitively, back and forth, up and down, or left to right



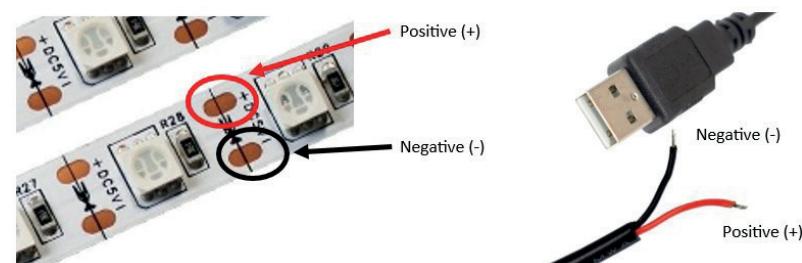
# Design and Technology (Product Design) - Mood Light

CAD/CAM	
<b>CAD</b>	Computer Aided Design
<b>CAM</b>	Computer Aided Manufacture
<b>CNC</b>	Computer Numerically Controlled
<b>2D design</b>	A programme on the computer that can be used to create drawings to be laser cut and engraved.
<b>Laser cutter</b>	A machine that uses a high powered laser to cut and engrave materials

Materials and Equipment	
<b>Acrylic</b>	A polymer that can be recycled. Comes in lots of colours and different levels of transparency
<b>Softwood</b>	A type of timber from faster growing trees that is softer and easier to cut, as well as being cheaper
<b>Led strip</b>	An electronic component – a strip of LED lights that can be soldered on to
<b>USB cable</b>	A cable that will connect to a USB port to power the light
<b>Solder</b>	Thin metal that can be melted to form a connection in an electronic circuit
<b>Soldering Iron</b>	A pen – shaped device with a hot end used for melting solder onto circuits.

Workshop Tools	
<b>Pencil</b>	Marking out equipment – used to make marks on timber.
<b>Ruler</b>	Measuring equipment – used to measure accurate sizes
<b>Tri Square</b>	Marking out equipment – used to mark out an accurate right angle
<b>Bench Hook</b>	Cutting equipment – used to put your timber on to stabilise it when cutting
<b>Tenon Saw</b>	Cutting equipment – used to cut straight lines in wood
<b>Vice</b>	Workshop equipment – used to hold you work still while you are marking, measuring or cutting
<b>Sander</b>	An abrasive machine used for smoothing out the surface of timber
<b>Pillar drill</b>	A machine used to drill holes
<b>Hand held drill</b>	A hand held power tool used for drilling holes

## Soldering the LED light strip correctly



# Design and Technology (Textiles) - Embellished Seascapes

## Key Terminology

<b>Embellish</b>	To make (something) more attractive by the addition of decorative details or features.
<b>Embroidery</b>	The method used for decorating fabrics with a needle and a thread.
<b>Pattern</b>	A repeated decorative design.
<b>Organic shapes</b>	Shapes with a natural look and a flowing, curving appearance.
<b>Geometric shapes</b>	Precise and regular, like squares, rectangles, and triangles. Often found in human-made things.
<b>Simplify</b>	To make something less complicated.
<b>Composition</b>	The arrangement of elements within a work of art.
<b>Thread</b>	A long, thin strand of cotton, nylon, or other fibres used in sewing or weaving.
<b>Bondaweb</b>	A soft adhesive used for joining fabric layers together
<b>Moodboard</b>	A collection of visual images to show your thoughts and ideas
<b>Textile artist</b>	An artist / designer who creates their pieces using fabrics, stitches and other textile materials

## Types of Stitch

				
Back Stitch	Running Stitch	Satin Stitch	French Knots	Cross Stitch

## Francesca Colussi Cramer



- A textile artist and designer based in North Wales, UK.
- Studied Literature and Women's History in Italy, then went to do a degree in textile design in the UK
- Her design work has been acquired by fashion and interior design brands such as Boden, Ikea and Nike.
- She transforms and re-purposes found images, vintage postcards and photographs through a contemporary, three dimensional viewpoint
- She has exhibited at New Designers in London, and Premiere Vision in Paris

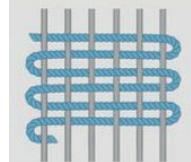
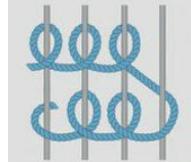
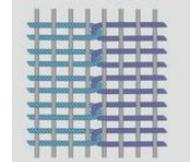
## Textiles Equipment

			
Ironing Board	Sewing Machine	Tape Measure	Pin Cushion
			
Pins	Needle	Iron	Fabric Scissors

# Design and Technology (Textiles) - Aerial Weaving

Key Terminology	
<b>Weave</b>	The process of interlocking two threads to create a fabric
<b>Loom</b>	A tool used to weave cloth and tapestry. It stretches the warp threads to help weave in the weft threads.
<b>Warp</b>	The yarn that is wound onto the loom.
<b>Weft</b>	The yarn that is woven over and under the warp threads.
<b>Balanced Weave</b>	A weave containing equal amounts of warp and weft.
<b>Beat</b>	To apply downward pressure on the weft threads.
<b>Interlock</b>	A weaving technique in which two weft ends loop around each other when they meet.
<b>Tension</b>	The amount of tautness put on the warp threads.
<b>Weaver's knot</b>	A simple knot used by weavers so that threads may be clipped close to the knot without coming apart.
<b>Soumak</b>	A finger-manipulated weave in which the weft yarn is wrapped around one or two warp threads.
<b>Woven fabric</b>	Fabrics with two yarns crossing each other at right angles. e.g. Cotton.
<b>Non woven fabric</b>	Fabrics made without the use of weaving e.g. bonded fabric
<b>Knitted textiles</b>	Fabrics created when yarns loop round each other instead
<b>Yarn</b>	Fibrous threads used to make fabric

Tammy Kanat
 <ul style="list-style-type: none"> <li>• Large scale textile artist inspired by the Australian landscape</li> <li>• Started as a jewellery designer before moving to textiles</li> <li>• Enrolled in the Australian Tapestry Workshop in 2011</li> <li>• Exhibition in 2014 "Spirit" for her hand woven wall art</li> <li>• Gained international recognition through social media</li> <li>• Artworks are inspired by organic shapes found in nature—tree trunks and geological formations such as agate</li> <li>• Inspired by the textile artist Sheila Hicks</li> </ul>

Types of Weaving		
		

Types of Macrame Knots		
		

# Year 8 English Knowledge Organiser – Autumn 1 – Social Justice Poetry

Chanting – Key Subject Vocabulary				Big Ideas	Moments	Methods/Effect		
1	Oppression (noun)	Continued, cruel, and unjust treatment which takes away peoples' rights and freedoms.	Caged Bird	Big Idea 1: Angelou presents oppression as restrictive, restrained, and repressive.	'His wings are <b>clipped</b> , and his feet are <b>tied</b> '	Verbs 'clipped' 'tied' Suggest that the bird is imprisoned and cannot fly freely.		
2	Dictatorship (noun)	A government run by a dictator (someone who has absolute power and uses this power in an unfair and cruel way).			'The caged bird sings with a fearful trill of things unknown but longed for still'	Refrain Creates a cyclical structure and reflects how oppression in an unending cycle.		
3	Collective responsibility (noun)	A situation where individuals are held responsible for the wellbeing of everyone in society.		Big Idea 2: Angelou portrays oppression as miserable and soul destroying.	'A bird that stalks down his narrow <b>cage</b> can seldom see though his bars of <b>rage</b> '	Sibilance, Rhyming Couplet Rigid rhyme scheme reflects the rigid oppression the bird is suffering.		
4	Discrimination (noun)	When a person or group are treated unfairly because of a certain characteristic.			'A caged bird stands on the <b>grave of dreams</b> '	Metaphor, Oxymoron The oxymoron suggests that oppression has corrupted and destroyed the joy of dreaming.		
5	Social justice (noun)	Fairness in society.		Not My Business	'And <b>dragged</b> Danladi out'	Alliteration, First Name Repeated plosive 'd' sounds echo the violent acts of dictators. First name humanises the victim, creating sympathy and outrage.		
Chanting - Key ROA Terminology					' <b>No</b> query, <b>no</b> warning, <b>no</b> probe'	Triple/Tricolon Emphasises how many freedoms/rights the dictatorship has taken from people.		
1	Refrain	A repeated line or number of lines in a poem.			'And stuffed (Akanni) down the <b>belly</b> /Of a waiting jeep'	Metaphor Suggests the Jeep is a predatory monster devouring its prey.		
2	Extended metaphor	A metaphor that is developed throughout a poem.			'Beat him <b>soft</b> like clay'	Simile Demonstrates how people are being shaped and controlled by others.		
3	Juxtaposition	Two or more contrasting ideas, images or words are placed side by side.						
4	Free verse	Poetry without a formal rhythm or rhyme scheme.						
5	Enjambment	The flowing over of one poetic line into the next with no punctuation.						

# Year 8 English Knowledge Organiser – Autumn 2 – Animal Farm

Chanting – Key Subject Vocabulary			Big Ideas	Moments	Methods/Effect			
1	Communism (noun)	All people live as equals.	<b>Big Idea 1:</b> Napoleon is an example of a totalitarian leader who rules with fear and violence, demonstrating that too much power can lead to corruption.	'All animals are equal but some animals are <b>more equal</b> than others.'	<b>Oxymoron</b> Expose the corruption of Napoleon by revealing how he believes he is superior to the other animals			
2	Totalitarianism (noun)	Centralised control by a dictator.		'there would be no more debates.'	<b>Declarative</b> Creates a dominant, assertive tone and suggests that Napoleon is a dictator who will not listen to his people.			
3	Dictator (noun)	A leader who possesses absolute power.		'Boxer worked <b>harder than ever</b> .'	<b>Hyperbole</b> Emphasises the effort Boxer puts into his work and shows how he is willing to do anything to help others.			
4	Democracy (noun)	A form of government in which all people have a right to vote.	<b>Big Idea 2:</b> Boxer is portrayed as a victim of totalitarian leadership who sacrifices his own life for the sake of others.	'Boxer <b>refused</b> to take even a day off work, and made it a point of honour'	<b>Verb 'refused'</b> Shows how Boxer prioritises work over his own health creates sympathy for him.			
5	Proletariat (noun)	The working class.		'Jones would come back! Yes, <b>Jones would come back!</b> '	<b>Repetition/Exclamative</b> Suggests that Squealer is trying to frighten the other animals to manipulate them into agreeing with him.			
6	Bourgeoisie (noun)	The wealthy middle class who control means of production e.g. factories.		'It is for <b>your</b> own sake that <b>we</b> drink that milk and eat those apples.'	<b>Pronouns</b> 'We' suggests that the animals are a united team and manipulates them into feeling guilty for accusing the pigs of selfishness.			
Chanting - Key ROA Terminology			<b>Big Idea 3:</b> Squealer is presented as cunning, scheming and manipulative; he uses propaganda to persuade the animals to his way of thinking.	'Jones would come back! Yes, <b>Jones would come back!</b> '	<b>Repetition/Exclamative</b> Suggests that Squealer is trying to frighten the other animals to manipulate them into agreeing with him.			
1	Allegory	A story with both a literal meaning and a symbolic meaning.						
2	Rhetoric	The art of persuasive speaking or writing.		'It is for <b>your</b> own sake that <b>we</b> drink that milk and eat those apples.'	<b>Pronouns</b> 'We' suggests that the animals are a united team and manipulates them into feeling guilty for accusing the pigs of selfishness.			
3	Fable	A story that teaches a moral lesson.	<b>Key Themes</b>					
4	Satire	Using humour to criticise.	<b>Power and Corruption</b> 		<b>Totalitarianism</b> 		<b>Equality and Inequality</b> 	
5	Propaganda	Material used to make people think a certain way.						

# Year 8 English Knowledge Organiser – Spring 1 – Richard III

Chanting – Key Subject Vocabulary			Big Ideas	Moments	Methods/Effect
1	Malevolence (noun)	Evil hostility.	<b>Big Idea 1:</b> Shakespeare presents <b>Richard</b> as power hungry, once he gains power, he feels determined to keep that power at all costs.	'Plots I have laid, inductions dangerous, By <b>drunken prophecies, libels and dreams.</b> '	<b>Tricolon</b> Emphasises how many methods Richard has used to gain power.
2	Infamous (adjective)	Well known for a bad quality or deed.		'I'll <b>have</b> her; but I will not <b>keep</b> her long.'	<b>Verbs 'have' 'keep'</b> 'Have' and 'keep' shows Richard's power over Anne as he claims ownership of her and refuses to release her from his power.
3	Notorious (adjective)	Famous or well known for a bad quality or deed.		'I am determined to prove a villain.'	<b>Declarative</b> Creates an assertive, confident tone and suggests that he will be villainous no matter what.
4	Amorality (noun)	A lack of moral principles.		'I that am rudely <b>stamped.</b> '	<b>Verb 'stamped'</b> Suggests that he has been permanently marked by God, so has no choice but villainy.
5	Great Chain of Being (noun phrase)	Hierarchy of everything as decided by God.			<b>Superlative</b> Highlights the lack of choice women had as, despite her extreme hatred of him, Anne is forced into marrying Richard.
Chanting - Key ROA Terminology			<b>Big Idea 3:</b> Shakespeare initially presents Lady Anne as a victim of gender stereotypes: Elizabethan women had no power and needed a husband to support them and retain their position in society.	'To take her in her heart's <b>extremest</b> hate,'	<b>Religious imagery</b> Emphasises the suffering Anne experiences and creates sympathy for her.
1	Dramatic Irony	When the audience understands something about a character's actions or an event, but the characters do not.		'For thou hast made the happy earth thy <b>hell</b> ,'	
2	Soliloquy	A speech in drama when a character on stage speaks to himself / herself or the audience, expressing their inner thoughts or feelings.			
3	Machiavellian	Cunning, scheming, and unscrupulous, especially in politics.			
4	Usurp	To take a position of power illegally or by force.			
5	Anaphora	The repetition of words or phrases in a group of sentences, clauses, or poetic lines.			
Key Themes					
Power		Evil		Gender	

# Year 8 English Knowledge Organiser – Summer 2 – Dystopian Fiction

Chanting – Key Subject Vocabulary		
1	Dystopia (noun)	An imagined place or state in which everything is bad.
2	Utopia (noun)	An imagined place or state in which everything is good.
3	Nihilism (noun)	The belief that life is meaningless.
4	Tyranny (noun)	Cruel, unreasonable or oppressive rule or government.
5	Fatalistic (adjective)	The belief that all events in life are predetermined.
Chanting - Key ROA Terminology		
1	Dehumanise	To take away someone's humanity.
2	Exposition	The opening of a narrative where characters and setting are introduced.
3	Foreshadowing	Hints that suggest what will happen later in a narrative.
4	Semantic field	A group of words linked to a theme or idea
Key Themes		
Power		
Control		
Mystery		

	Big Ideas	Moments	Methods/Effect
Exam- ination Day	<b>Big Idea 1:</b> Slesar presents Dickie as unique and intelligent in a world which values conformity.	'What makes it green though? The grass?' 'Why, Dad?'	<b>Interrogatives</b> Repeated questions imply that Dickie is curious about the world.
		'He was an <b>alert</b> -eyed youngster'	<b>Adjective</b> Implies that Dickie is very intelligent as he is aware of everything around him.
	<b>Big Idea 2:</b> Ultimately, Slesar warns the reader about the risks of totalitarian governments, thus suggesting that excessive power leads to corruption.	'Your <b>classification number</b> is 600-115'	<b>Noun phrase</b> Dehumanises Dickie and emphasises the callous cruelty of the totalitarian society.
The Lottery		'The room was as cold and official as a courtroom'	<b>Simile</b> Highlights how the government uses their power to judge and punish citizens.
	<b>Big Idea 1:</b> Tessie's protests foreshadow the horrific outcome of the lottery, highlighting her powerlessness and vulnerability.	'You didn't give him time enough to take any paper he wanted. I saw you. It wasn't fair!'	<b>Short sentences/Exclamative</b> Creates a sense of urgency and reflects Tessie's terrified panic.
		'I think we ought to start over' Mrs Hutchinson said, as <b>quietly</b> as she could.	<b>Adverb</b> 'Quietly' conveys Tessie's vulnerability as she has realised that her protests are futile and will not be heard.
	<b>Big Idea 2:</b> Arguably, Jackson creates a sense of mystery during the exposition of the story through the characterisation of the villagers.	'their jokes were quiet and they smiled rather than laughed'	<b>Auditory imagery</b> Creates an uneasy, eerie silence that suggests there is a hidden danger.
		'clung to the hands of their older brothers or sisters'	<b>Verb</b> Suggests a desperate need for support and comfort making us wonder why the children are afraid.

# Year 8 English Knowledge Organiser – Spring 2 – Creative Writing

ROA Grammar			Creative Sentences	
1	Concrete noun	General names (e.g., dog, city).	More, More, More Sentences/ Less, Less, Less Sentence	Nor, Nor, Nor Sentence
2	Abstract noun	Ideas you can't touch (e.g., freedom, love).	<b>What is it?</b> A complex sentence that uses the words more or less at the start of three clauses that follow on from each other. The repetition of words at the start of consecutive clauses is also known as <b>anaphora</b> .	<b>What is it?</b> This sentence use negatives to emphasis a point. 'Nor' is used as a conjunction here highlighting other things that are absent or untrue. This is useful to stress a point you are making; it is adding emphasis.
3	Collective noun	A name for a group.	<b>What does it look like?</b> <i>The less the light trickled through, the less it caught the thin branches, the less it touched the oddly shaped rocks at the feet of the trees.</i>	<b>What does it look like?</b> Not a single animal, <b>not</b> the rabbits I had seen on the meadow, <b>nor</b> the mice whispering in the grass, <b>nor</b> even the spiders and beetles came so deeply into the forest's reach.
4	Proper noun	Specific names (e.g., London). Always capitalised.	<b>The So So Sentence</b>	<b>Three Verb Sentence</b>
5	Noun phrase	A noun and its describing words.	<b>What is it?</b> This is a sentence that embeds two phrases that begin with so. It will add emphasis to the focus of your sentences.	<b>What is it?</b> Verbs are words that indicate a physical action (e.g. write), a mental action (e.g. think) or a state of being (e.g. exist)
Chanting - Key ROA Terminology			<b>What does it look like?</b> There was the faintest glimmer, <b>so</b> small, <b>so</b> distant, it didn't seem to exist.	<b>What does it look like?</b> <i>The monstrous fungi <b>billowed</b>, <b>swelled</b>, <b>rose</b> up and up, surrounding the base of every tree.</i>
1	Simile	Comparison using "like" or "as".	<b>ROA Core Skills</b>	
2	Metaphor	Comparison stating one thing is another.		
3	Foreshadowing	Hinting at future events.		
4	Personification	Giving human qualities to non-human things.		
5	Pathetic fallacy	Nature mirroring human emotions.		

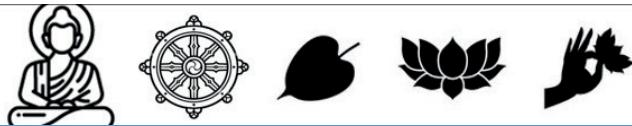
# Year 8 English Knowledge Organiser – Summer 1 – Creative Reading

ROA Grammar			Core ROA Reading Terminology						
1	<b>Adverb</b>	A word that describes verbs.	1	<b>Characterisation</b>	The creation and construction of a fictional character.	His booming laughter.			
2	<b>Verb</b>	A word that describes an action.	2	<b>Narrator</b>	The person or object telling the story.	The wind howled its mournful tale.			
3	<b>Verb</b>	A word that describes a state of being.	3	<b>Explicit characterisation</b>	The author tells you directly what the character is like.	The little puppy was playful.			
4	<b>Present tense</b>	An action that is currently happening.	4	<b>Implicit characterisation</b>	The author shows you what the character is like through their actions and interactions.	His smile never reached his cold, dead eyes.			
5	<b>Past tense</b>	An action in the past.	5	<b>First-person narrative</b>	The story is told by a character within the story. This character uses pronouns like "I," and "me,"	My breath hitched when the doorknob slowly turned.			
<b>Chanting - Key ROA Terminology</b>			6	<b>Third-person narrative</b>	The story is told by someone outside the story. This narrator uses pronouns like "he," "she," "it," and "they."	Darkness pressed in, and he felt a prickle of fear.			
1	<b>Simile</b>	Comparison using "like" or "as".	7	<b>Omniscient narrator</b>	A narrator who writes in the third person and has access to the thoughts and feelings of the characters/the plot.	A chill snaked up her spine; danger waited unseen.			
2	<b>Metaphor</b>	Comparison stating one thing is another.							
3	<b>Foreshadowing</b>	Hinting at future events.	<b>ROA Core Skills</b>						
4	<b>Personification</b>	Giving human qualities to non-human things.	  						
5	<b>Pathetic fallacy</b>	Nature mirroring human emotions.							



## RE - Islam

History of Islam		Prayer and the Mosque		The Qur'an and Hadith		Sariah Law and other key words	
Pre-Islamic Arabia	<ul style="list-style-type: none"> <li>A polytheistic society made up of many tribes (corrupt, divided, nomadic).</li> <li>Worshipped different gods at the Kaaba and charged people to worship.</li> </ul>	<b>Shahadah</b> Muslim declaration of faith, first pillar of Islam and the foundations of a Muslim's faith.	<b>Salah</b> Prayer, 2 <sup>nd</sup> pillar of Islam.	<b>Qur'an</b> <ul style="list-style-type: none"> <li>The Islamic holy book, written in Arabic.</li> <li>Revealed to Muhammad over 23 years.</li> <li>Reveals the nature of Allah and is a guide to living.</li> <li>Means 'to recite'.</li> </ul>	<b>99 Names</b> Ways to describe Allah, rather than using images e.g. Most Merciful, Most Wise	<b>Sariah Law</b> Sharia law is the Islamic legal system derived from the Quran and the Prophet Muhammad's teachings.	
Hajar	<ul style="list-style-type: none"> <li>Ibrahim's wife and mother of Ismail.</li> <li>Ran between the hills of Safa and Marwa 7 times looking for water (zam zam).</li> </ul>	<b>Shia and prayer</b> Shia Muslims pray 3 times a day	<b>Sunni and prayer</b> Sunni Muslims pray 5 times a day inline with the Sannah – traditions set out by Muhammad (pbuh)	<b>Tawhid</b> The oneness of Allah.	<b>Shirk</b> The sin of worshiping something other than Allah. Mosques decorated in geometric patterns and Arabic writing.	<b>What aspects of a Muslim's life does Sariah law cover</b> family matters, finances, business, personal hygiene, religious observances like prayer and fasting and ethical conduct	
Night of Power	The night Angel Jibril first revealed the Qur'an's message to Muhammad.	<b>Mosque</b> Where Muslims pray in the direction of Mecca.  The only decoration in a mosque is verses from the Quran as to worship[ anyone other than Allah is considered shirk.	<b>Wudu</b> Spiritual cleansing, many Muslims perform wudu at the mosque.	<b>Hadith</b> <ul style="list-style-type: none"> <li>A collection of Prophet Muhammad's sayings (between 4000 and 32,000)</li> <li><i>The Final Sermon is a collection of various Hadiths</i></li> <li><i>Do not have the same authority as the Qur'an as they are not direct revelation from Allah.</i></li> </ul>	<b>Final Sermon</b> <b>Mount Arafat</b> The place outside of Mecca where Muhammad delivered his final sermon.	<b>Saudi Arabia</b> have implemented Sharia law as the primary legal framework	
Hijrah	Means 'migration' (of Muslims from Mecca to Medina). Muhammad was made to do this as he was being persecuted.	<b>Ummah</b> Muslim brotherhood. The ummah feels unified when at the mosque.	<b>Men</b> Must try to pray their daily prayers at a mosque.			<b>interpretations</b> Sharia is subject to interpretation, and different Islamic schools of jurisprudence offer diverse perspectives on its application	
Conquest of Mecca	Muhammad peacefully reclaimed Mecca with an army of 10,000 using torches – uniting the ummah (Muslim community).	<b>Muslim community</b> The mosque is the centre of a Muslim community and a place of bonding				<b>Family Law:</b> Sharia law provides guidelines on marriage, divorce, inheritance, and child custody.	
Sunni & Shia – early Muslims and succession of Muhammad (pbuh)		<b>Fasting and Ramadan</b> <b>Ramadan</b> 3 <sup>rd</sup> pillar of Islam meaning fasting. 9 <sup>th</sup> Luna month of the Islamic calendar.		<b>Key messages</b> <ul style="list-style-type: none"> <li>Respect all human dignity. '<i>All mankind is from Adam and Eve</i>'</li> <li>Honour the rights of women.</li> <li>Fight poverty.</li> <li><i>'Beware of Satan for the safety of your religion'</i></li> <li>Obey the Qur'an fully ("and if you follow this, you will never go astray")</li> <li>Promote equality of races "No Arab has superiority over a non-Arab"</li> </ul>		<b>Financial Matters:</b> It prohibits interest (riba) and gambling, and encourages ethical business practices like fair trading and charitable giving.	
Sunni	<ul style="list-style-type: none"> <li>Around 90% of global Muslims.</li> <li>Believe Abu Bakr was the rightful leader after Muhammad's death.</li> <li>Became the first caliph (leader).</li> <li>Believe in <b>Al-Qadr</b> (Allah has planned everything).</li> </ul>	<b>exemptions</b> You do not have to fast if you are elderly, ill, under 12 years old, a soldier, on your monthly cycle or pregnant/ breastfeeding.	<b>When to fast</b> Muslims will fast during daylight hours so from sunrise to sunset.  Muslims will eat their meals during the time when the sun is down.			<b>Personal Hygiene</b> outlines rules for cleanliness and modesty, including specific guidelines on prayer and ablutions.	
Mecca	The holiest city in Islam. Where the Kaaba is.					<b>Sunnah</b> the practices, teachings, and sayings of Prophet Muhammad, serving as a model for Muslims to follow in their daily lives.	
Madinah	Where the prophet's Mosque is and where the first Ummah was established.						



## RE – Buddhism

Buddhism: history and context		Siddhartha Gautama			Suffering (Dukkha)		Anuradhapura, and sangha		
Origins	Started in Nepal, 623 BC. Founder: Siddhartha Gautama (The Buddha).	Birth	Born a prince, living in lavish luxury.  Predicted that if Siddhartha saw suffering, he would become a holy man, if not a king.	Dukkha	All life is suffering.	Anura-dhapura	a major city located in the north central plain of Sri Lanka.		
Nepal in 623 BC	Hindu at the time of Siddhartha.	Early life	Father shielded him from suffering – in palace.	Nothing is per-manent (anicca)	Being attached causes suffering as it will inevitably change.	Bodhi tree of Sri Lanka	Jaya Sri Maha Bodhi Tree is a sacred bodhi tree in Mahamewuna Garden in the historical city of Anuradhapura. Commonly known as the tree of enlightenment		
Concepts of Buddhism		Four Sights:	Impact then Impact today	Analogy	The analogy of a doctor finding a cure for the world's suffering shows how we overcome suffering.	Three jewels of Buddhism			
Atheist	Buddhists do not believe in God.	Death, old age, sickness, holy man.	Showed Siddhartha reality of existence.	Sickness	We all suffer (experience dukkha).	The Buddha	The enlightened beings who have achieved enlightenment and serve as a guide and example for		
Meditation	Buddhists develop spiritually by meditating.	Siddhartha became holy man.	We too should search for meaning.	Diagnos-is	Attachment to things that change causes suffering.	The Dharma	This refers to the teachings of the Buddha, including the Four Noble Truths, the Eightfold Path, and other principles that guide the path to enlightenment.		
No soul (anatta)	Humans do not have a permanent, unchanging spiritual self.	Ascetic	Siddhartha tried to develop spiritually by giving up all bodily comfort.	Cure	Stop craving and attachment.				
Impermanence (anicca)	All mental and physical states are constantly changing.	Enlighten-ment	Realised the middle way: enlightenment lies between the two extremes of bodily comfort and extreme hardship (living in moderation).	Loving kindness	Buddhists cultivate kindness to all living beings. In wishing others well they forget their own desire.				
Life after death		Enlightenment and meditation			Living as a Buddhist		The Sangha	This refers to the community of Buddhist practitioners, both ordained and lay, who support and encourage each other on their path.	
Rebirth	At the moment of death, a new life is caused by the person's karma.	Buddha's enlightenment		Precept	A rule that guides how Buddhists should live.				
Wheel of life	• Shows the cycle of samsara. • Demon holding the wheel represents impermanence. • Six realms into which a person can be reborn. • Moon symbolises that everyone can attain enlightenment.	Middle way	Realised the path to enlightenment lies in the middle way "if you tighten the string..."  Buddha sat under a Bodhi tree and meditated until he attained enlightenment.	Five pre-cepts	• Not killing or causing harm to other creatures. • Not taking things not given. • Avoiding sexual misconduct. • Avoiding false speech (lying). • Avoiding things that cloud the mind (drink and drugs).				
Nirvana	The goal of Buddhism. Release from Samsara and therefore Dukkha.	Dharma	Follow and live the Buddha's teachings.	Caste system		Buddha			
Samsara		Enlightenment	Nirvana	Meditation	Karma	Caste system			
The cycle of life, death and rebirth.		Realisation or understanding.	Release from Samsara and escape from Dukkha.	Thinking about something deeply, reflecting.	The law of cause and effect. Every action has an equal reaction	A division of society based on differences in wealth, race, and occupation	A title meaning enlightened one, given to Siddhartha Gautama.		



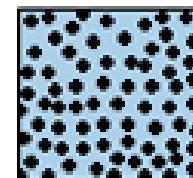
## RE – Hinduism

The Hindu Dharma		Worship and festivals		The Kumbha Mela		Sacred Writings	
Brahman	the Ultimate Reality, the supreme God, or the divine consciousness that permeates all existence	Puja:	The primary form of Hindu worship, involves offering prayers, incense, flowers, and food to deities at shrines in homes or temples.	The Kumbha Mela	a large-scale Hindu pilgrimage festival celebrated in India, known as the world's largest peaceful gathering	Shruti (Revealed Texts)	The Vedas: These are the most ancient and foundational texts, comprising hymns, rituals, and philosophical treatises.
Trimurti	refers to the three main gods, Brahma, Vishnu, and Shiva	Bhakt	Loving devotion is a central theme, emphasizing the connection between the worshipper and the divine	Ritual Bathing	Pilgrims take a ritual dip in the sacred rivers (Ganges, Godavari, etc.), believing it cleanses them spiritually	Rig Veda	Contains hymns praising various deities
The three Gods:						Sama Veda	Focuses on melodies and chants for rituals
Brahma	The creator god, responsible for initiating the creation of the universe	Darshan	Means "to see," and is a belief that worshippers experience a deity's presence and blessing	Rotating Sites	The festival rotates between Prayagraj, Haridwar, Nashik, and Ujjain, each site associated with a particular river.	Yajur Veda	Provides instructions for priestly rituals and sacrifices
Vishnu	The preserver god, maintaining balance and order in the universe	Diwali	The "festival of lights," celebrated in late October or early November, commemorating the new year and celebrating good over evil.	Frequency	Full Kumbh Melas are held every 12 years at the four main sites	Atharva Veda	Includes charms, spells, and philosophical reflections
Shiva	The destroyer god, responsible for the dissolution and transformation of the universe	Holi	A colourful festival celebrating spring and the triumph of good over evil, involving throwing coloured powder and celebrating with music and dance	Significance	The Kumbh Mela is deeply rooted in Hindu mythology and the belief in the purifying power of sacred rivers	Upani-shads	These texts explore philosophical concepts like Brahman and Atman.
dharma	a multifaceted concept encompassing duty, righteousness, religion, morality, and the cosmic order	Navrat-ri	A nine-day festival dedicated to goddess Durga, with worship, fasting, and traditional dances	Haridwar		Smriti (Tradition Texts):	interpret the Vedas and provide practical guidance
Origins of Dharma faith							
Indus Valley Civilization	3000-2000 BCE, may have had religious practices and beliefs that influenced later Hinduism,	Karma	The law of karma, which posits that actions have consequences, is a fundamental principle, shaping the understanding of rebirth	Haridwar	a significant city in Hinduism, considered one of the seven sacred cities and a major pilgrimage centre.	Puranas	Collections of myths, legends, and genealogies, often focusing on specific deities
Vedic Period (c. 1500-500 BCE):	the development of fire sacrifices and the worship of Vedic deities by The Indo-Aryans.	Samsara and Liberation	All dharmic faiths recognize the cycle of rebirths (samsara) and aim for liberation (moksha, nirvana, etc.) from this cycle, often through spiritual practices	Sacred City	Haridwar is considered a holy place, with strong connections to Hindu mythology and scriptures.	Ramayana	An epic poem narrating the story of Rama and Sita
Synthesis of Cultures	The Vedic religion blended with indigenous beliefs and practices, leading to a gradual evolution of Hinduism	Ethics	Shared ethical frameworks emphasizing compassion, non-violence (ahimsa), and the importance of dharma in daily life are prevalent across these traditions	Ganges River	The Ganges River is revered as a sacred river in Hinduism, and bathing in its waters is believed to purify the soul and wash away sins. Haridwar is a major location for pilgrims to engage in this practice	Mahabharata	A vast epic poem containing the Bhagavad Gita and other philosophical and ethical teaching
Epic and Puranic Periods (500 BCE - AD 500):	the concept of dharma, along with the worship of deities like Vishnu, Shiva, and Devi, gained prominence	Symbols	The ashtamangala (eight auspicious symbols) are found in all dharmic faiths, representing protection, fearlessness, unlimited blessings, and purity	Har-ki-Pauri	This ghat (bathing steps) along the Ganges is a central object of pilgrimage, with a footprint of Vishnu said to be impressed into a stone.	Bhagavad Gita	A key philosophical text within the Mahabharata, discussing dharma, karma, and the nature of reality.
No Single Founder	Unlike many other religions, Hinduism does not have a single founder. It evolved through the gradual blending of diverse beliefs and practices, making					Dharmaśāstras	Legal and ethical texts providing guidelines for social and personal conduct

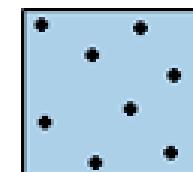
# Geography - Population

## 1. How is our population distributed globally?

Term	Definition	Example
Population distribution	The spread of people across an area	Even or uneven
Population density	Number of people per km <sup>2</sup>	Sparse or dense
Sparingly populated	Very few people per km <sup>2</sup>	Sahara Desert
Densely populated	Lots of people per km <sup>2</sup>	Western Europe
Rural / Urban	Rural = Countryside / Urban = Towns and cities	New Forest/ Bournemouth



Dense

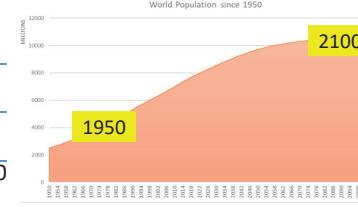


Sparse

## 2. What influences population distribution?

Category	Factor	Explanation for sparsely populated areas.
Physical factors	Relief	Steep ground is difficult/expensive to build on e.g. Himalayas.
	Climate	Too cold or hot to grow crops e.g. Sahara Desert.
	Soil	Crops do not grow if soil is infertile.
Human factors	Jobs	If few jobs, people will migrate to other areas for work.
	Transport	If transportation links are good people be attracted.

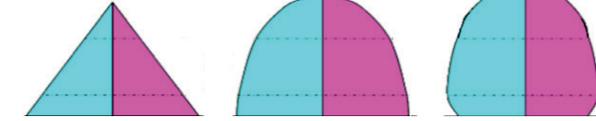
## 3. How is the world's population changing?

Population explosion	World population has exploded since 1950 and will peak in 2100. Growth is mostly in LICs/NEEs.	
Natural increase	When birth rates are greater than death rates.	
Birth rate (BR)	Number of babies born per 1,000 of the population, per year.	
Death rate (DR)	Number of people who die per 1,000 of the population, per year.	
Overpopulation	Too many people for the resources available in an area. No food = starvation. No clean water = disease like cholera.	

## 4. Why do birth rates and death rates vary?

Country	Explanation of birth rate	Explanation of death rate
HIC BR ↓ DR ↓	<ul style="list-style-type: none"> <li>Women have careers = marry later &amp; have children later</li> <li>Contraception available</li> <li>Children are expensive</li> </ul>	<ul style="list-style-type: none"> <li>Good access to health care</li> <li>Education about well-being</li> <li>Disposable income to buy healthy food</li> </ul>
NEE BR ↗ DR ↗	<ul style="list-style-type: none"> <li>As country develop, people are moving to cities, less children are needed to work in fields.</li> <li>Contraception becomes available</li> </ul>	<ul style="list-style-type: none"> <li>Increased access to clean water</li> <li>Better health care</li> </ul>
LIC BR ↑ DR ↓	<ul style="list-style-type: none"> <li>Children help on farms</li> <li>Lack of sex education</li> <li>Girls marry young</li> <li>High infant mortality rate</li> </ul>	<ul style="list-style-type: none"> <li>Lack of access to clean water</li> <li>Poor health care access</li> </ul>

## 5. What are population pyramids?

Population structure	Number of people in each age range, separated into gender.
Economically active	16-65 age group - working age so pay taxes to the government.
Dependants	Do not work (15 and under & 65+).
Population pyramids: Graph showing pop structure	
What does the shape of the pyramid tell us about the population structure?	<ul style="list-style-type: none"> <li>Wide base = ↑ BR</li> <li>Short = ↓ life expectancy.</li> <li>Youthful population</li> </ul>
	<ul style="list-style-type: none"> <li>Narrowing base = BR ↓</li> <li>Widening top = DR ↓</li> </ul>
	<ul style="list-style-type: none"> <li>Narrow base = ↓ BR</li> <li>Wide top/tall = ↑ LE</li> <li>Ageing population</li> </ul>

## 6. Demographic Transition Model

	LIC	NEE	HIC	HIC
High BR	High BR	Falling BR	Low BR	Low BR
High DR	Falling DR	Low DR	Low DR	Low DR
Lack of clean water and healthcare	Farming = ↑ BR Medical care improves = ↓ DR	Rural / urban migration. Factories not farming = ↓ BR	Women have careers, marry later, contraception = ↓ BR Very good health care, healthy diets = ↓ DR	

# Geography - Population

## 7. What are the impacts of an ageing population in the UK?

A high proportion of elderly people in relation to younger people.	Why? Better health care and better diets and fitness levels = increasing life expectancy
<b>Negatives</b>	<b>Positives</b>
<ul style="list-style-type: none"> <li>⌚ ⚡ money needed for state pensions = ⚡ money for other things like schools</li> <li>⌚ 2/3 hospital beds taken by elderly = ⚡ waiting times and pressure on NHS</li> </ul>	<ul style="list-style-type: none"> <li>⌚ Elderly have disposable income = spend ↗ in shops = ↗ jobs + economy</li> <li>⌚ Elderly look after grandchildren saving parents money</li> </ul>

## 8. What is migration?

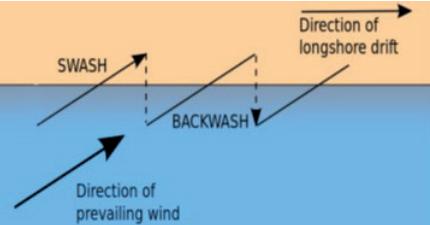
Term	Definition
<b>Migration</b>	The movement of people from one place to another.
<b>Immigrant</b>	A person who comes to live IN a foreign country.
<b>Emigrant</b>	A person who moves OUT of a country.
<b>Refugee</b>	A person who has been forced to leave their country to escape war, persecution, or a natural disaster.
<b>Economic migrant</b>	A person who moves for work to improve their life.
<b>Asylum seeker</b>	A refugee who has applied for asylum.

## 10. Notes

- Lack of education
- Poorly paid jobs
- Wars or conflicts
- Higher wages
- Better access to education
- Better healthcare

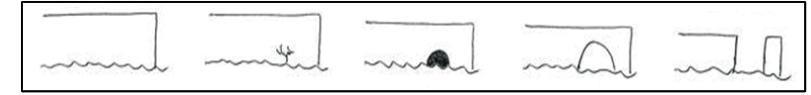
# Geography - Coasts

1a. Waves	
Key term	Definition
Prevailing wind	The most frequent wind direction.
Swash	Movement of the waves UP the beach in the direction of the prevailing wind.
Backwash	Movement of the waves DOWN the beach at a right angle due to gravity.
Fetch	Distance the wave has travelled.

2. Which processes occur along the coastline?	
Key term	Definition
Erosion	The wearing away of rock
Hydraulic power	The force of the water compressing air into cracks causes bits to break off.
Abrasion	Sediment scraping against the cliff (like sandpaper) removing small bits.
Attrition	'Smashing' of sediment against each other becoming more rounded
Solution	Acids in sea water dissolve certain types of rock, such as limestone or chalk, causing them to gradually erode over time.
Weathering	The break down of rocks where they are (in situ)
Mechanical weathering	The breaking up of rock without changing its chemical composition (freeze thaw is caused by the repeated freezing and thawing of water in a crack).
Biological weathering	The breaking down of rock caused by plant and animal activity.
Chemical weathering	The breaking down of rock due to weak acids in the water, dissolving the rock over time.
Deposition	Dropping of material. Occurs when there is a loss of energy in the water.
Transportation	The movement of material.
Longshore drift	The zig zagged movement of sediment along the coastline.
 <p>Prevailing wind blows at an angle to the coastline. Swash moves sediment up the beach at the same angle as the prevailing wind. Backwash moves sediment down the beach at 90° due to gravity. This repeats and sediment is transported along the coast.</p>	

1b. Constructive waves	1c. Destructive waves
<ul style="list-style-type: none"> <li>Build up the beach</li> <li>Strong swash, weak backwash</li> <li>Low, long waves</li> </ul>	<ul style="list-style-type: none"> <li>Destroy the beach</li> <li>Weak swash, strong backwash</li> <li>Tall, short waves</li> </ul>

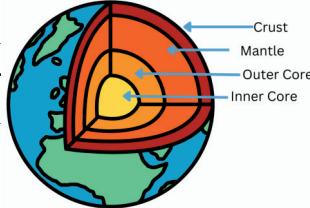


3. Erosional landforms	
Landform	Formation
Headlands and bays	<ul style="list-style-type: none"> <li>Some coastlines have bands of harder and softer rocks (<b>discordant</b>) at 90° to the sea.</li> <li>Destructive waves <b>erode</b> the coast by abrasion and hydraulic power.</li> <li><b>Softer rock</b> erodes faster and retreats creating a <b>bay</b>.</li> <li><b>Harder rock</b> erodes slower, remaining stuck out as <b>headlands</b>.</li> </ul> 
Cave, Arch, Stack, Stump	<ul style="list-style-type: none"> <li><b>Destructive waves</b> attack the base of a cliff through hydraulic power and abrasion opening up <b>cracks</b>.</li> <li>Cracks widen creating a <b>cave</b> (further hydraulic power &amp; abrasion).</li> <li>The cave is enlarged by further erosional processes, eventually cutting through the headland to make an <b>arch</b>.</li> <li><b>Weathering</b> weakens the arch, which is unsupported. Eventually it will collapse due to gravity.</li> <li>A <b>stack</b> is formed. Eventually this will collapse and form a <b>stump</b>.</li> </ul> 

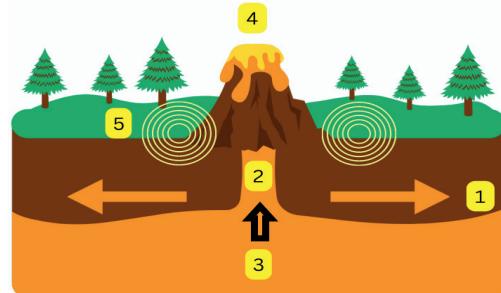
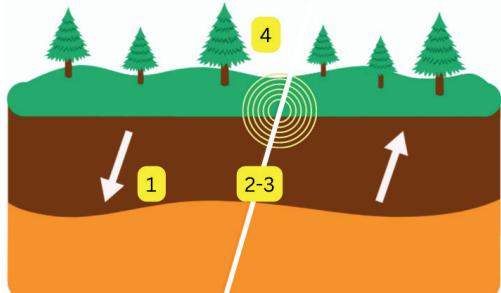
# Geography - Coasts

4. Depositional landforms			7. How effective is coastal management in Bournemouth?				
Landform	Formation		Why does it need management?	Without management coastline would erode at 1 metre per year. Beach vital for tourism (tourists spend £413 million each year) Cliffs are collapsing (e.g. East Cliff 2016) Protects 3,114 homes and 109 businesses			
Beaches	<ul style="list-style-type: none"> <li>Beaches form when <b>deposition</b> occurs.</li> <li>There needs to be a source of sediment nearby like soft cliffs.</li> <li>Constructive waves <b>deposit</b> material in sheltered areas (bays).</li> </ul>						
Sand beaches	<ul style="list-style-type: none"> <li>Formed in <b>lower energy</b> environments.</li> <li>Waves lack enough energy to transport heavier sediment to the shoreline.</li> <li><b>Wider and flatter</b> beach profile.</li> </ul>						
Shingle beaches	<ul style="list-style-type: none"> <li>Formed in <b>higher energy</b> environments.</li> <li>Waves have enough energy to transport heavier shingle to the shoreline.</li> <li><b>Steep and narrow</b> beach profile.</li> </ul>						
5. What are the causes and effects of coastal erosion?							
Causes	Point	Develop	Bournemouth Beach Management Scheme 2015-2032	Point	Develop This means that...	Double Develop As a result...	
Differing geology	Soft rock erodes faster than hard rock (headlands & bays).			Hard engineering- 53 groynes to be replaced.	Reduce longshore drift creating a wide beach.	Waves lose their energy before the cliff.	
No management	If there is no hard engineering, erosion is more likely.			Soft engineering- 3 lots of beach nourishment, 1 every 5 years.	Replaces sediment lost through longshore drift.	Wider beach absorbs more wave energy.	
Effects	Communities	Develop	Bournemouth Beach Management Scheme 2015-2032	How successful was this management?	Develop This means that...	Double Develop As a result...	
Environment	 People can't sell their homes.  People have to leave their community, feel isolated.			Groynes more successful—groynes trap the sediment and create a wider beach.	9,000 jobs have been created for local people.	People have a higher income and pay more tax to the government.	
	 Loss of coastal habitats, lowers biodiversity.  Beaches are removed (coastline more vulnerable).			Groynes less successful - trapped sediment starves the beaches at Barton on Sea.	More coastal erosion occurs at Barton on Sea.	Houses are at risk of cliff collapse there instead.	
	 Beach nourishment more successful- Wide beaches attracting tourists.			Beach nourishment more successful- Wide beaches attracting tourists.	£413 million is brought into the area.	Councils receive more income through tax improving the area.	
	 Beach nourishment less successful- needs to be completed often, 3 times every 5 years.			Beach nourishment less successful- needs to be completed often, 3 times every 5 years.	Can be expensive— costing over £50 million.	Less income can be used to improve infrastructure in Bournemouth such as roads.	
6. How do we manage our coastline? Hard and soft engineering.							
Type	Definition	Type	Image	Description	Explanation		
Hard engineering	Man-made structures built to control the sea. Reduces flooding and erosion.	Sea walls		A hard wall made from concrete.	Reflects the waves energy back out to sea.		
		Rock armour		Boulders piled up along the coast.	These get eroded rather than the coast.		
		Gabions		Wire cages filled with rocks.	These absorb wave energy.		
		Groynes		Wooden fences going out into the sea.	Reduce longshore drift by trapping sediment, leading to a wider beach.		
Soft	A natural approach to managing the coast.	Beach nourishment		Sand from elsewhere is added to beaches.	Wider beaches reduce erosion and flooding behind.		
		Dune regeneration		Restoring sand dunes by planting marram grass.	Stabilises the sand to prevent it eroding.		

# Geography - Tectonics

1. What is planet Earth made of?		3. How do earthquakes form?	
Key term	Definition	Focus	The point underground where the earthquake occurs.
Crust	Outer layer made of rock. Split into plates. Can be <b>continental</b> (thick, less dense) or <b>oceanic</b> (thin, dense).	Epicentre	The point on the Earth's surface directly above the focus.
Mantle	Thickest layer made from molten rock (magma).	Seismic waves	The energy released from earthquakes.
Outer core	Made from liquid nickel and iron.	Reducing the impacts of earthquakes	
Inner core	Centre of the Earth made from solid nickel and iron. 5500°C.	Predict	Difficult to predict earthquakes. <b>Monitoring</b> of past earthquakes and patterns.
Convection currents	Heat currents in the mantle which make tectonic plates move due to friction.	Protect	Buildings can be built to be earthquake resistant (e.g. rubber shock absorbers and steel braces, retrofitting). Very effective but expensive, unaffordable for LICs.
		Planning	Planning for earthquakes includes rehearsing drills (drop/cover/hold), having emergency bag ready, training emergency services and knowing what countries to ask for help with responding.

2a. What happens at the plate margins?	
Tectonic plates	The Earth's crust is made of slabs of rocks (7 major and 8 minor plates) that sit on top of the mantle. The plates fit together like a giant puzzle.
Plate margin / Plate boundary	Where two tectonic plates meet and either collide, move apart or slide past each other.
Global distribution	Tectonic hazards mainly occur along the plate margins. Earthquakes occur at all margins, but volcanoes are found only on destructive and constructive.

2b. Constructive < >	2c. Destructive > <	2d. Conservative V V
		
1. Two tectonic plates are <b>pulled apart</b> 2. Gap in crust created. 3. Magma rises from mantle to fill gap 4. Lava erupts from a <b>shield volcano</b> . 5. Friction creates low magnitude (energy) earthquakes.	1. Oceanic and continental plates <b>move towards each other</b> 2. Oceanic plate (denser) subducts under continental plate. 3. Tension builds up causing earthquakes. 4. Subducted crust melts and magma rises 5. Lava erupts to from a <b>composite volcano</b> .	1. Tectonic plates slide past each other. 2. Plates get caught on each other. 3. Friction occurs and tension builds up. 4. Energy is suddenly released as seismic waves... an earthquake! (No volcanoes on conservative margins)

# Geography - Tectonics

4. Impacts and responses			8. Why do people live near tectonic hazards?	
Impacts	Primary impact	The initial impact of a natural event on people and property, caused directly by the natural event.	Earthquakes	Volcanoes
	Secondary impact	The after-effects that occur as indirect impacts of a natural event.	In LICs, people are too poor to move elsewhere.	In LICs, people are too poor to move elsewhere.
Responses	Immediate response	The reactions of people as the disaster happens and in the immediate aftermath.	In HICs people feel safe due to EQ resistant buildings and regular drill practice.	The heat from magma below the ground can be used to generate electricity (geothermal energy).
	Long-term response	Later reactions that occur in the weeks, months and years after the event.	Earthquakes occur very rarely.	Soils near volcanoes are fertile, good for crops.
5. What affects the number of deaths from an earthquake?			9. Notes	
Level of development		Physicality of the earthquake		
<ul style="list-style-type: none"> <li>Poor building materials (no building codes).</li> <li>Densely populated areas.</li> </ul>		<ul style="list-style-type: none"> <li>If the epicentre (earthquake) is close to a densely populated area.</li> <li>Time of the day (whether people are at work or during the night).</li> </ul>		
<ul style="list-style-type: none"> <li>Emergency services not trained.</li> <li>Lack of insurance to pay for repairs.</li> </ul>		<ul style="list-style-type: none"> <li>Magnitude.</li> <li>Depth of focus (shallow focus would be stronger EQ).</li> </ul>		
6. What are the two types of volcano?			7. Monitoring Volcanoes	
Composite volcano - Destructive Margin	Shield volcano - constructive margin		Monitoring volcanoes leads to accurate predictions of eruptions, reducing the risks.	
			Warning signs	As magma rises.
Tall but narrow base. Steep slopes.	Short but wide base. Gentle slopes.		Earth vibrations	100s of small earthquakes. Seismometer is used.
Thick layers of lava, lots of ash.	Gentle eruptions (more frequent).		Temperature	Ground and water get hotter - Thermal imagery is used (satellites).
Violent eruptions (less frequent).	Thin layers of lava, little ash.		Change in gas	Near an eruption, more sulphur in gas samples.
Volcanic hazards include ash cloud (air travel can be affected), pyroclastic flow, lava flow.			Ground deformation	Changes to the shape of the volcano are measured using laser beams.

# History Topic 1: Henry VIII and the Reformation

## Knowledge Organiser Questions

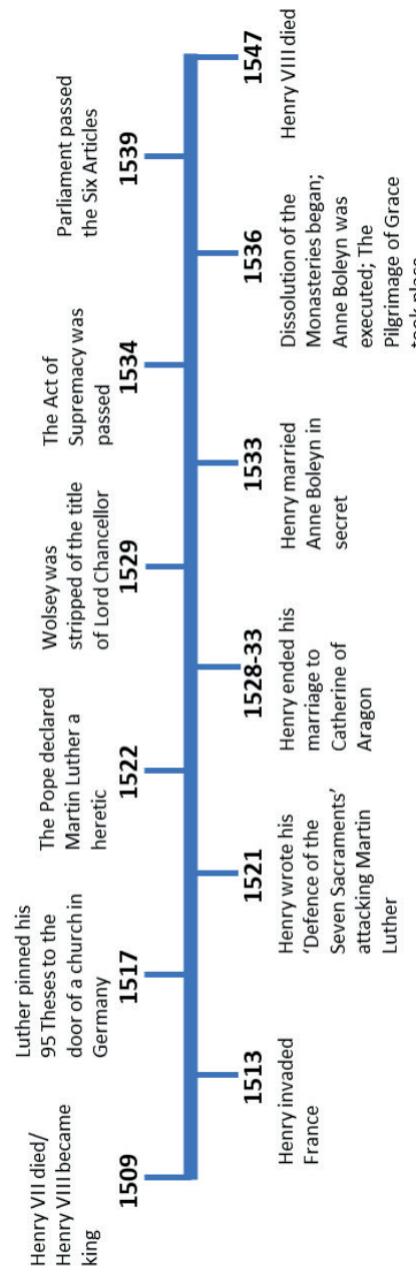
1	Who was the head of the Catholic Church?	The Pope
2	What is a certificate personally signed by the head of the Catholic Church, which a Christian could buy to gain forgiveness for their sins called?	An indulgence
3	Who was forbidden from reading the bible in the Catholic Church?	Ordinary people
4	What term means the dishonest behaviour by those in power?	Corruption
5	In which country did the Protestant European Reformation begin?	Germany
6	What was the name of the document Martin Luther pinned to a church door in 1517?	The 95 Theses
7	What did Luther criticise about the Catholic Church?	Selling of indulgences
8	What invention led Luther's ideas to spread so quickly across Europe?	Printing press
9	What did the pope declare Martin Luther was in 1522?	A heretic
10	Which new Christian faith emerged in the 1500s?	Protestantism
11	Which king founded the Tudor dynasty?	Henry VII
12	How did the founder of the Tudor dynasty unite the houses of York and Lancaster?	Married Elizabeth of York
13	In which year did Henry VIII become king?	1509
14	Which sport is Henry VIII most associated with?	Jousting
15	In which year did Henry VIII invade France?	1513
16	Who was Henry VIII's Lord Chancellor and chief adviser from 1515 to 1529?	Thomas Wolsey
17	Who was Henry VIII's first wife?	Catherine of Aragon
18	Who had Henry VIII's first wife previously been married to?	Henry VIII's older brother, Arthur
19	What peace conference did Henry VIII's Lord Chancellor organise in 1520?	Field of the Cloth of Gold
20	Why was a male heir so important to Henry?	To maintain Tudor control

# History Topic 1: Henry VIII and the Reformation

## Knowledge Organiser Questions

21	Who did Henry VIII fall in love with whilst still married to Catherine of Aragon?	Anne Boleyn
22	Who did Henry VIII have to get permission from to divorce?	The Pope
23	Who was responsible for negotiating a divorce with the Pope on Henry VIII's behalf?	Thomas Wolsey
24	What was the term used for Henry's desire for a male heir?	His Great Matter
25	In which year did Henry VIII marry his second wife?	1533
26	What was Henry VIII's new title in the 1534 Act of Supremacy which meant England had broken with Rome?	Supreme Head of the Church of England
27	Which oath did Henry VIII force people to swear after 1534?	Oath of Supremacy
28	What term describes the closure of all religious houses in England by Henry VIII?	Dissolution of the Monasteries
29	Which ministers proposed the closure of all religious houses in England?	Thomas Cromwell
30	What did Foxe and Cranmer convince Henry of?	God wanted kings to be dominant in their countries
31	What happened to those who refused to swear the Oath of Supremacy?	They were executed
32	How did churches change in England?	A lot plainer, no statues
33	Where was an English bible placed?	In every church
34	In which year was Anne Boleyn executed?	1536
35	What was the public rebellion called in 1536?	The Pilgrimage of Grace
36	Who led the public rebellion in 1536?	Robert Aske
37	Who was Henry VIII's third wife?	Jane Seymour
38	Which 1539 act of parliament moved the English church back towards Catholic practices?	The Six Articles
39	Who were Henry VIII's last three wives?	Anne of Cleves, Catherine Howard, Catherine Parr
40	In which year did Henry VIII die?	1547

# History Topic 1: Henry VIII and the Reformation



## Why did the Protestant Reformation emerge in the early 16<sup>th</sup> Century?

A split in the church occurred. Those who protested against the Catholic Church became Protestants: a different type of Christian who rejected the authority of the Pope. This was known as the Protestant Reformation.

- **Corruption:** Indulgences were being sold (a certificate personally signed by the Pope, which a Christian could buy to gain forgiveness for their sins), belief in relics, monks and nuns lived in luxury, clergy wore vestments of fine silk, Catholic churches were richly decorated.
- **Desire for religious change:** Mass and bible were only in Latin- only the richest could understand this. Only priests were allowed to read from the bible. People wanted religion to be simpler, where they felt more connected to God.
- **Printing press:** Copies of Martin Luther's 95 Theses were able to be produced and spread throughout Europe. This meant his criticisms of the church and ideas influenced others.

## Why did Henry break with Rome?



**Love for Anne Boleyn** – Henry had fallen in love with Anne Boleyn and desperately wanted her as his wife. The Pope did not allow Henry to divorce Catherine of Aragon. Henry therefore created his own religion so that he didn't need the Pope's permission to marry Anne.



**Desire for a male heir** – Henry knew the importance of having a male heir to secure dynastic succession and maintain Tudor control of the throne. Catherine of Aragon was past childbearing age, and so Henry needed a new younger wife who might be able to give him the son he desired.



**Money** – Henry had been carrying out an expansive foreign policy- this cost a lot of money and meant taxes had to be raised to pay for the wars. By breaking with Rome Henry no longer had to pay taxes to the Pope, and officially owned the church land and the wealthy monasteries.



**Power** – Henry wanted to be a powerful king and did not want to be told what to do by the Pope, or worse, Charles V the Holy Roman Emperor. Breaking with Rome meant that Henry had authority over everyone within his realm, and the Pope had no influence within England.



**Religion** – Henry believed in the importance of doctrine in religious services, and believed God wanted monarchs to be the head of the church in their own country. These are ideas that matched with Protestantism, and he was heavily influenced by prominent protestants to reform religion.

## What were the consequences of the break with Rome?

- **Oath of Supremacy** – Public figures and clergymen were forced to swear an oath stating Henry was the 'Supreme Head of the Church of England'. Those who refused were executed. This ensured a church loyal to Henry's reforms.
- **Dissolution of the Monasteries** – Henry closed and stripped the monasteries and sold off the land. This destroyed a key feature of Catholicism and give Henry a huge amount of wealth for himself and to fight wars.
- **The Pilgrimage of Grace** – A group of Catholic nobles amassed an army who wanted to reverse the reformation and reintroduce Catholicism. This shows that not all were happy with the reforms Henry introduced.
- **Religious changes** – a copy of the bible in English was placed in every church, churches became more plain looking and priests wore plain garments, worship was seen as more personal rather than visual and shared. Bishop and clergymen were replaced if they did not conform to the changes. However the Catholic/Protestant debate continued for the next century.

# History Topic 2: Late Tudor England

## Knowledge Organiser Questions

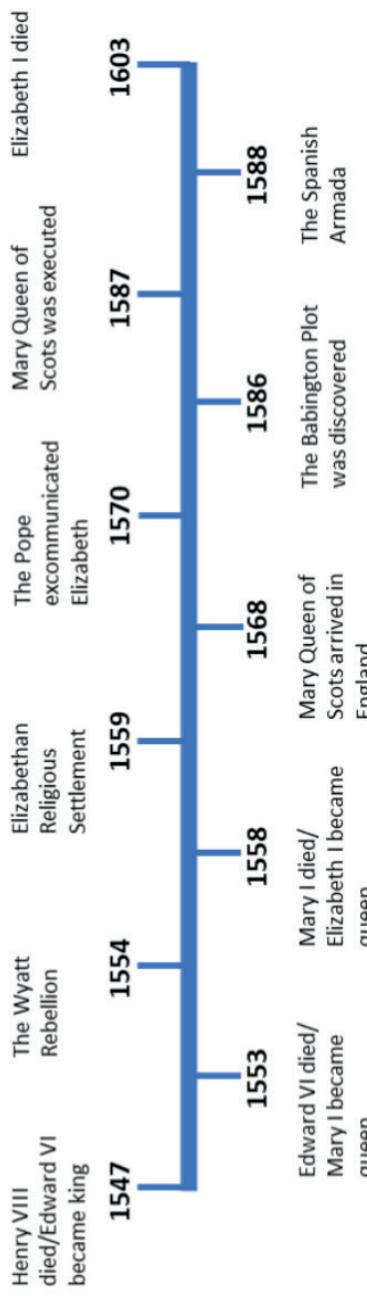
1	Was Edward VI Catholic or Protestant?	Protestant
2	How old was Edward VI when he became king?	9
3	Which language were church services & the Bible in under Edward I's reign?	English
4	Was Mary I Catholic or Protestant?	Catholic
5	Who was Mary I's mother?	Catherine of Aragon
6	Who did Edward VI name his heir in an attempt to keep England Protestant?	Lady Jane Grey
7	Who was Mary I's husband?	Philip II of Spain
8	Which language were church services in under Mary I's reign?	Latin
9	Who was head of the Church during Mary I's reign?	Mary I
10	What was the main method Mary used to kill Protestant rebels?	Burning at the stake
11	How many Protestants did Mary I kill for refusing to follow religious instructions?	283
12	In which year did Elizabeth I become Queen of England?	1558
13	Who was Elizabeth I's mother?	Anne Boleyn
14	Which three pieces of legislation made up Elizabeth I's Religious Settlement?	Act of Supremacy, Act of Uniformity, Royal Injunctions
15	What was the aim of Elizabeth's Religious Settlement?	To please both Catholics and Protestants
16	Who were the Puritans?	Strict Protestants
17	Name two issues that Puritans had with the Religious Settlement.	Vestments and crucifixes
18	What were Puritan meetings held to discuss criticisms of the church called?	Prophesying
19	How did Elizabeth I punish Puritan printer John Stubbs?	Had his right hand chopped off
20	Which second cousin of Elizabeth I's arrived in England in 1568?	Mary, Queen of Scots

# History Topic 2: Late Tudor England

## Knowledge Organiser Questions

21	Why did Mary, Queen of Scots pose a threat to Elizabeth's reign?	She had a legitimate claim and strong Catholic support
22	Which 1569 revolt against Elizabeth I came from her own nobles?	Revolt of the Northern Earls
23	What did the Pope ask Catholics to do in his 1570 Papal Bull?	End Elizabeth's reign
24	What was the punishment for being a Catholic priest in England from 1585?	Execution
25	Which 1586 plot aimed to remove Elizabeth I & replace her with Mary QoS?	Babington Plot
26	How many Catholics were killed during Elizabeth I's reign?	180
27	What triggered King Philip II's desire to invade England?	Mary, Queen of Scots' execution
28	In which year was the Spanish Armada launched against England?	1588
29	Who commanded the Spanish invasion fleet despite little experience?	Duke of Medina Sidonia
30	At which battle did the smaller English ships outmanoeuvre the Spanish?	Battle of Gravelines
31	Which tactic was used to cause panic amongst the Spanish fleet?	Hellburners (fire ships)
32	How many Spanish ships were lost in storms off the Scottish and Irish coasts?	60
33	How did Elizabeth I use the Armada victory to strengthen her religious policy?	Propaganda showing God was on the Protestant's side
34	Which historian wrote <i>The Time Traveller's Guide to Elizabethan England</i> ?	Ian Mortimer
35	What was the main concern of the rural poor?	Starvation
36	Why were towns dangerous for the Elizabethan poor?	Disease and crime
37	Which part of Elizabethan government entertained the monarch and was a centre of style and fashion?	The court
38	What were Elizabeth's journeys around England to stay in nobles' houses called?	Royal progresses
39	Which historian wrote <i>Black Tudors</i> ?	Miranda Kaufmann
40	Which African trumpet player played at many royal events in Tudor England?	John Blanke

# History Topic 2: Late Tudor England



## What was the most significant threat to Elizabeth's religious settlement?



**The Puritans:** Some Puritans refused to accept any Catholic practices- forced Elizabeth to back down over the crucifix. Archbishop Grindal encouraged prophesings (meetings which strongly criticised Elizabeth's church). They set up a new separatist church in 1580. Produced increasingly extreme publications calling for the reorganisation of the church.



**The Catholics:** Leading Catholic nobles led plots against Elizabeth, including Westmorland, Northumberland and Babington. Only a threat after given direction from the Pope and when Mary Queen of Scots arrived in England.



**Mary Queen of Scots:** The great-niece of Henry VIII and a devout Catholic- the Catholics wanted Mary Queen of Scots to be on the throne. Arrived in England in 1568 after having fled from Scotland. Was a figurehead for many rebellions that planned to assassinate Elizabeth, including the 1586 Babington Plot.



**The Pope:** In April 1570 Pope Pius V issued a papal bull, excommunicating Elizabeth from the church and called on the Catholics to end her rule. Some saw this as a religious duty to rise up against Elizabeth.



**Spain:** King Philip II of Spain wanted England to remain a Catholic country so proposed marriage to Elizabeth, but was rejected. Philip attempted to invade England with the Spanish Armada- due to ongoing tensions in the Netherlands, raids on Spanish ships, and being leading defender of Catholicism.

## Why did the Spanish Armada fail?



**Spanish weaknesses:** The Duke of Medina Sidonia was inexperienced in naval battle and was even seasick leading to many errors in his planning and tactics. The Spanish reinforcements were not in Calais when they should have been resulting in the English being able to gain on them. Spanish cannons were slow to reload and could only fire from a shorter range.



**English strengths:** The English used hellburners to create chaos amongst the Spanish crescent defensive formation, causing them to panic, separate, and flee. English galleons were small, fast, and manoeuvrable allowing them to outsail the larger Spanish ships. English ships were also armed with new cannons which could fire at a greater distance and easy to reload.

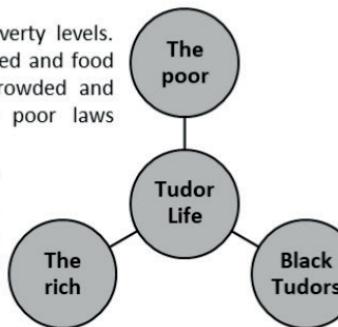


**Weather:** Storms around the Scottish and Irish coasts led to the destruction of approximately half of the Spanish fleet. This was due to the Spanish fleeing north after the Battle of Gravelines where there was no safe harbour/shelter. Elizabeth used the weather as propaganda and 'evidence' that God was on the side of the Protestants allowing them to beat the Spanish.

## What was life like as a Tudor?

Population increase resulted in rising poverty levels. Rural housing was dark, small and crowded and food was scarce. Towns were typically overcrowded and diseased with high crime rates. New poor laws introduced.

The gentry were a growing class of wealthy landowners. Houses were large, decorated and sometimes had to host the queen on royal progress. Cleanliness was important. Fashion became increasingly elaborate at court to signal status



Miranda Kaufmann's research has highlighted that the Black presence in Tudor England went beyond enslavement and inequality. Black Tudors were significant within society, holding some high status roles such as a royal trumpeter (John Blanke) and a deep sea diver (Jacques Francis).

# History Topic 3: The English Civil War

## Knowledge Organiser Questions

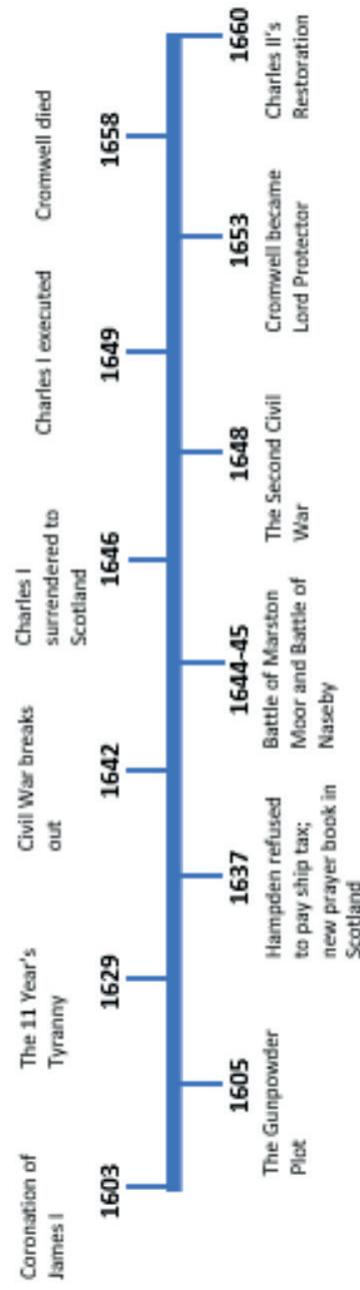
1	The coronation of James I in 1603 led to a 'union of the crowns' between which countries?	England and Scotland
2	Which royal dynasty ruled England from 1603 to 1714?	The Stuarts
3	On what day was the Gunpowder Plot planned to take place?	5 <sup>th</sup> November 1605
4	Which religion did the gunpowder plotters belong to?	Catholicism
5	What discovery did Monteagle's letter lead to?	The gunpowder plot
6	How did James I's religious policy change following the Gunpowder Plot?	More anti-Catholicism
7	Which theory claims the monarch is appointed by God and should have absolute power?	Divine Right of Kings
8	Who did Charles I marry after becoming king in 1625?	Henrietta Maria
9	Which period began in 1629, during which Charles I ruled without calling Parliament?	The Eleven Year's Tyranny
10	Which Archbishop of Canterbury started to reintroduce Catholic practices into the Church of England from 1633?	Archbishop Laud
11	Which tax did Charles I use to raise money without the permission of Parliament?	Ship money
12	Which member of Parliament was imprisoned in 1637 for refusing to pay ship money?	John Hampden
13	Which Puritan opponent of Laud was imprisoned, branded, and had his ears cut off?	William Prynne
14	Which personal court did Charles I use to prevent having to give defendants a fair trial?	Star Chamber
15	What did Archbishop Laud introduce to Scotland in 1637, sparking the Bishop's War?	A new prayer book
16	Which puritan MP led the most radical demands to limit Charles I's power?	John Pym
17	What was the MPs' list of demands reducing the king's power in 1640 called?	Grand Remonstrance
18	What event signalled Charles I's loss of power, leading him to flee London?	Failed arrest of 5 MPs
19	In which year did the English Civil War break out?	1642
20	Which two major battles did the Parliamentarians win?	Battle of Marston Moor (1644), Battle of Naseby (1645)

# History Topic 3: The English Civil War

## Knowledge Organiser Questions

21	What nickname was given to Royalist cavalrymen?	Cavaliers
22	What nickname was given to Parliamentarian soldiers?	Roundheads
23	What full-time, professional army did Oliver Cromwell form during the Civil War?	New Model Army
24	Which religion did many members of Parliament's army belong to?	Puritan
25	Which two Dorset MPs were 'turncoats' during the English Civil War?	Constantine, Napper
26	Where did King Charles flee to when he escaped from Hampton Court?	The Isle of Wight
27	Which woman led the defence of Corfe Castle against Parliamentarians?	Lady Mary Bankes
28	What did some women do in order to fight in the Civil War?	Cross-dressed
29	Who did Charles I surrender to in 1646, believing they would treat him fairly?	Scotland
30	What demands did Parliament issue in 1646, and Charles I reject?	The Newcastle Propositions
31	What did Charles I's escape from prison in Hampton Court Palace lead to in 1648?	The Second Civil War
32	What event saw all but the most radical MPs expelled in December 1648?	Pride's Purge
33	How many MPs signed Charles I's death warrant?	59
34	In which year was Charles I executed?	1649
35	What title was given to Oliver Cromwell as head of the English state in 1653?	Lord Protector
36	What style of government did Cromwell pursue through his 11 Major-Generals?	Military dictatorship
37	What did Parliament declare England to be after the execution of the monarch?	A commonwealth
38	Who succeeded Oliver Cromwell upon his death in 1658?	His son
39	What declaration did Charles II make prior to his restoration as King?	Declaration of Breda
40	In which year did Charles II's restoration take place?	1660

# History Topic 3: The English Civil War



## What led to the English Civil War?



**Parliament** – Charles I believed in the 'Divine Right of Kings' and hated Parliament questioning his policies and trying to limit his power. Charles ruled without calling Parliament during the 'eleven-years tyranny'. John Hampden MP became a hero for Parliament for refusing to pay ship money. Parliament refused to grant Charles money to raise an army to fight in Scotland, instead presenting him with a long list of demands known as the Grand Remonstrance. Charles tried and failed to have John Pym and four other leading radical MPs arrested, showing how his relationship with Parliament had totally broken down. The King opposed challenges to his power.



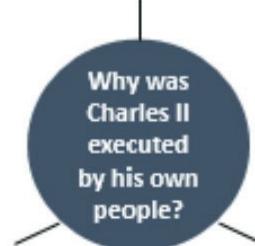
**Religion** – Charles had married Henrietta Maria, a French Catholic princess, which angered the Protestant population, worried he would make England more Catholic. Charles appointed William Laud as Archbishop of Canterbury who brought many aspects of Catholic services back in the Church of England, such as decorations. Laud imprisoned, branded, and the cut the ears off William Prynne and others for criticising his religious reforms. He enforced a new prayer book in Scotland, which caused a rebellion known as the Bishops' War. Puritan MPs demanded in the Grand Remonstrance that Charles give up control of religious reforms, he could not accept this.



**Money** – Parliament tried to control when Charles could raise taxes for himself, but Charles ignored them. Charles used 'ship money' to raise taxes to spend on himself during the 'eleven-years tyranny', creating a lot of anger amongst ordinary people and MPs. He spent money on fine art, clothing, and palaces. Charles needed money to fight in Scotland, so had to recall Parliament, who refused to grant new taxes, which angered Charles. Many areas started to refuse to pay 'ship money', crippling Charles's finances. Parliament wanted to be able to control England's finances and was a major disagreement with the king.

**Charles I himself** – Charles failed to come to an agreement with Parliament after defeat. He escaped from his prison in Hampton Court to the Isle of Wight, starting a second Civil War. Due to his belief in the 'Divine Right of Kings' Charles refused to answer any of his charges.

**Parliament's army** – The New Model Army had grown too large and powerful. The army pushed for more radical action against Charles. In Pride's Purge, 45 MPs who supported Charles were arrested and those who supported further negotiations were expelled. They took control and pushed for a trial and severe punishment.



**Parliament** – Put forward the Newcastle Propositions which Charles found insulting, asking for the king to give his land to Parliament and give up control of religion. After 'Pride's Purge', Parliament had a majority of extreme Puritan MPs to try Charles for treason, finding him guilty.

# History Topic 4: The Transatlantic Slave Trade

## Knowledge Organiser Questions

1	Which kingdom spread across West and North-East Africa, 1200-1400?	Mali
2	Who was enslaved in West African kingdoms before 1500?	Prisoners of War
3	What was the role of African kings and warrior tribes in the Slave Trade?	Capturing Africans for trade
4	Where were captured Africans kept on the beaches awaiting trade?	Barracoons/Stone Forts
5	Which ocean separates Africa and the Americas?	Atlantic
6	Which shape was the Slave Trade based on?	Triangle
7	What was the route between Africa and the Americas called?	Middle Passage
8	How many months would the journey take between Africa and the Americas?	3-4 months
9	Which ship threw enslaved Africans overboard in 1781 and claimed on insurance?	The Zong
10	How many Africans arrived in the Americas between 1500-1850?	11 million
11	What were secondary slave auctions known as?	Scrambles
12	Which three products were usually grown in the West Indies/Caribbean?	Tobacco, Sugar and Coffee
13	Which crop was usually grown in the southern states of the USA?	Cotton
14	Which role took control of the enslaved people's daily lives?	Overseer
15	Give an example of a punishment for attempting to run away.	Mutilation, flogging, irons
16	What was the average life expectancy of an enslaved person?	26 years
17	Which formerly enslaved woman became a significant conductor on the underground railroad?	Harriet Tubman
18	How did enslaved people secretly communicate to organise runaways?	Quilts, codes, songs
19	How many runaways escaped between 1830-1860?	75, 000
20	What were non-violent types of resistance, such as faking illness, known as?	Passive resistance

# History Topic 4: The Transatlantic Slave Trade

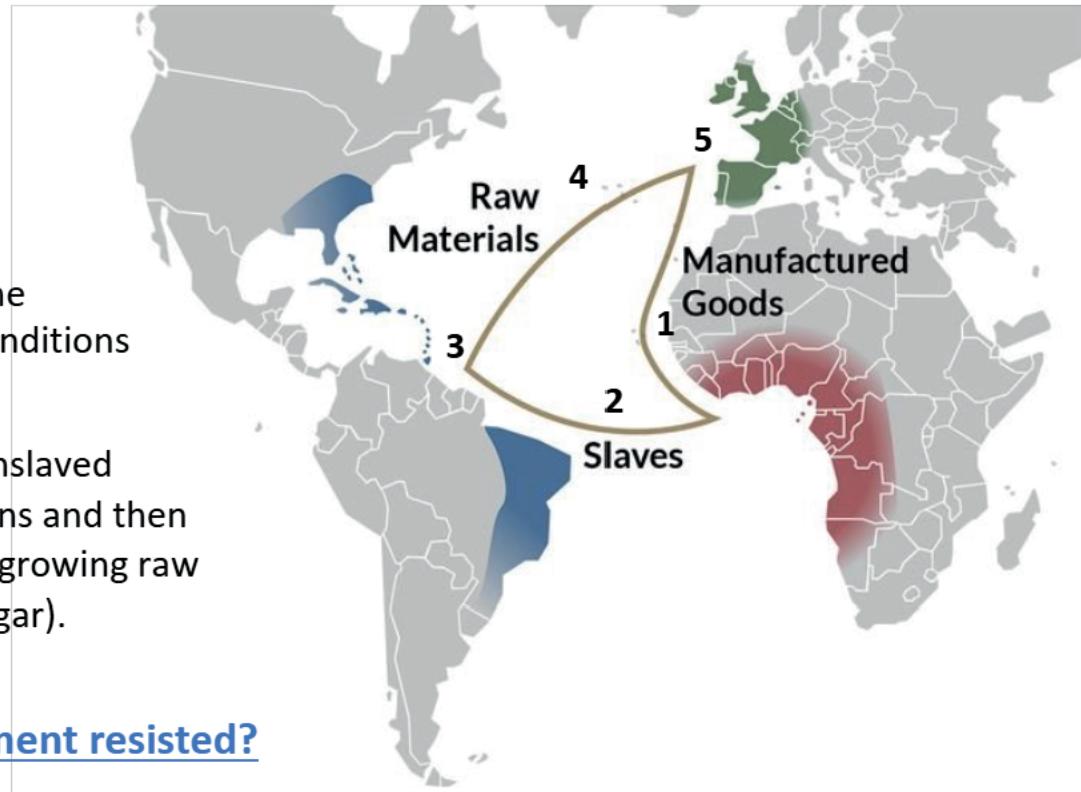
## Knowledge Organiser Questions

21	What proportion of slave ships experienced some sort of revolt?	10%
22	On which ship was there a rebellion leading to the release of those enslaved?	Amistad
23	Where did the most successful revolt take place in the 1700s?	St. Domingue (renamed Haiti)
24	Who led the Haitian Rebellion?	Toussaint L’Ouverture
25	Which Black abolitionist’s autobiography on slavery became a bestseller?	Olaudah Equiano
26	Which method was popular in Britain for showing public support for abolition?	Petitions
27	In which year was the Society for the Abolition of the Slave Trade founded?	1787
28	Which abolitionist sketched slave ships and spoke about the terrible conditions?	Thomas Clarkson
29	How often did William Wilberforce propose the abolition bill to parliament between 1790 and 1806?	Every year
30	In which year did parliament make the Slave Trade illegal in Britain?	1807
31	In which year did parliament make owning enslaved people illegal?	1833
32	Which lawyer helped many enslaved people in Britain gain their freedom?	Granville Sharp
33	Which religious group supported abolition?	The Quakers
34	Which economist argued against the economic success of slavery?	Adam Smith
35	What was the free market economic argument against slavery?	Free, paid people would be motivated to work harder, increasing profits
36	What did British people boycott after discovering how it was made?	Sugar
37	In which years was the American Civil War?	1861-1865
38	What were the southern states called who wanted to keep slavery?	Confederacy
39	Who was the President and northern leader in the American Civil War?	Abraham Lincoln
40	Which laws enforced segregation in the South after the American Civil War?	Jim Crow Laws

# History Topic 4: The Transatlantic Slave Trade

## How did the Transatlantic Slave Trade work?

1. African kingdoms traded Africans for manufactured goods such as guns.
2. Enslaved Africans transported across the Atlantic in terrible conditions (Middle Passage).
3. In the Americas, enslaved people sold at auctions and then used on plantations, growing raw materials (cotton, sugar).



4. Ships collect raw materials and sail back to Britain.
5. Good either sold for a profit or made into manufactured goods. Some taken to Africa to exchange for more enslaved people.

## How was enslavement resisted?

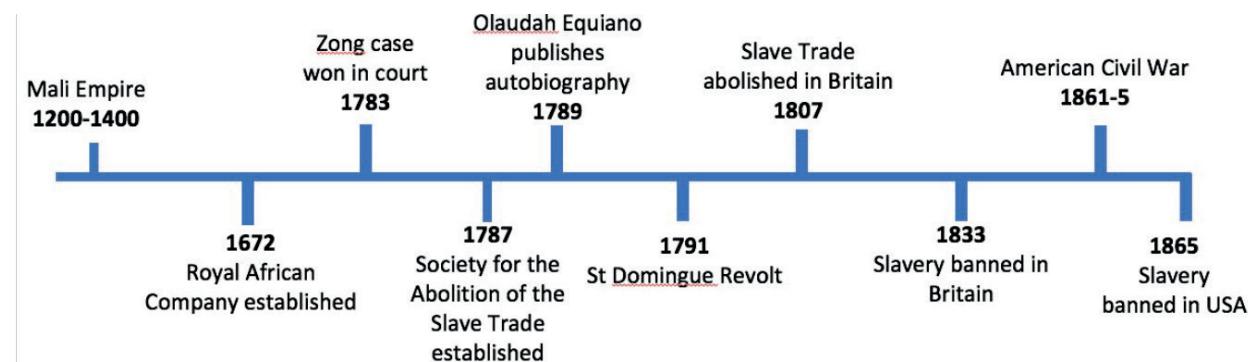


**Passive resistance** Aimed to reduce the profits of the owner. Enslaved people would pretend not to understand, feign illness, break tools, steal goods. Cultural resistance, such as playing African music, gave enslaved people a shared identity, challenging their dehumanising situation.

**Running away** Underground railroad offered routes of escape from the south to the north - Harriet Tubman as a key conductor. In Jamaica, runaway slaves formed communities called maroons.

**Armed Revolt** Uncommon due to high risk of punishment. Occurred on 10% of slave ships, most famously Amistad. Most successful was on St Domingue in 1791 – became first Black led nation in Caribbean. News of rebellions highlighted cruelty of slavery and fuelled abolition movements.

# History Topic 4: The Transatlantic Slave Trade



## Why was slavery abolished?



**Black Actions** News of revolts (Haitian Revolution, Amistad) highlighted the conditions of enslaved people, creating popular support for abolition. Speeches and books by formerly enslaved people, such as Olaudah Equiano, raised awareness about the truth of slavery. There were growing numbers of freed Black people living productive lives in Britain (10, 000 by 1800) dispelling many racist ideas about Black people.



**White Abolitionists** Growing pressure on parliament to abolish the Slave Trade, led by William Wilberforce and PM William Pitt. Regular petitions to parliament from campaigners. Society for the Abolition of the Slave Trade founded 1787. Increasingly those involved with maintaining slavery taken to court and enslaved people were freed, with work done by Granville Sharp.



**Economics and Social Attitudes** Adam Smith's ideas of free market economics suggested that paid workers would be motivated to work harder, leading to better profits. Sugar could be produced more cheaply outside of slave plantations, eliminating the 'need' for slaves. Boycotts against sugar in Britain when it was discovered how it was grown. Enlightenment ideas stressed equality of people and to challenge traditional thinking. It became increasingly popular to support the abolition of slavery.

# History Topic 5: The Industrial Revolution

## Knowledge Organiser Questions

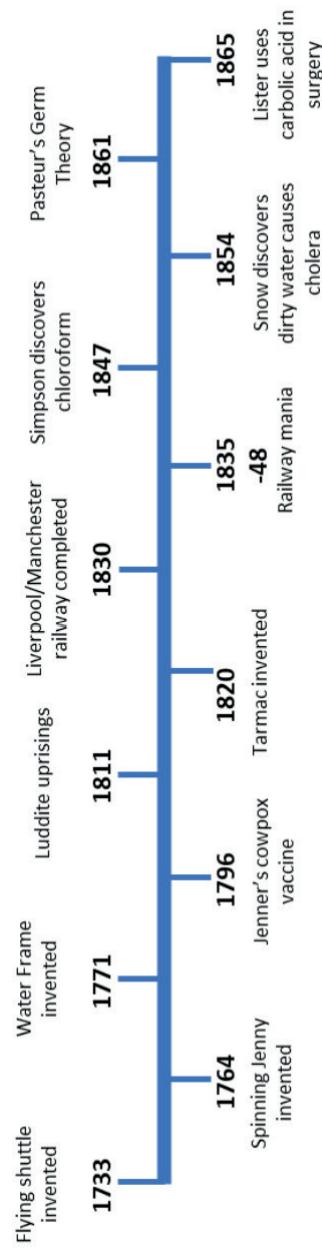
1	Between approximately which years was the Industrial Revolution?	1760-1840
2	The population increased from around 10 million in 1750 to what by 1900?	40 million
3	Before the 1700s, what were roads like?	Muddy tracks
4	What did John McAdam invent in the 1820s, improving roads?	Tarmac
5	Which method of transport developed to transport large amounts of goods on water?	Canals
6	What was the most significant transport development, invented by George Stephenson?	Railways
7	How did railways help the growth of factories?	Transporting goods was quicker and cheaper
8	Which industry made up 62% of British exports and relied heavily on the Transatlantic Slave Trade?	Cotton
9	Before the invention of machinery, where did most textile manufacturing take place?	In the home (domestic system)
10	Which invention by James Hargreaves in 1764 revolutionised cotton spinning?	Spinning Jenny
11	Who is credited for creating the first factory and ending the domestic system?	Richard Arkwright
12	Which power source became central to the Industrial Revolution?	Coal
13	How many hours was an average work shift in a factory?	12-14 hours
14	Why did factory owners want to employ children?	Children were cheap
15	What was the most common punishment for children not working fast enough?	Beating
16	In 1819, children under which age were banned from being employed?	9-years and under
17	By 1851, what proportion of people lived in a town or city?	Over half
18	Poorly planned towns arose quickly in the Industrial Revolution causing...?	Overcrowding and disease
19	Which type of house was common to the period and normally occupied by multiple lower-class families?	Back-to-back terraced housing
20	What was the slum area of a town known as?	Rookery

# History Topic 5: The Industrial Revolution

## Knowledge Organiser Questions

21	Which group opposed the new technology in the textile industry?	Luddites
22	What did workers start to form, demanding better pay and working conditions?	Trade Unions
23	Which group of six agricultural workers from Dorset were arrested and sent to Australia in 1834 for forming a trade union?	Tolpuddle Martyrs
24	What was the government attitude of non-interference called?	Laissez-Faire
25	Which disease did John Snow discover was spread in dirty water?	Cholera
26	In which year did the government force change through the Public Health Act?	1875
27	What did Edward Jenner discover to be a smallpox vaccination in 1796?	Cowpox
28	How did James Simpson's 1847 discovery of chloroform help surgery?	It was an anaesthetic (painkiller)
29	Which antiseptic did Joseph Lister use in surgery from 1865 to reduce infections?	Carbolic Acid
30	In 1800, what proportion of those found guilty of crimes were executed?	1 in 8
31	Transportation was a punishment which involved sending criminals to places such as where?	Australia
32	Elizabeth Fry was a female Quaker who tried to reform what following a visit in 1813?	Prisons
33	Who introduced the first professional police force in 1829?	Sir Robert Peel
34	In 1868 which punishment ended in Britain?	Public executions
35	Which infamous serial killer highlighted the difficult conditions for policing?	Jack the Ripper

# History Topic 5: The Industrial Revolution



## What drove the Industrial Revolution?



**Agricultural Revolution** Enclosed fields and new technology such as a steam-powered tractor made farming more efficient. All of these changes in farming meant that fewer people were needed to work on the land but yet they were able to produce more food than ever before. This resulted in more people moving to the towns and cities to work in the mills and factories.



**Transport** Turnpike Trusts and the invention of tarmac improved the state of Britain's roads. Canals were also used to transport goods. Invention of steam trains in early 1800s revolutionised the speed of transport. Businesses could buy and sell goods quickly and cheaply across the country which made lots of people very rich and created new jobs and wealth. Holidays to the seaside became more common and tourism started to become a big business, lots of hotels were built to service these new customers.



**Technology** Inventions including the Flying Shuttle, Spinning Jenny and Water Frame revolutionised cotton spinning, ending the cottage industry and leading to the invention of the factory. Working lives were transformed. Instead of spinning at home, people now worked long, repetitive and exhausting days in huge, multi-storey mills, looking after the machines.

## Did the Industrial Revolution lead to progress?



**Industry** Progress in industrial output but several groups opposed new technology. Machine-breaking Luddites attacked and burned factories and in some cases, they even exchanged gunfire with company guards and soldiers. The Tolpuddle Martyrs were a group of six farm labourers from the village of Tolpuddle in Dorset. The Tolpuddle Martyrs wanted to protect their wage levels so in 1833 they formed a secret union, swearing an oath to keep it secret and protect one another. In 1834, the men were sentenced to 7 years transportation to Australia.



**Medicine** First vaccine discovered by Edward Jenner, 1796, for smallpox using cowpox. John Snow discovered dirty water, not miasma, caused cholera in 1854. In surgery, James Simpson discovered chloroform as an anaesthetic in 1847 and Joseph Lister used carbolic acid as an antiseptic in 1865. Growing role of government in public health.



**Law and order** Crime levels rose due to growing urban population. In 1829, Metropolitan Police established by Robert Peel and police forces established across Britain. Laws were harsh – public hangings and transportation to Australia. Horrific conditions in prisons.

# History Topic 6: The British Empire

## Knowledge Organiser Questions

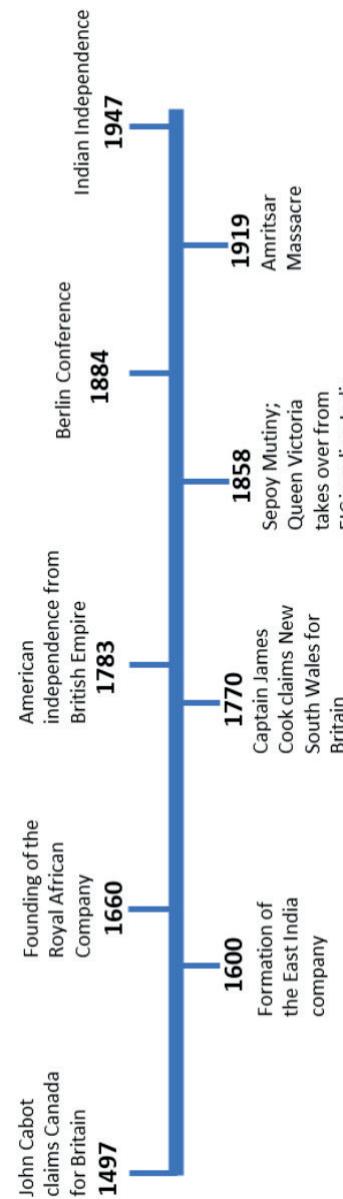
1	Which term describes a group of countries ruled over by one ruler or 'mother country'?	Empire
2	Which term describes a country ruled over by another country?	Colony
3	Which term describes a policy of increasing a country's power by colonising other countries, often using military force?	Imperialism
4	What percentage of world land did the British Empire control at its peak?	24%
5	What strength did Britain have that enabled it to build its empire?	A powerful navy
6	Who lived in Canada before European colonisation?	First Nations people
7	Who discovered the Americas in 1492?	Christopher Columbus
8	In which year did John Cabot claim land for Britain in Canada?	1497
9	Which trade made Canada important to Europeans?	Beaver pelts
10	Which British company was given exclusive trading rights over a large area of Canada?	Hudson's Bay Company
11	Which 2 countries competed for control over Canada?	Britain and France
12	What percentage of First Nations people in Canada died of European diseases?	60%
13	Name 2 Canadian policies towards First Nations people.	Reservations and residential schools
14	Which colony successfully fought for independence in 1776?	America
15	Which phrase describes Britain's shift to focus on Asia, Africa and Australia after losing some Western colonies in 1776?	'Swing to the East'
16	Which phrase shows the size of the British Empire?	'The empire on which the sun never sets'
17	Which dynasty ruled India before the British arrived?	The Mughals
18	Which British company gained power in India?	East India Company
19	What are Indian troops who fought for the British company's army called?	Sepoys
20	After which 1757 battle did a British company have political power in India?	Battle of Plassey

# History Topic 6: The British Empire

## Knowledge Organiser Questions

21	After the 1857 Sepoy Mutiny, who replaced the company as ruler of India?	Queen Victoria
22	What is the period of British rule in India between 1858 and 1947 known as?	The British Raj
23	What was the impact of the 1919 Amritsar massacre, where up to 1000 Indians were shot?	Indian nationalism increased
24	Which term describes peoples who lived in Australia for at least 50, 000 years before European arrivals?	Aborigines
25	What did Britain want to use Australia for?	A penal colony
26	By what percentage was Australia's indigenous population reduced in the first 10 years after British colonisation in 1788?	90%
27	What is the name of conflicts fought between indigenous people and settlers in Australia?	Frontier wars
28	Which conflict on Tasmania saw around 800 indigenous people killed between 1824 and 1830?	The Black War
29	Which term describes indigenous children taken from their parents to be raised with white families?	Stolen generations
30	Which term describes the European competition for African colonies in the late 1800s?	Scramble for Africa
31	In 1870, what percentage of Africa was controlled by Europeans?	10%
32	By 1900, what percentage of Africa was controlled by Europeans?	90%
33	Which 1884 conference carved up Africa between European powers?	The Berlin Conference
34	Which group of people were not represented at the 1884 conference?	African representatives
35	Who was sent to African colonies to convert them to Christianity?	Missionaries
36	Which piece of technology helped Britain to defeat resistance in Africa?	Maxim gun
37	Which war weakened Britain economically and militarily meaning it could no longer afford to run its empire?	WW2
38	Which term describes the process of countries gaining independence?	Decolonisation
39	In which year did India gain independence?	1947
40	Which voluntary association is mostly made up of former British colonies?	Commonwealth

# History Topic 6: The British Empire



## How did people experience the British Empire?



**Canada** – Home to different groups of First Nations people. John Cabot claims Newfoundland for Britain 1497. Interest from both France and Britain in beaver pelt trade. At first worked alongside First Nations people but conflict increased over land ownership disputes. 60% of First Nations die from European diseases. Attempts to both segregate and assimilate First Nations people with white settler society via reservations and residential schools.



**India** – Ruled by the Mughal Emperor prior to colonisation, a tolerant Muslim rule in a mostly Hindu country. East India Company starts to gain power, French interests defeated at Battle of Plassey, and then controls large areas of India. EIC employees influenced by Indian culture. After Sepoy Mutiny, Britain takes over ruling India. During the Raj, rule was more distant with racist attitudes. 1919 Amritsar Massacre saw up to 1000 Indians shot due to growing nationalism and calls for independence, not achieved until 1947.



**Australia** – Home to different tribes of Aborigines for at least 50, 000 years. Captain James Cook claimed New South Wales for Britain without consulting Aborigines. Intended as a penal colony though many white settlers followed original convicts. Aborigines fought back against settlers taking their land and resources in frontier wars. 90% of Aborigines died within first 10 years of colonisation from disease and violence. Forced to live on reserves, with some children taken and raised by white families.



**Africa** – Divided into many different ethnic and tribal areas. Scramble for Africa among European nations 1880 with 1884 Berlin Conference - no African representatives present. Africa carved up with little thought given to ethnic and tribal boundaries. European languages, religions and political structures imposed on African territories + Christian missionaries sent. British army weapons like the maxim gun ensured any resistance was crushed with force.

## What is the legacy of the British Empire?

### Military/diplomatic

Britain's imperial past is also reflected in its current military power and the desire to maintain this. For example, much is made of the global deployment of the Royal Navy to conflict areas and on humanitarian missions.

### Economic

Empire explains how some of our richest families and institutions and cities became wealthy. Cities such as Glasgow, Liverpool, and Bristol developed and grew wealthy as a result of the empire. The City of London gained its position as the world financial centre as a result of the empire. It initially developed to finance trading and manufacturing throughout the formal and informal British Empire. Banks and insurance companies, shipbrokers and engineering companies all developed to support imperial trade.



### Social

Empire explains why we have a diaspora of millions of Britons spread around the world. It is due to the empire that English sports such as cricket, rugby, and football are played all over the world. Less than 5% of the most senior jobs in the UK are held by people from ethnic minorities. They are virtually absent from leadership of key areas such as healthcare, education, and criminal justice. 1/3 of companies in the FTSE 100 Index still lack any ethnic minority representation on their boards.

### Political

The Foreign and Defence secretaries have influence disproportionate to Britain's size as a nation. Britain has a permanent seat on the UN Security Council despite not having the attributes of other members of the Security Council such as a large population, a lot of territory, a wealthy economy.

# Mathematics - Number

Key Term	Definition	
Ascending	Increasing in size (or numerical value)	
Compare	To look at two or more numbers and say what is similar or different.	
Composite Numbers	A positive integer with more than two factors.	
Consecutive	Describing things which follow each other in a particular order.	
Cube Numbers	The result of multiplying a number by itself twice. 1, 8, 27, 64, 125, 216, 343, 512, 729, 1000	
Decimal Places	The number of digits to the right of a decimal point in a decimal number.	
Degree of Accuracy	Describing how precise or accurate a value is, in terms of number of decimal places or significant figures.	
Denominator	The bottom number of a fraction. Must be an integer.	
Descending	Decreasing in size (or numerical value)	
Difference	The result of a subtraction.	
Divisible	One number is divisible by another if it is capable of being divided exactly, without a remainder.	
Equivalent	Of equal value.	
Estimate	To find an approximate answer to a calculation by rounding the numbers involved, commonly to 1 significant figure.	
Evaluate	To find the numerical value of.	
Factor	An integer that divides another integer exactly, without a remainder.	
Factor Pair	A set of two factors that have a particular product.	
Fraction	A number which represents part (or parts of) a whole.	
Highest Common Factor	The largest number that divides exactly into two or more numbers.	
Improper Fraction	A fraction where the numerator is larger than the denominator.	
Key Equivalents		
FDP Conversion	$1 = \frac{1}{1} = 100\%$ $0.5 = \frac{1}{2} = 50\%$ $0.1 = \frac{1}{10} = 10\%$ $0.25 = \frac{1}{4} = 25\%$	$0.75 = \frac{3}{4} = 75\%$ $0.2 = \frac{1}{5} = 20\%$ $0.3 = \frac{1}{3} = 33.\dot{3}\%$

Key Term	Definition
Indices	The power of a number which shows how many times the number is multiplied by itself.
Inequality	The relationship between two numbers that are not equal to each other, shown using the symbols $<$ , $>$ , $\leq$ , $\geq$ or $\neq$ .
Integer	A whole number including positive and negative numbers and zero.
Lowest Common Multiple	The smallest number which appears in the list of multiples for two or more numbers.
Mixed Number	A number formed of both an integer (whole number) and a fraction.
Multiple	The result of multiplying a number by an integer, i.e. the times tables of a number.
Numerator	The top number of a fraction. Must be an integer.
Order of Operations	<b>BIDMAS</b> —Brackets, Indices, Division & Multiplication and Addition & Subtraction.
Power of 10	The product of multiplying 10 by itself, a number of times.
Prime Number	A positive integer with only two factors, 1 and itself. 2, 3, 5, 7, 11, 13, 17, 19, 23, 29
Product	The result of a multiplication.
Proper Fraction	A fraction in which the numerator is less than the denominator.
Remainder	In division, the amount leftover when a number does not divide exactly.
Square Numbers	The result of multiplying a number by itself. 1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144, 169, 196, 225
Square Root	The particular factor of a number which can be multiplied by itself to produce that number.
Sum	The result of an addition.
Unit Fraction	A proper fraction with a numerator of 1.
Significant figures	The significant figures of a number are the digits which <b>carry meaning</b> (ie. are significant) to the size of the number. The <b>first significant figure</b> of a number <b>cannot be zero</b> .

# Mathematics - Number

Key Term	Definition
Equivalent Fractions	Fractions which have different numerators and denominators but represent the same value.
Percentage Increase/ Decrease	Calculating a percentage of an amount and either adding this onto (increasing) or subtracting this from (decreasing) the original amount.
Percentage Change	To calculate the percentage change, use the following: $\frac{\text{difference}}{\text{original}} \times 100$
Percentage Multiplier	The number you multiply a quantity by to increase or decrease it by a percentage. E.g. to increase by 10% the multiplier is 1.1.
Significant figure	The significant figures of a number are the digits which <b>carry meaning</b> (ie. are significant) to the size of the number. The <b>first significant figure</b> of a number <b>cannot be zero</b> .

Key Term	Definition		
Cube Root	The particular factor of a number which can be multiplied by itself twice to produce that number.		
Key units of measurement	<b>Time</b> 1 hour = 60 minutes 1 minutes = 60 seconds 1 hour = 3600 seconds	<b>Length</b> 1 cm = 10mm 1m = 100cm 1km = 1000m	
	<b>Mass</b> 1kg = 1000g 1 tonne = 1000kg	<b>Area</b> 1cm <sup>2</sup> = 100mm <sup>2</sup> 1m <sup>2</sup> = 10000cm <sup>2</sup>	

# Mathematics - Algebra

Key Term	Definition
<b>Algebra</b>	A branch of mathematics in which letters are used to represent numbers.
<b>Coefficient</b>	A constant value which multiplies a variable. Always written before the variable.
<b>Constant</b>	A fixed number on its own.
<b>Equation</b>	A mathematical statement in which two expressions with equal values are connected by an equals sign.
<b>Expand</b>	To remove the brackets from an expression by multiplying terms and simplifying as necessary.
<b>Expression</b>	An algebraic expression is made up of two or more terms combined by operators.
<b>Factorise</b>	To rewrite an expression in brackets. Completed by finding the highest common factor, placing this outside the bracket and dividing by this to get an expression for inside the bracket.
<b>Formula</b>	An equation that shows the relationship between two or more variables.
<b>Identity</b>	An equation that is true for all values.
<b>Linear</b>	Contain only variables with a power of one, such as $x$
<b>Simplify</b>	To write an expression or fraction in a more concise form using the rules of algebra.
<b>Solution</b>	The value or values that can be substituted for the unknown in an equation to make it true.
<b>Solve</b>	To find the solution(s) to an equation by isolating the unknown.
<b>Subject</b>	The dependant variable in a formula or equation, identifiable by being on its own on one side of the equals sign.
<b>Substitution</b>	The process by which symbols are replaced by numbers in order to evaluate an expression or formula.
<b>Term</b>	A constant, variable or coefficient and one or more variables.
<b>Unknown</b>	A value that is not known in an equation.
<b>Variable</b>	A symbol, often a letter, whose value can vary.

Key Term	Definition										
<b>Inverse operation</b>	The opposite operation that is being performed on a variable.										
<b>Term</b>	A constant, variable or coefficient and one or more variables.										
<b>Inequality</b>	<p style="text-align: center;"><b>Inequality Symbols</b></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td><math>\neq</math></td> <td>not equal</td> </tr> <tr> <td><math>&lt;</math></td> <td>less than</td> </tr> <tr> <td><math>\leq</math></td> <td>less than or equal to</td> </tr> <tr> <td><math>&gt;</math></td> <td>greater than</td> </tr> <tr> <td><math>\geq</math></td> <td>greater than or equal to</td> </tr> </table>	$\neq$	not equal	$<$	less than	$\leq$	less than or equal to	$>$	greater than	$\geq$	greater than or equal to
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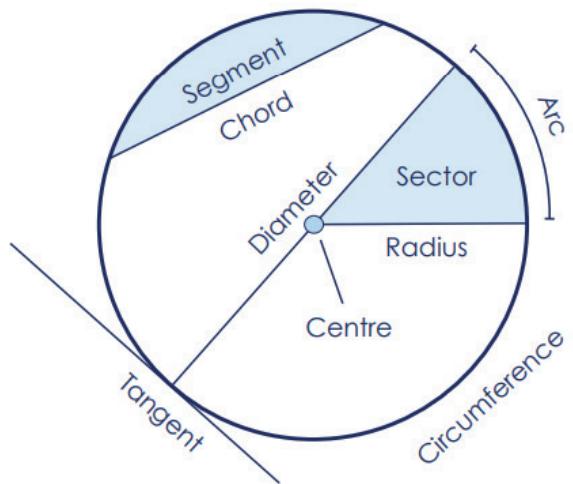
Key Term	Definition
<b>Direct Proportion</b>	If two quantities are in direct proportion, as one increases, the other increases by the same percentage.
<b>Inverse Proportion</b>	If two quantities are inversely proportional, as one increases, the other decreases by the same percentage.
<b>Scale Factor</b>	A number by which a shape is enlarged
<b>Ratio</b>	Comparing the size of one part to another. The ratio of $a$ to $b$ is written as $a:b$ .
<b>Equivalent ratio</b>	Equivalent ratios are found by multiplying/dividing all parts of the ratio by the same value.

# Mathematics - Statistics

Key term	Definition
<b>Average</b>	A single number or value that is used to represent a set of data. There are three main averages we focus on: mode, median and mean.
<b>Data</b>	Information in the form of facts and numbers.
<b>Data point</b>	A single item from a data set.
<b>Data Set</b>	A collection of data which all refers to the same category or topic.
<b>Intersection</b>	The numbers of elements that belong to both/all sets. In a Venn Diagram, this is where the circles overlap.
<b>Mean</b>	The sum of all the values in a data set, divided by the number of values in the data set.
<b>Median</b>	The middle value in an ordered list.
<b>Mode</b>	The most common value. It is possible to have more than one mode, or no mode.
<b>Qualitative Data</b>	A type of data that can be grouped under named categories, often described as data that can be described.
<b>Quantitative Data</b>	Types of data that can be represented numerically, often described as data that can be counted.
<b>Range</b>	The difference between the smallest and largest value.
<b>Two-way Table</b>	A diagram in which frequencies for two categories may be organised; one variable in rows and the other in columns.
<b>Venn Diagram</b>	A diagram in which circles are used to illustrate the relationships between different sets. Must have a box drawn around it.

Key Term	Definition	Examples																					
<b>Frequency Table</b>	A table showing how often something occurs. Can include tally charts.	<table border="1"> <thead> <tr> <th>Score</th> <th>Tally</th> <th>Frequency (<i>f</i>)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>    </td> <td>4</td> </tr> <tr> <td>2</td> <td>      </td> <td>9</td> </tr> <tr> <td>3</td> <td>     </td> <td>6</td> </tr> <tr> <td>4</td> <td>      </td> <td>8</td> </tr> <tr> <td>5</td> <td>   </td> <td>3</td> </tr> <tr> <td>6</td> <td>  </td> <td>1</td> </tr> </tbody> </table>	Score	Tally	Frequency ( <i>f</i> )	1		4	2		9	3		6	4		8	5		3	6		1
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1		4																					
2		9																					
3		6																					
4		8																					
5		3																					
6		1																					
<b>Line Graph</b>	Uses lines to join points on a graph to represent a data set.																						
<b>Bar Chart</b>	A way of displaying data using horizontal or vertical bars which are the same width and have gaps between them.																						
<b>Pie Chart</b>	A method of displaying proportional information by dividing a circle up into different-sized sectors.																						
Key Term	Definition																						
<b>Frequency</b>	How many times something occurs.																						
<b>Continuous data</b>	Data that can take any value. E.g. height, weight, length.																						
<b>Discrete data</b>	Data that can only take certain values. E.g. shoe size.																						

# Mathematics - Geometry & Measure

Key Term	Definition
Parts of a circle	
Arc	A section of the circumference.
Sector	The area bounded by two radii and an arc.
Chord	A straight line joining any two parts of the circumference.
Circumference	The distance around the outside of the circle.
Diameter	A straight line going from one end of the circle to another passing through the centre.
Segment	The area bound by the circumference and a chord.
Tangent	A straight line that touches the circumference at a single point.
Pi ( $\pi$ )	The ratio of a circle's circumference to its diameter.

Key Term	Definition
Circumference	The perimeter of the circle. $C = \pi d$
Radius	$diameter \div 2$
Diameter	$2 \times radius$
Perimeter of semi-circle	$p = \frac{\pi d}{2} + d$
Perimeter of quarter circle	$p = \frac{\pi d}{4} + 2r$
Perimeter of three-quarter circle	$p = \frac{3}{4} \pi d + 2r$
Area of a circle	$A = \pi r^2$
Area of a semi-circle	$A = \frac{\pi r^2}{2}$
Area of a quarter-circle	$A = \frac{\pi r^2}{4}$
Area of three-quarter circle	$A = \frac{3\pi r^2}{4}$

# Mathematics - Geometry & Measure

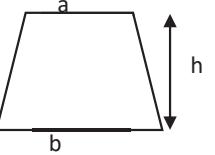
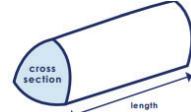
Key Term	Definition
Acute Angle	An angle less than 90°.
Adjacent	Next to, or near.
Area	A measure of the space inside a closed two-dimensional shape.
Axes	The straight lines on a graph used to define the position of a point. The x-axis goes across (horizontal). The y-axis goes up (vertical).
Centimetre (cm)	A metric unit of length equal to one hundredth of a metre. 100cm = 1m
Compound Shape	A shape made up of two or more geometric shapes.
Coordinate	An ordered pair of points that show an exact position on a set of axes. Written (x, y).
Exterior Angle	An angle between one side of a shape and a line extending from an adjacent side.
Irregular Polygon	A polygon with unequal length sides and angles.
Kilometre (km)	A metric unit of length equal to one thousand metres. 1 km = 1000m
Line of Symmetry	A line that can divide a shape into identical halves, which are mirror images of each other.
Metre (m)	The base unit of length in the international system of units.
Midpoint	The point exactly halfway between two points.
Millimetre (mm)	A metric unit of length equal to one thousandth of a metre. 10mm = 1cm
Obtuse Angle	An angle measuring between 90° and 180°.
Order of Rotation	The number of times that a shape appears identical during a turn of 360°.
Origin	The point with coordinate (0, 0).
Parallel	Two lines that will never cross and that will remain the same distance apart.
Perpendicular	Two lines that meet at an angle of 90°.

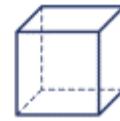
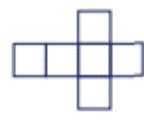
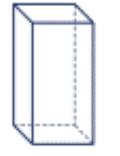
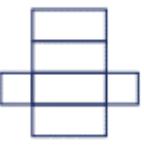
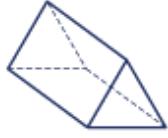
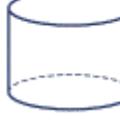
Key term	Definition
Perpendicular	Two lines that meet at an angle of 90°.
Perimeter	The total distance around the outside of a closed two-dimensional shape.
Polygon	A closed two-dimensional shape made up of all straight edges.
Protractor	An instrument used to measure angles.
Quadrilateral	A two-dimensional shape with four sides.
Reflex Angle	An angle measuring between 180° and 360°.
Regular Polygon	A polygon with sides of equal length and angles of equal size.
Right-angle	A 90° angle.
Rotational Symmetry	A symmetry in which a shape may be rotated about a central point and appears identical after a turn of less than 360°.
Square Units	Units used to measure area.
Triangle	A two-dimensional shape with three sides.
Vertex	A point on a polygon at which two lines meet to form an angle.

Key terms	Definition
Angles around a point	Angles around a point sum to 360°.
Angles on a straight line	Angles on a point on a straight line sum to 180°.
Angles in a triangle	Angles in a triangle sum to 180°.
Angles in a quadrilateral	Angles in a quadrilateral sum to 360°.

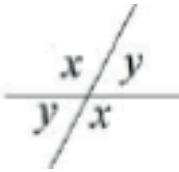
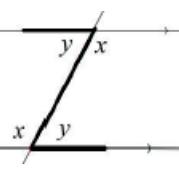
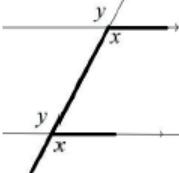
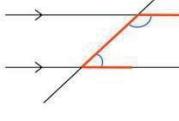
Key terms	Definition
Area of a rectangle or square	Length x width
Area of a parallelogram	Length x perpendicular height
Area of a triangle	$\frac{\text{Base} \times \text{perpendicular height}}{2}$
Area of a trapezium	$\frac{a + b}{2} \times h$ , where a and b are parallel sides.

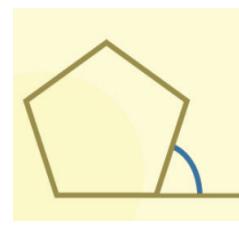
# Mathematics - Geometry & Measure

Key Term	Definition
Area of a trapezium	$\frac{a + b}{2} \times h$
	
Face	A face is a single flat surface.
Edge	An edge is a line segment between two faces.
Volume	<p>The amount of 'space' a solid object occupies.          Units: <b>mm<sup>3</sup>, cm<sup>3</sup>, m<sup>3</sup></b>, etc.</p> <p>The volume of a prism <math>V = \text{Area of Cross Section} \times \text{Length}</math></p>  <p>The volume of a cylinder = <math>\pi r^2 h</math></p> 
Volume of a cube / cuboid	Length x width x height
Prism	A 3D shape with a constant cross-section.
Cross-section	The 2D shape that is consistent throughout the prism

Key Term	Definition	Shape	Net
Cube	6 square faces 12 edges 8 vertices		
Cuboid	6 rectangular faces 12 edges 8 vertices		
Triangular Prism	5 faces 9 edges 6 vertices		
Cylinder	3 faces 2 edges 0 vertices		
Square-based Pyramid	5 faces 8 edges 5 vertices		
Triangular-based Pyramid	4 faces 6 edges 4 vertices		
Cone	2 faces 1 edge 1 vertex		
Sphere	1 face 0 edges 0 vertices Half a sphere is known as a hemisphere.		

# Mathematics - Geometry & Measure

Key Term	Definition
Vertically Opposite Angles	Vertically opposite angles are equal.
	
Alternate Angles	Alternate angles are equal.
	
Corresponding Angles	Corresponding angles are equal.
	
Co-Interior Angles	Co-Interior angles add up to 180°.
	

Key Term	Definition
Sum of all angles in Polygons	$n$ is the number of sides. $(n - 2) \times 180$
Internal angle in regular polygon	$\frac{(n - 2) \times 180}{n}$
External angle	The angle between a side of a polygon and an extended adjacent side.
Exterior angle regular polygon	
	$\frac{360}{n}$

# French - Les Vacances et le Temps Libre

1. Où vas-tu tes vacances?	Where do you go on holiday?
Je vais	I go
On va	We go
En France	To France
En Espagne	To Spain
En Italie	To Italy
En Allemagne	To Germany
En Grèce	To Greece
Au Portugal	To Portugal
Au Mexique	To Mexico
Aux États-Unis	To the USA
2. Où restes-tu en vacances?	Where do you stay on holiday?
Je reste	I stay
Nous restons / on reste	We stay
À la montagne	In the mountains
À la campagne	In the countryside
À la plage	At the beach
Au bord de la mer	By the seaside
En ville	In town
Dans un camping	On a campsite
Dans un hôtel	In a hotel
3. Comment voyages-tu ?	How do you travel?
Je voyage/ On voyage	I/We travel
En voiture	By car
En bateau	By boat
En train	By train
En avion	By plane
En car	By coach

Opinions	
Qu'est-ce que tu aimes faire pendant les vacances?	What do you like to do during your holidays?
J'aime	I like...
J'adore	I love
Je préfère	I prefer
Je n'aime pas	I don't like
Je déteste	I hate...

Remember: An infinitive means 'to something' and ends in an -er, -ir or -re in French

## 4. Qu'est-ce que tu as fait l'année dernière ? What did you do last year?

L'année dernière	Last year
Je suis allé en / au...	I went to + country
J'ai bronqué	I tanned
J'ai joué au tennis/au volley	I played tennis/volleyball
J'ai nagé dans la mer	I swam in the sea
J'ai acheté des souvenirs	I bought souvenirs
J'ai mangé des spécialités locales	I ate local specialities
On a voyagé en	We travelled by
J'ai fait des sports nautiques	I did water sports
J'ai pris des photos	I took photos
J'ai lu	I read
J'ai fait du tourisme	I did sightseeing
Je suis allé (e) aux musées	I went to the museums
Je suis resté (e)	I stayed
C'était	It was

5. Qu'est-ce que tu vas faire?	What are you going to do?
Je vais	I am going...
Je ne vais pas	I am not going ...
On va	We are going ...
Je voudrais	I would like to...
Ce sera	It will be

6. Infinitifs	Infinitives
Me relaxer	To relax
Aller à la plage	To go to the beach
Lire	To read
Visiter les musées	To visit museums
Manger des spécialités locales	To eat local dishes
Nager dans la mer	To swim in the sea
Faire des sports nautiques	To do water sports
Manger aux restaurants	To eat at restaurants
Visiter des monuments	To visit monuments
Faire du tourisme	To go sightseeing
Prendre des photos	To take photos
Acheter des souvenirs	To buy souvenirs

Opinions	
Amusant	Fun
Super	Great
Fantastique	Fantastic
Incroyable	Incredible
Relaxant	Relaxing
Passionnant	Exciting
Nul	Rubbish
Ennuyeux	Boring

What to include in your writing (key)	
C	Connectives
O	Opinions
R	Reasons
N	Negatives
E	Extra detail
T	Time expressions
T	Tenses
I	Intensifiers
M	Masculine
F	Feminine
P	Plural

# French - Les Vacances et le Temps Libre

7. Quels sont tes projets pour ce weekend?	What plans do you have for this weekend?
Je vais	I am going...
On va	We are going...

Jouer au basket	To play basketball
Aller à la plage	To go to the beach
Aller au parc	To go to the park
Aller au centre de loisirs	To go to the leisure centre
Regarder un film	To watch a film
Regarder la télé	To watch TV
Faire les magasins	To go shopping
Sortir avec mes amis	To go out with my friends
Faire mes devoirs	To do my homework
Faire de la natation	To go swimming
Faire du sport	To do sport
Faire de la randonnée	To go for a walk / hike

8. Qu'est-ce que tu aimes faire pendant ton temps libre?	What do you like to do in your free time?
J'aime	I like...
J'aime bien	I quite like...
J'adore	I love...
Je préfère	I prefer...
Je n'aime pas	I don't like...
Je déteste	I hate...
J'ai horreur de	I hate...

9. Tu voudrais aller au cinéma?	Do you want to go to the cinema?
Tu veux	Do you want..?
Oui, je veux	Yes, I want...
Oui, je voudrais	Yes I would like...
D'accord	Okay
Peut-être	Maybe
Désolé(e)	Sorry
Je ne peux pas	I can't
Je dois faire mes devoirs	I have to do my homework
Je dois aider ma mère	I have to help my mum
Je dois m'occuper de mon frère / ma soeur	I have to look after my brother/sister

Time expressions	
PRESENT TENSE	
Normalement	Normally
Tous les ans	Every year
Puis / ensuite	Then/Next
PAST TENSE	
L'année dernière	Last year
L'été dernier	Last summer
FUTURE TENSE	
L'année prochaine	Next year
L'été prochain	Next summer
Dans le futur	In the future



10. Qu'est-ce que tu fais normalement le weekend?	What do you normally do at the weekend?
Je joue au foot / au tennis / au netball	I play football / tennis / netball
Je joue à des jeux vidéos	I play video games
Je reste chez moi	I stay at home
J'écoute de la musique	I listen to music
Je regarde la télé	I watch TV
Je vais en ville	I go to town
Je sors avec mes amis	I go out with my friends
Je fais du shopping	I do shopping
Je ne fais rien	I do nothing

Opinions	
Je pense que	I think that
À mon avis	In my opinion
Je trouve que	I find that
C'est	It is...
C'était	It was...
Ce sera	It will be... 😊

Divertissant	Entertaining
Cool	Cool
Important	Important
Génial	Great
Marrant	Funny
Joli	Pretty
Inoubliable	Unforgettable

Ennuyeux	Boring
Dangereux	Dangerous
Stupide	Silly/stupid
Affreux	Awful
Une perte de temps	A waste of time

# Spanish - Les Vacaciones Y El Tiempo Libre

1 ¿Adónde vas de vacaciones?	Where do you go on holiday?
Normalmente voy...	Normally I go...
A Francia	To France
A España	To Spain
A Italia	To Italy
A Alemania	To Germany
A Grecia	To Greece
A Escocia	To Scotland
A Gales	To Wales
A los Estados Unidos	To the USA

2 ¿Dónde te alojas/te quedas?	Where do you stay?
Me alojo...	I stay...
Nos alojamos...	We stay...
En las montañas	In the mountains
En el campo	In the countryside
A la playa	At the beach
En la costa	By the seaside
En la ciudad	In town
En un campamento	On a campsite
En un hotel	In a hotel
En una villa	In a villa

3 ¿Cómo viajas?	How do you get there?
Viajo/Viajamos...	I travel/we travel...
En coche	By Car
En barco	By Boat
En tren	By Train
En avión	By Plane
En autobús	By Bus

Opinions	
¿Qué te gusta hacer durante las vacaciones?	What do you like to do during your holidays?
Me gusta...	I like...
Me mola...	I really like...
Me encanta...	I love...
Prefiero..	I prefer...
Odio...	I hate...

5 ¿Qué hiciste el año pasado?	
Visité los museos	I visited museums
Nadé en el mar	I swam in the sea
Descansé a la playa	I relaxed on the beach
Tomé el sol	I sunbathed
Compré recuerdos	I bought souvenirs
Jugué al tenis / golf	I played tennis/golf
Comí al restaurante	I ate at a restaurant
Leí libros	I read books
Hice turismo	I went sightseeing
Hice deportes acuáticos	I did water sports

Remember: An infinitive means 'to something' and ends in an 'ar', 'er' or 'ir' in Spanish

6 ¿Cuáles son tus planes para las próximas vacaciones?	What are your plans for your next holiday?
Voy a...	I am going...
No voy a..	I am not going ...
Vamos a...	We are going ...
Me gustaría...	I would like to...

Infinitivos	Infinitives
Descansar	To relax
Ir a la playa	To go to the beach
Leer	To read
Visitar los museos	To visit museums
Comer platos típicos	To eat local dishes
Nadar en el mar	To swim in the sea
Hacer deportes acuáticos	To do water sports
Ir a los restaurantes	To go to restaurants
Visitar monumentos	To visit monuments
Hacer turismo	To go sightseeing
Tomar el sol	To sunbathe
Comprar recuerdos	To buy souvenirs

7 ¿Qué te gustaría hacer en el futuro?	What would you like to do in the future?
Me gustaría ir a..	I would like to go to...
Al campo	To the countryside
Al extranjero	Abroad
A la ciudad	To the city
A la costa	To the coast

# Spanish - Les Vacaciones Y El Tiempo Libre

8 ¿Qué planes tienes para este fin de semana ?	What plans do you have for this weekend?
Voy a...	I am going...
Vamos a...	We are going...

Ir de compras	To go shopping
Ir a la playa	To go to the beach
Ir al parque	To go to the park
Ir al polideportivo	To go to the sports centre
Ver una película	To watch a film
Ver la tele	To watch TV
Jugar al baloncesto	To play basketball
Salir/Quedar con mis amigos	To go out with/meet up with my friends
Hacer mis deberes	To do my homework
Hacer natación	To go swimming
Hacer deporte	To do sport
Dar un paseo	To go for a walk

	9 ¿Qué te gusta hacer en tu tiempo libre?	What do you like to do in your free time?
	Me gusta...	I like...
	Me mola...	I really like...
	Me encanta...	I love...
	Prefiero..	I prefer...
	Odio...	I hate...

10 ¿Quieres ir al cine?	Do you want to go to the cinema
¿Quieres....	Do you want..?
Sí, quiero...	Yes, I want...
Sí me gustaría..	Yes I would like...
Vale	Okay
Tal vez	Maybe
Lo siento, no puedo	Sorry I can't
Tengo que hacer mis deberes	I have to do my homework
Tengo que ayudar a mi madre	I have to help my mum/mother
Tengo que cuidar a mi hermano/a	I have to look after my brother/sister

Time expressions	
PRESENT TENSE	
Generalmente	Generally
Normalmente	Normally
Cada año	Every year
Todos los años	Every year
El primer día	The first day
Luego	Then/Next
PAST TENSE	
El año pasado	Last year
El verano pasado	Last summer
FUTURE TENSE	
El año que viene	Next year
El año próximo	Next year
El verano que viene	Next summer
En el futuro	In the future

11 Qué haces en tu tiempo libre?	What do you do in your free time?
Toco la guitarra	I play the guitar
Veo la televisión	I watch TV
Escucho música	I listen to music
Practico deporte	I practise sports
Leo libros	I read books
Navego por internet	I surf the internet
Salgo con mis amigos	I go out with my friends

Opiniones	Opinions
Pienso que	I think that
En mi opinión	In my opinion
Es...	It is...
Fue...	It was...
Será...	It will be...

Divertido	Fun
Emocionante	Exciting
Guay	Cool
Entretenido	Entertaining
Gracioso	Funny
Fenomenal	Amazing
Bonito	Beautiful
Inolvidable	Unforgettable
Aburrido	Boring
Pesado	Boring
Peligroso	Dangerous
Tonto	Silly/stupid
Fatal	Awful
Una pérdida de tiempo	A waste of time

# French - Le Temps Libre et la Vie Saine

1. Qu'est-ce que tu aimes regarder ?	What do you like to watch?
Les feuilletons	Soaps
Les dessins animés	Cartoons
Les documentaires	Documentaries
Les séries américaines	American series
Les séries policières	Police series
Les émissions de sport	Sports programmes
Les émissions de télé réalité	Reality TV shows
Les infos	News

2. Je préfère	I prefer...
Je préfère regarder	I prefer to watch...
Je regarde	I watch...
J'aime	I like...
J'aime bien	I really like...
J'adore	I love...

3. Quel genre de film aimes-tu?	What type of film do you like?
Les films d'amour	Love films
Les films d'horreur	Horror films
Les films d'action	Action films
Les films de science-fiction	Science-fiction films
Les films de guerre	War films
Les westerns	Western films
Les dessins animés	Animated films
Les films fantastiques	Fantasy films
Les documentaires	Documentaries
Les comédies	Comedies

Opinions sur la télé et les films	Opinions on TV and films
Parce qu' / Car	Because
Ils / elles sont	They are...
Drôles	Funny
Divertissant(e)s	Entertaining
Effrayant(e)s	Scary
Violent(e)s	Violent
Triste(s)	Sad
Captivant (e)s	Gripping
Informatif (ve)s	Informative

4. Quelle musique écoutes-tu?	What music do you listen to?
J'aime écouter	I like to listen
J'écoute	I listen
Je n'écoute jamais	I never listen
De la musique pop	Pop
De la musique rap	Rap
De la musique hip-hop	Hip Hop
De la musique électronique	Electronic music
De la musique RnB	RnB
De la musique classique	Classical music
De la musique jazz	Jazz music
De la musique rock	Rock music
Un peu de tout	A bit of everything

Reasons	
Parce que	Because
C'est original	It is original
C'est entraînant	It is catchy
C'est relaxant	It is relaxing
Ça me donne envie de danser / chanter / pleurer	It makes me want to dance / to sing / to cry
Ça me rend heureux / triste	It makes me happy / sad

5. Qu'est-ce que tu manges?	What do you eat?
Au petit-déjeuner	At breakfast
Au déjeuner	At lunch
Au dîner	At dinner
Je mange	I eat
Je prends	I have (eat)
De la soupe	Some soup
Des pâtes	Some pasta
Du poisson	Some fish
Des frites	Some chips
Des légumes	Some vegetables
De la viande	Some meat
Du riz	Some rice
Des escargots	Some snails
Je bois	I drink
De l'eau	Some water
Du café	Some coffee
Du jus d'orange	Some orange juice

What to include in your writing (colour key)	
C	Connectives
O	Opinions
R	Reasons
N	Negatives
E	Extra detail
T	Time expressions
T	Tenses
I	Intensifiers
	Masculine
	Feminine
	Plural

# French - Le Temps Libre et la Vie Saine

6. Que voudrais-tu manger? What do you want to eat?	
Je voudrais manger	I would like to eat
Je voudrais boire	I would like to drink
Une crêpe	A crêpe
Parce que c'est	Because it is
Délicieux	Delicious
Malsain	Unhealthy
Salé	Salty
Sucré	Sweet
Sain	Healthy

7. Qu'est-ce que tu portes ? What do you wear?	
Je porte	I wear
Un pull	A jumper
Un jean	Jeans
Un tee-shirt	A t-shirt
Une robe	A dress
Une veste	A jacket
Une chemise	A blouse
Une jupe	A skirt
Des baskets	Some trainers
Bleu/e (s)	Blue
Noir/ e (s)	Black
Blanc/he (s)	White
Gris/e (s)	Grey
Rouge/s	Red

8. Qu'est-ce que tu vas acheter ? What are you going to buy?	
Demain	Tomorrow
Ce weekend	This weekend
Je vais aller	I am going to go
À la boulangerie	To the bakery
À la boucherie	To the butcher's
À l'épicerie	To the grocer's
À la librairie	To the book shop
À la pharmacie	To the pharmacy
À la pâtisserie	To the pâtisserie
Au magasin de souvenirs	To the souvenir shop
Au magasin de chaussures	To the shoe shop
Je vais acheter	I am going to buy
Un stylo	A pen
Des petits gâteaux	Some small cakes
Des médicaments	Some medication
Un livre	A book
Du pain	Some bread
Ce sera utile	It will be useful
Ce sera cher	It will be expensive
Ce sera bon marché	It will be cheap

Time expressions (Past)	
Hier	Yesterday
Récemment	Recently
La semaine dernière	Last week

9. Qu'est-ce qu'il faut faire pour rester en forme? What must we do to stay in shape?	
Il faut	You must
Il ne faut pas	You must not
Manger des fruits	Eat fruits
Faire de l'exercice	Do exercise
Éviter des sucreries	Avoid sugary foods
Se coucher de bonne heure	Go to bed early
Manger équilibré	Eat a balanced diet
Fumer	Smoke
Boire de l'alcool	Drink alcohol
C'est mauvais pour la santé	It is bad for your health
C'est bon pour la santé	It is good for your health
C'est sain	It's healthy
C'est malsain	It's unhealthy

10. Qu'est- ce que tu as fait hier? What did you do yesterday?	
Je suis allé au gymnase	I went to the gym
J'ai fait de l'exercice	I did some exercise
J'ai fait du sport	I did sport
J'ai mangé cinq fruits et légumes	I ate 5 fruits and vegetables
J'ai mangé équilibré	I ate a balanced diet
J'ai évité de grignoter	I avoided snacking
J'ai dormi 8 heures	I slept 8 hours
J'ai bu de l'eau	I drank water
C'était vraiment sain	It was really healthy

# Spanish - El Tiempo Libre y la Vida Sana

1 ¿Qué te gusta ver?		What do you like to watch?
Los concursos	Game shows	
Los dibujos animados	Cartoons	
Los documentales	Documentaries	
Las noticias	News	
Las telenovelas	Soaps	
Las series policíacas	Detective series	
Prefiero...	I prefer...	
Prefiero ver...	I prefer to watch...	
Veo..	I watch...	
Me gustan...	I like...	
Me gustan mucho...	I really like...	
Me chiflan...	I love...	
Me encantan...	I love...	
2 ¿Qué tipo de película prefieres?		What type of film do you prefer?
Las películas de terror	Horror films	
Las películas de acción	Action films	
Las películas de ciencia-ficción	Science fiction films	
Las películas de guerra	War films	
Las películas de fantasía	Fantasy films	
Las películas de amor	Love films	
Las comedias	Comedies	

Opiniones de tele y películas		Opinions on TV and films
Porque		Because
Son...		They are...
Divertido/as		Fun
Entretenido/as		Entertaining
Tonto/as		Silly/stupid
Informativo/a s		Informative
Educativo/a s		Educational
Escalofriantes		Scary
Emocionantes		Exciting
Cautivantes		Gripping
Infantiles		Childish
3 ¿Qué tipo de música te gusta escuchar ?		What type of music do you like listening to?
Me encanta escuchar...		I love listening to...
Me gusta escuchar...		I like listening to...
Nunca escucho..		I never listen to...
Música pop		Pop music
Rap		Rap
Hip hop		Hip Hop
Música latina		Latin music
Música clásica		Classical music
Música jazz		Jazz music
Música rock		Rock music
Porque		Because
Me da energía		It gives me energy
Me hace feliz		It makes me happy
Me hace bailar		It makes me dance
Me molesta		It annoys me

Opiniones de música		Opinions on music
Es...		It is...
Pegadiza		Catchy
Relajante		Relaxing
Repetitivo/a		Repetitive
Imaginativo/a		Imaginative
Lento/a		Slow
Rápido/a		Fast
4 ¿Qué comes?		What do you eat?
Como...		I eat...
Para el desayuno como...		For breakfast I eat...
Para el almuerzo como...		For lunch I eat...
Para la cena como...		For dinner I eat...
Fruta		Fruit
Verduras		Vegetables
Pollo		Chicken
Cereales		Cereal
Helado		Ice cream
Caramelos		Sweets
Hamburguesas		Burgers
Patatas fritas		Chips
Carne		Meat
Arroz		Rice
Bebo...		I drink...
Agua		Water
Limonada		Lemonade
Té		Tea
Café		Coffee

# Spanish - El Tiempo Libre y la Vida Sana

5 ¿Qué quieres comer?		What do you want to eat?
Quiero comer...	I want to eat ...	
No quiero comer ...	I don't want to eat ...	
Me gustaría probar...	I would like to try...	
Me gustaría comer...	I would like to eat...	

Opiniones		Opinions
Pienso que	I think that	
En mi opinión	In my opinion	
Es...	It is...	
Sería...	It would be...	

Salado/a	Salty
Delicioso/a	Delicious
Sano/a	Healthy
Rico/a	Rich
Picante	Spicy
Dulce	Sweet

Son...	They are...
Serían...	They would be...

6 ¿Estás en forma?		Are you in shape?
Hago ejercicio	I do exercise	
Como bien	I eat well	
Nunca bebo agua	I never drink water	
(No) Voy al gimnasio	I (don't) go to the gym	
Hago deporte	I do sport	
Como comida basura	I eat junk food	
No como verduras	I don't eat vegetables	
Voy al polideportivo	I go to the sports centre	

7 ¿Qué se puede hacer para estar en forma?		What can you do to stay in shape?
Para estar en forma...	To stay in shape...	
Se puede...	You can...	
Se debe...	You must...	
Hay que...	You must...	
Hacer ejercicio	Do exercise	
Comer más fruta	Eat more fruit	
Dormir 8 horas al día	Sleep 8 hours a day	
Beber mucha agua	Drink lots of water	
Desayunar todos los días	Have breakfast every day	
Evitar la comida basura	Avoid junk food	

8 ¿Qué hiciste recientemente para estar en forma?		What did you do recently to stay in shape?
Fui al gimnasio	I went to the gym	
Hice deporte	I did sport	
Jugué al fútbol	I played football	
Hice ejercicio	I did exercise	
Comí mucha comida sana	I ate lots of healthy food	
Dormí ocho horas	I slept for 8 hours	

Opiniones de vida sana		Opinions on a healthy life
Es saludable	It is healthy	
Es sano	It's healthy	
Es esencial	It's essential	
Es importante	It's important	
Es bueno para la salud	It's good for the health	
Te da energía	It gives you energy	
Te hace feliz	It makes you happy	
Te hace sentir bien	It makes you feel good	

9 ¿Qué te gusta llevar?	What do you like wearing?
Me gusta llevar	I like to wear...
Llevo...	I wear...

Un vestido	A dress
Un abrigo	A coat
Una chaqueta	A jacket/blazer
Una camisa	A shirt
Una camiseta	A t-shirt
Una falda	A skirt
Unos pantalones	Some trousers
Unos vaqueros	Some jeans

10 ¿Qué vas a comprar?	What are you going to buy?
Voy a comprar...	I am going to buy...

Los colores		The colours
Negro	Black	
Gris	Grey	
Amarillo	Yellow	
Verde	Green	
Blanco	White	
Morado	Purple	
Rojo	Red	
Azul	Blue	
Naranja	Orange	
Rosa	Pink	

# French - Le collège et le travail

1. Quelles matières étudies-tu?	What subjects do you study?
J'étudie	I study
J'aime étudier	I like to study
Le français	French
L'EPS	P.E
L'anglais	English
L'art / le dessin	Art
Le théâtre	Drama
La géographie	Geography
L'histoire	History
L'éducation religieuse	R.E
La musique	Music
La technologie	Technology (DT)
L'informatique	I.T.
Les maths	Maths
Les sciences	Science

2. Quelle est ta matière préférée ?	What is your favourite subject?
Ma matière préférée c'est	My favourite subject is
Parce que	Because
Car	Because
Puisque	Because
Ça m'intéresse	I'm interested in it
J'ai des bonnes notes	I get good marks
Le prof m'aide	The teacher helps me
Le prof explique bien	The teacher explains well
C'est pertinent	It's relevant
C'est actif / créatif	It's active/creative

3. Qu'est-ce qu'il faut faire ? (Les règles)	What must you do? (Rules)
Il faut	You must
Être poli	Be polite
Écouter en classe	Listen in class
Porter un uniforme	Wear uniform
Arriver à l'heure	Arrive on time
Faire les devoirs	Do homework
Il ne faut pas	You must not
Porter des piercings	Have piercings
Courir dans les couloirs	Run in the corridors
Manger du chewing-gum	Chew gum
Utiliser le portable en classe	Use your phone in class

5. Que penses-tu des règles ?	What do you think of the rules?
Je pense que c'est	I think that it is
Je trouve ça	I find it
Juste	Fair
Normal	Normal
Important	Important
Utile	Useful
Nécessaire	Necessary
Injuste	Unfair
Énervant	Annoying
Stupide	Stupid
Inutile	Useless

What to include in your writing	
C	Connectives
O	Opinions
R	Reasons
N	Negatives
E	Extra detail
T	Time expressions
T	Tenses
I	Intensifiers
	Masculine
	Feminine
	Plural



# French - Le collège et le travail

PRESENT TENSE	
6. Quelles activités fais-tu?	What activities do you do?
Je joue d'un instrument	I play an instrument
Je joue dans l'orchestre	I play in the Orchestra
Je chante dans la chorale	I sing in the choir
Je suis membre de l'équipe de.....	I am a member of the.....team
Je parle une langue étrangère	I speak a foreign language
Je ramasse les déchets	I pick up litter
7. Qu'est-ce qu'ils font comme travail?	What do they do for a job?
Il est / Elle est	He is / She is
Professeur	A teacher
Infirmier/ière	A nurse
Cuisiner/ ière	A chef
Serveur/euse	A waiter
Coiffeur/euse	A hairdresser
Vendeur/euse	A sales assistant
Réceptionniste	A receptionist
Dentiste	A dentist
Médecin	A doctor
Pompier / ière	Fireman / woman
Chanteur/euse	A singer
Footballeur/euse	A footballer
Agent de police	A police officer

8. Quels clubs y-a-t-il ?	What clubs are there?
Il y a	There is / There are
Dans mon collège il y a beaucoup de clubs	In my school there are lots of clubs
Un club d' échecs	Chess club
Un club de sport	Sports club
Un club de langues	Languages club
Un club éco	An eco-club
Un orchestre	An orchestra
Un club de théâtre	A drama club
9. Qu'est-ce qu' il / elle doit faire ?	What does he / she have to do?
Il / elle doit	He / she has to
Aider les enfants	Help children
S'occuper des patients	Look after patients
Préparer les repas	Prepare meals
Servir les clients	Serve customers
Couper les cheveux	Cut hair
Travailler à la caisse	Work on the till
Répondre au téléphone	Answer the phone
À son avis c'est	In his / her opinion it is
Répétitif	Repetitive
Créatif	Creative
Stressant	Stressful
Relaxant	Relaxing
Bien payé	Well paid

Time expressions	
Quand fais-tu ça ?	When do you do that?
Après le collège	After school
Pendant la pause déjeuner	During lunch
Tous les mercredis	Every Wednesday
Tous les jours	Every day
Quelquefois	Sometimes
FUTURE TENSE	
10. Quel serait ton boulot idéal ?	What would your ideal job be?
Je voudrais...	I would like...
Je veux	I want...
Je ne voudrais pas	I would not like
Être	To be
Travailler	To work
Faire	To do
Ce serait	It would be
Gratifiant	Rewarding
Un défi	A challenge
11. Les projets d'avenir	Future plans
Je voudrais voyager	I'd like to travel
J'aimerais me marier	I'd like to marry
J'aimerais avoir des enfants	I'd like to have children
Je voudrais gagner beaucoup d'argent	I'd like to earn lots of money
Je voudrais être heureux/euse	I would like to be happy

# Spanish - El Colegio Y el Trabajo

1 ¿Qué asignaturas estudias?	What subjects do you study?
Estudio...	I study...
Tengo...	I have...
(El) español	Spanish
(El) francés	French
(El) alemán	German
(El) inglés	English
(El) arte/(el) dibujo	Art
(La) geografía	Geography
(La) historia	History
(La) religión	R.E
(La) música	Music
(La) tecnología	Technology
(La) informática	I.T
(La) educación física	P.E
(Las) ciencias	Science
(Las) matemáticas	Maths

Time expressions	
Los lunes	On Mondays
Los martes	On Tuesdays
Los miércoles	On Wednesdays
Los jueves	On Thursdays
Los viernes	On Fridays
Todos los días	Every day
De vez en cuando	From time to time
A veces	Sometimes

Opinions	
2 ¿Qué asignaturas estudias?	What subjects do you study?
Me encanta	I love it
Me gusta	I like it
Porque...	Because...
Es divertido	It is fun
Es relevante	It is relevant
Es práctico	It is practical
Es mi asignatura favorita	It is my favourite subject
Me interesa	It interests me
No me gusta	I don't like it
Porque...	Because...
Es difícil	It is difficult
Es inútil	It is useless

Me encantan	I love them
Me gustan	I like them
Porque...	Because...
Son divertidas	They are fun
Son relevantes	It is relevant
Son prácticas	It is practical
Me interesan	They interest me
Saco buenas notas	I get good grades
El profesor me ayuda	The teacher helps me
El profesor es simpático	The teacher is nice
El profesor explica bien	The teacher explains well
El profesor me da muchos deberes	The teacher gives me lots of homework

3 ¿Qué se debe hacer?	What must you do?
Se debe...	You must...
Hay que...	You must/have to...
Escuchar en clase	Listen in class
Escuchar al profe	Listen to the teacher
Llevar uniforme	Wear uniform
Llegar a tiempo	Arrive on time
Hacer los deberes	Do homework
No se debe...	You must not...
Está prohibido...	It is forbidden to ...
Llegar tarde	Arrive late
Llevar piercings	Wear piercings
Llevar maquillaje	Wear makeup
Comer chicle	Chew gum
Pelearse con otros alumnos	Fight with other students

4 ¿Qué piensas de las reglas ?	What do you think of the rules?
Son...	They are...



Justas	Fair
Prácticas	Practical
Útiles	Useful
Importantes	Important
Necesarias	Necessary

Injustas	Unfair
Estúpidas	Stupid
Inútiles	Useless
Tontas	Silly
Estrictas	Strict

Estudio español todos los días porque es práctico y divertido. El profesor me ayuda porque es difícil.



# Spanish - El Colegio Y el Trabajo

5 Háblame de las actividades extraescolares	Talk to me about extra curricular activities
En mi colegio	In my school
Hay...	There is...
Un club de teatro	A drama club
Un club de deporte	A sports club
Un club de idiomas	A languages club
Un club de música	A music club
Un club de ajedrez	A chess club
Donde...	Where
Me divierto	I have fun
Practico el fútbol	I practise football
Hablo español	I speak Spanish
Toco un instrumento	I play an instrument
Juego con mis amigos	I play with my friends

## \*Grammar note

Notice that we use 'toco' for instruments but 'juego' for activities .

Time expressions	
Antes del colegio	Before school
Después del colegio	After school
A la hora de comer	At lunch time
Durante el recreo	During break
Los lunes	On Mondays
Todos los días	Every day

6 ¿Qué hacen de	What do they do for a job?
Es...	He/she is...
Trabaja como...	He/she works as...
Profesor/a	A teacher
Médico/a	A doctor
Enfermero/a	A nurse
Cocinero/a	A chef
Camarero/a	A waiter
Peluquero/a	A hairdresser
Mecánico/a	A mechanic
Dependiente/a	A sales assistant
Cantante	A singer
Futbolista	A footballer
Dentista	A dentist
Recepcionista	A receptionist

¿Cómo es su trabajo ?	What is his/her job like?
En su opinión.	In his / her opinion
Es...	It is...



Fácil	Easy	Repetitivo	Repetitive
Creativo	Creative	Estresante	Stressful
Relajante	Relaxing	Difícil	Difficult
Interesante	Interesting	Monótono	Dull/Boring
Los clientes son simpáticos	The customers are nice		
Los clientes son horrorosos	The customers are horrible		
Mi jefe es severo	My boss is strict		

Tiene que...	He/she has to...
Enseñar a los niños	Teach children
Cuidar a la gente	Look after people
Preparar comida	Prepare food
Servir a los clientes	Serve customers
Vender productos	Sell products
Hablar por teléfono	Talk on the phone
7 ¿Cuál sería tu trabajo ideal?	What would your ideal job be?
Mi trabajo ideal sería...	My ideal job would be..
Me gustaría ser...	I would like to be...
Me gustaría trabajar como..	I would like to work as..
Porque	Because
Me gusta...	I like...
Trabajar con niños	To work with children
Trabajar al aire libre	To work outdoors
Trabajar en equipo	To work in a team
8 ¿Qué planes tienes para el futuro?	What plans do you have for the future ?
En el futuro	In the future
Me gustaría...	I would like...
Tener una familia	To have a family
Casarme	To get married
Ganar mucho dinero	To earn lots of money
Viajar	To travel
Vivir en otro país	To live in another country
Sería...	It would be...

PHYSICAL SKILLS		EXPRESSIVE SKILLS		TECHNICAL SKILLS	
POSTURE	The way the body is held	PROJECTION	The energy the dancer uses to connect with and draw in the audience.	ACTION CONTENT	Performing the movements in the choreography such as travelling, turning, gesture and floor-work accurately.
ALIGNMENT	Correct placement of body parts in relation to each other.	EYE FOCUS	Use of the eyes to enhance performance or interpretative qualities.	DYNAMIC CONTENT	Accurately performing the quality of the movements such as soft, strong, sharp, gently.
BALANCE	A steady or held position achieved by an even distribution of weight.	SPATIAL AWARENESS	Consciousness of the surrounding space and its effective use.	SPATIAL CONTENT	Accurately performing the actions in the correct place e.g.. levels, directions, pathways, shapes, designs and patterns.
COORDINATION	The efficient combination of body parts	FACIAL EXPRESSION	Use of the face to show mood, feeling or character.	RELATIONSHIP CONTENT	Accurately portraying the ways in which dancers interact; the connections between dancers.
CONTROL	The ability to start and stop movement, change direction and hold a shape efficiently.	PHRASING	The way in which the energy is distributed in the execution of a movement phrase.	TIMING CONTENT	Accurate use of time or counts when matching movements to sound and/or other dancers.
FLEXIBILITY	The range of movement in the joints (involving muscles, tendons and ligaments).	MUSICALITY	The ability to make the unique qualities of the accompaniment evident in performance	RHYTHMIC CONTENT	Repeated patterns of sound or movement performed accurately.
MOBILITY	The range of movement in a joint; the ability to move fluently from action to action.	SENSITIVITY TO OTHER DANCERS	Awareness of and connection to other dancers.	STYLISTIC ACCURACY	Performing the choreography in a way which highlights the key features of the chosen style/s
STRENGTH	Muscular power.				
STAMINA	Ability to maintain physical and mental energy over periods of time				
EXTENSION	Lengthening one or more muscles or limbs.				
ISOLATION	An independent movement of part of the body.				

AURAL SETTING		CHOREOGRAPHIC DEVICES	RELATIONSHIPS	
<b>Song</b>	A piece of music with someone singing lyrics	<b>MOTIF &amp; DEVELOPMENT</b>  A movement phrase encapsulating an idea that is repeated and developed using relationships and choreographic devices throughout the dance.	<b>LEAD &amp; FOLLOW</b>	When one dancer begins a phrase of movement and a second dancer or group of dancers repeat the phrase after the lead dancer.
<b>Instrumental</b>	A piece of music which has no sung or spoken words.	<b>REPETITION</b>  Performing the same action or phrase again.	<b>MIRRORING</b>	When two or more dancers perform the same phrase of movement on the opposite side, as if a reflection of each other.
<b>Orchestral</b>	A piece of music performed by a full orchestra	<b>CONTRAST</b>  Movements or shapes that have nothing in common.	<b>ACTION &amp; REACTION</b>	One/Group of Dancer/s performs an action or series of actions and another dancer/dancers perform a different action in response.
<b>Spoken Word</b>	The use of a speech/poem/story spoken out loud (this could be over music)	<b>HIGHLIGHTS</b>  Important moments of a dance.	<b>ACCUMULATION</b>	When a dancer performs a series of movements and others join in at different times until all perform in unison.
<b>Silence</b>	No audible sound	<b>MANIPULATION OF NUMBER</b>  How the number of dancers in a group is used.	<b>COMPLIMENT &amp; CONTRAST</b>	Perform actions or shapes that are similar to but not exactly the same as another dancer's followed by movements or shapes that have nothing in common (or vice versa).
<b>Natural Sound</b>	Use of sounds created by nature (birdsong, wolf howl, rain etc)	<b>UNISON &amp; CANON</b>  A combination of two or more dancers performing the same movement at the same time and same movements overlapping in time.	<b>COUNTERPOINT</b>	When dancers perform different phrases simultaneously
<b>Found Sound</b>	A 'non-musical' sound used creatively in a piece of music	<b>FRAGMENTATION</b>  Use of parts of a phrase or motif.	<b>CONTACT</b>	When two or more dancers perform whilst physically connected to each other.
<b>Body Percussion</b>	Using the human body to create percussive sounds	<b>RETROGRADE</b>  Reversing a movement phrase.	<b>FORMATIONS</b>	Shapes or patterns created in space by dancers

Vocal skills	
<b>Accent</b>	The way a character pronounces words according to their regional location or social class.
<b>Pitch</b>	How high or low the voice is
<b>Volume</b>	How loud or quiet the voice is
<b>Tone</b>	The way the character speaks to show emotion.
<b>Pause</b>	A moment of silence to build tension, add emphasis or communicate other meaning.

Features of a script	
<b>Character name</b>	Identifies which character is speaking
<b>Dialogue</b>	The words spoken by the characters
<b>Scene title</b>	The title of the scene and its location in the play
<b>Stage directions</b>	Instructions in the text that tell the actors what to do

Use of space	
<b>Levels</b>	How high or low an actor is stood or sat to communicate meaning or status
<b>Proxemics</b>	The use of space to communicate meaning
<b>Still Image</b>	A static image on the stage to mark key moments of the story or play
<b>Stage position</b>	An actor's location on the stage

## Drama Year 8

Physical skills	
<b>Eye contact</b>	The use of the eyes to communicate meaning
<b>Facial expressions</b>	Use of the face to communicate meaning
<b>Posture</b>	The way the body is held or the shape of the back
<b>Dynamics</b>	The quality of the movement relating to energy, effort, force, or weight.

Stanislavski Techniques	
<b>Scene Objective</b>	What a character wants in the scene
<b>Magic If</b>	Imagining yourself in a situation, to help you relate to your character.
<b>Given Circumstances</b>	What, Where, Who, When, Why
<b>Naturalistic</b>	Closely imitating real life.

Performance quality	
<b>Audience awareness</b>	Being aware of what the audience can see and hear when blocking, rehearsing and performing a scene
<b>Clarity</b>	Speaking clearly so the audience can hear you
<b>Corpsing</b>	Coming out of role or losing focus during a scene
<b>Tension</b>	A sense of anticipation or fear within a character

## Creating theatre

<b>Stimulus</b>	The item that inspires the idea
<b>Placard</b>	A printed or handwritten notice or sign for public display
<b>Creative task</b>	A task with a set of rules or restrictions used to create new dramatic or movement material
<b>Rehearsal</b>	The process of repeatedly practising and refining a performance to improve the quality
<b>Improvisation</b>	Making a performance up on the spot with no rehearsal
<b>Devise</b>	To plan using careful thought.

## Use of space

<b>Blocking</b>	The process of staging the movement of a scene
<b>Emotion memory</b>	When the actor finds real emotions from their own experience and applies them to their own performance
<b>Given circumstances</b>	Information about the character found in the script

## Drama Year 8

### Movement

<b>Unison</b>	A group of people moving as one.
<b>Canon</b>	Performing the same phrase of movement one after the other
<b>Dynamics</b>	The quality of the movement relating to energy, effort, force, or weight.
<b>Choreography</b>	Stylised movement created to communicate meaning to an audience
<b>Counterbalance</b>	Sharing body weight between two people
<b>Pathways</b>	The journey you take around the space

### Performance quality

<b>Audience awareness</b>	Being aware of what the audience can see and hear when blocking, rehearsing and performing a scene
<b>Clarity</b>	Speaking clearly so the audience can hear you
<b>Corpsing</b>	Coming out of role or losing focus during a performance—should be avoided
<b>Projection</b>	The energy the actor use to engage and connect with the audience

Physical Skills	
<b>Exaggeration</b>	Making a movement larger than normal to increase dramatic effect
<b>Proxemics</b>	The physical space between you and another actor on stage
<b>Eye Contact</b>	Looking someone directly in the eyes
<b>Audience Awareness</b>	Making sure you are facing the audience so they can see what you are doing
<b>Body Language</b>	How you use your body to show how your character is feeling

Topic Knowledge	
<b>Shakespeare</b>	A British playwright who wrote 39 plays and is known as one of the best playwrights in the world
<b>Playwright</b>	Someone who writes and distributes plays
<b>Stage Combat</b>	A specialised technique in theatre designed to create the illusion of physical combat without causing injury
<b>Building Tension</b>	Evoking emotions such as worry, anxiety, fear and stress
<b>Antagonist</b>	Being actively hostile to someone or something

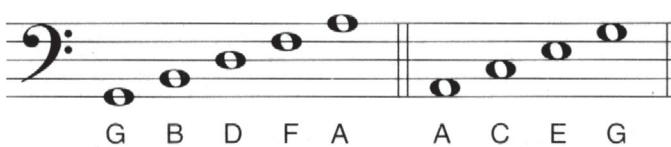
## Drama Year 8

Vocal Skills	
<b>Tone</b>	The emotion used alongside words to show how the character is feeling
<b>Volume</b>	How loud or quiet a character is speaking
<b>Projection</b>	The energy used whilst speaking to ensure that you can be heard from far distances
<b>Emphasis</b>	Stressing a particular word or phrase to indicate importance

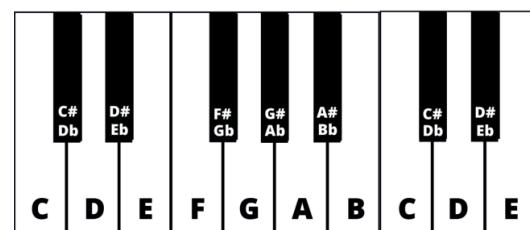
Character Skills	
<b>Facial Expressions</b>	The way the face moves to convey an emotional state
<b>Hand Gestures</b>	A movement of the hand to express meaning
<b>Gait</b>	the attitudes conveyed by an actor which impacts the way they walk
<b>Pace</b>	The speed of an actors movements

# Music

The musical elements	
Dynamics	The volume of music e.g. loud or quiet.
Rhythm	The pattern of beats in music.
Pitch	The movement of the notes between high and low within a piece of music.
Structure	The different sections within a piece of music e.g. verse/chorus.
Melody	The main tune within a piece of music.
Instrumentation	The different instruments used within a piece of music.
Texture	The different layers of sound happening at once.
Tonality	The character of a piece of music as determined by the key in which it is played.
Tempo	The speed of the music
Harmony	The use of chords sounding together at the same time and the device used to analyse them.
Sonority	The colour, character or quality of sound produced
Articulation	How to play a note—if it should be short and spiky or smooth.



Performance Knowledge	
Accuracy	Being secure in terms of rhythm and/or pitch, playing at an appropriate tempo re-
Expression and interpretation	An expressive performance in keeping with the chosen style, effective communication and sustained audience interest and main-
Technical Control	Having a secure vocal/instrumental technique and intonation (where appropriate) throughout the whole performance, ensuring secure control of sonority (tone) with the use of contrast fully appropriate to the
Performance directions	The tempo, dynamic and articulation markings found on a score tell you how to
Balanced Performance	When you can hear all parts of the performance at the right dynamic.
Intonation	Accuracy of pitch and projection when creating the sound on your voice or instrument. If the sound quality is poor due to a lack of technical control this is also known
Fluency	Performing with the correct rhythm/timing,
Stylistic Awareness	Having an awareness of the genre specific conventions that are required e.g. particular

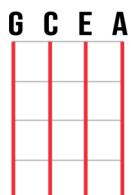


Music Notation			
Symbol	Term	Rest	Definition
	Semiquaver		A note lasting for 1/4 of a beat.
	Quaver		A note lasting for 1/2 a beat.
	Crotchet		A note lasting for one beat.
	Minim		A note lasting for two beats.
	Dotted minim		A note lasting for three beats.
	Semibreve		A note lasting for

Music Notation	
Metre	The pulse within music that is consistently present in which you organize into regular
Time signature	Numbers at the beginning of the piece that tell you how many beats and which type of beat the metre of the piece should be in.
Key signature	The flats and sharps at the beginning of a piece of music, before the time signature, that tell you what key the piece is in and any accidentals you need to play.
Accidentals	They symbols that raise or lower a pitch by one semitone.
Dotted notes	The dot increases the duration of the basic note by half or its original value

Popular Music Sub-genres	
<b>Rhythm and blues</b>	Originally, this term referred to a genre of commercial music that developed in African-American communities in the 1940s.
<b>British Invasion</b>	A style of popular music that emerged in the 1960s. Musicians often emphasize the artistic merit of their music.
<b>Soul</b>	A style of music that developed in America during the 1950s and 60s. It combined elements of jazz, rhythm and blues, and gospel. The vocals are often emotionally charged and melismatic.
<b>Pop</b>	An accessible style of music that emerged in the 1950s as development of rock and roll. The songs are typically written with the intention of maximizing sales and commercial success.
<b>Motown</b>	A record label in Detroit that was heavily associated with soul music. It consistently produced hit songs in the 1960s.
<b>Disco</b>	A style of music that originated from funk in the 1970s. It is syncopated, with a four-on-the-floor beat and fast hi-hat patterns.
<b>Glam rock</b>	A style of rock that emerged in the 1970s. It emphasized elaborate costumes and the theatrical aspects of performance.
<b>Funk</b>	A development of soul, jazz and rhythm and blues that emerged in the 1960s.
<b>Heavy Metal</b>	A genre of rock music characterized by loud dynamics, a thick texture, extended guitar solos and a heavy beat. The lyrics are often aggressive.
<b>Punk rock</b>	A type of rock music developed in the 1970s. Songs are often short, with sparse instrumentation and political lyrics.

## Ukulele Strings



Melodic and metre devices	
<b>Conjunct</b>	Melody moving in steps.
<b>Disjunct</b>	Melody moving in leaps.
<b>Ascending</b>	A melody moving higher in pitch.
<b>Descending</b>	A melody moving lower in pitch.
<b>Riff</b>	A short repeating memorable musical pattern
<b>Hook</b>	A motif or short musical idea that creates the main focus in the music
<b>Octave</b>	A leap of 8 notes
<b>Call and response</b>	One musical phrase is followed by another slightly different musical phrase in question and answer
<b>Chromatic</b>	Continuous movement between notes a semitone apart.
<b>Melodic motif</b>	A short pattern in the melody, helps to make it 'singable' and memorable. Usually repeated in the song.
<b>Melodic contrast</b>	A section in the melody that has different musical ideas than other lines, this is usually a change in rhythm, or melody shape
<b>Melodic repetition</b>	A section where the melody is repeated to make it memorable. This could be alongside repeated lyrics.
<b>Regular Phrasing</b>	Phrasing is where a group of notes are played or sung together as one musical thought. Regular phrasing means these groupings are either 2, 4 or 8 bars
<b>Scale</b>	A set of tones where you can build melodies and harmonies—example C Major scale
Structure	
<b>Intro/Outro</b>	Start/end of a song. Usually last 4 or 8 bars. Outros may fade out (gradually reduce in volume).
<b>Verse</b>	Section of a pop song that repeats the chords and melody but changes lyrics. It tells the story of the song.
<b>Chorus</b>	Section of a pop song that repeats the chords, melody and lyrics. It contains the main theme or message of the song and usually contains the hook and or riff.
<b>Bridge/middle 8</b>	Joining section in a pop song, to create contrast. It usually has a contrasting chord sequence and melody as well as contrasting rhythmic ideas.
<b>Instrumental</b>	A section in a pop song where there are no vocals, usually includes an improvisation over the chords of the chorus.
<b>12 bar blues</b>	A song structure that lasts for 12 bars, originating from the United States and influenced by African American struggles with equality.
<b>32 bar song form</b>	A traditional pop song structure that lasts for 32 bars.

Harmony and Rhythmic devices	
Primary triads	Chords 1 4 and 5 of the scale
Secondary triads	Chords 2 and 6 of the scale
7th Chords	Triads where the flattened 7th is added
Tonic	The home note of the song. The first note in the scale and key that the song is played in.
Vocal harmony	Where two different vocal lines are sung at the same time to create notes of a chord
Syncopation	Notes that are played off the beat
Rhythmic ostinato	A short repeating rhythmic pattern
Triplet	3 notes are played within the time of 2.
Chord sequence	The order of the chords that creates the harmony of the song.
Harmonic Rhythm	How often chords change, whether every beat or every bar etc.
Modulation	A move to another key, usually using
Inversion	Playing a chord where another note in the chord is played in the bass.
Cadence	A progression of (at least) two chords that concludes a phrase, section, or piece of music. The most common are <b>perfect</b> to make a strong finish (V—I or G to C in C major) <b>plagal</b> to make an 'amen' finish (IV—I or F to C in C major) and <b>imperfect</b> to make the phrase feel unfinished (I—V or C to G major).
Relative minor	The relative minor of a particular major key, or the relative major of a minor key, is the key which has the same key signature but a different tonic.
Texture	
Monophonic	Music consisting of one line
Homophonic	Melody line is accompanied by other parts to create the harmony.
Theme and Variations	Where music is organised with a theme, followed by versions of the theme that has been changed.

Tempo Italian terms	
Tempo	The speed of the music
Largo	Very slowly
Adagio	Slowly
Andante	At a walking pace
Moderato	Moderately
Allegro	Fast
Vivace	Quick and lively
Presto	Very fast
Accelerando	Gradually speeding up
Rallentando	Gradually slowing down
Melodic compositional devices	
Ornamentation	Decorative notes added to the melody. Most common are trills, where notes move fast between the original pitch and the one higher and grace notes, where the note above is added and played quickly before the original note of the melody.
Note addition	Adding a note to a melody. This could be one or more passing notes or notes that fit the chords.
Note subtraction	Taking a note away from a melody.
Retrograde	To play a musical idea backwards
Passing note	A note that is placed between two notes of a chord to fill the gap. Making the melody move by step.
Trill	An ornament that consists of rapid alternation between one tone and another tone either a step or a semitone away from the first tone.

# Physical Education - Year 8

Curriculum	
PE Vision	To develop competent and confident performers who continue to maintain healthy active lives beyond their academic career.
Competence	The ability to do something successfully or efficiently.
Confidence	Feelings / belief in abilities and qualities.
Fit to Lead	Develop communication, cooperation, confidence, leadership and understanding of tactics. Activities Studied- Badminton, Netball
Fit to Perform	Develop actions, skills and techniques. Activities Studied- Handball, Basketball
Fit for Life	The importance of a balanced, healthy, active lifestyle. Activities Studied- Health Related Fitness (HRF)

Keywords	
Motivation	Helps you keep going, even when you are tired or not winning.
Tactics	Are planned strategies used to beat an opponent or defend your goal.
Self-assessment	Helps you reflect on how well you performed and what you can improve.
Feedback	Information from teachers, coaches or peers can help you understand what you are doing well and what needs improvement.
Peer assessment	Allows you to support your classmates by giving constructive feedback.
Anticipation	Is reading the game to predict what your opponent will do next.

# Physical Education - Year 8

Warm-up	
Warm- Up	Simple exercise routine that is performed before a workout session. Exercises to prepare the body for exercise so that the chances of injury are reduced
Pulse Raiser	The starting activity of a warm-up. It consists of exercises that slowly increase the heart rate and body temperature. This is performed at low intensity
Pulse Raiser Activity	Gentle jog, skipping. Jog, weave, twist, turn. (If the activity has another way of moving apart from running, use that form of movement e.g., swimmers = slow swim, cyclists = short bike ride).
Dynamic Stretching	Involves stretching whilst moving or taking the joint through the full range of movement. This is performed at medium intensity
Dynamic Stretching activities	High knees, heel flicks, arm rotations, skipping, lunges, walking hamstring stretches (feed the chickens), side steps
Game Related/Skill rehearsal	The last phase of a warm-up. Practicing the actions that are about to be used in the game or activity. This is performed at high intensity
Game related/skill rehearsal activities	Finger tag, stuck in the mud, splat, end-zone, passing drills

Warm-up Benefits	
Increase muscle temperature	Help the muscles to be more elastic and flexible, reducing the risk of injury.
Increase heart rate	Help to speed delivery of oxygen to working muscles.
Increase flexibility	Stretching will help to increase how much movement can happen at joints
Increase speed of muscle contraction	Help the muscles to work quicker and reduce reaction time.
Increase motivation	Thinking about the task will increase the performers drive to perform well
Increase concentration	Thinking about the task will help the performer to focus and concentrate on the activity
Increase confidence	Practicing skills in a warm-up will improve confidence and speed up reaction time.

# Physical Education - Year 8

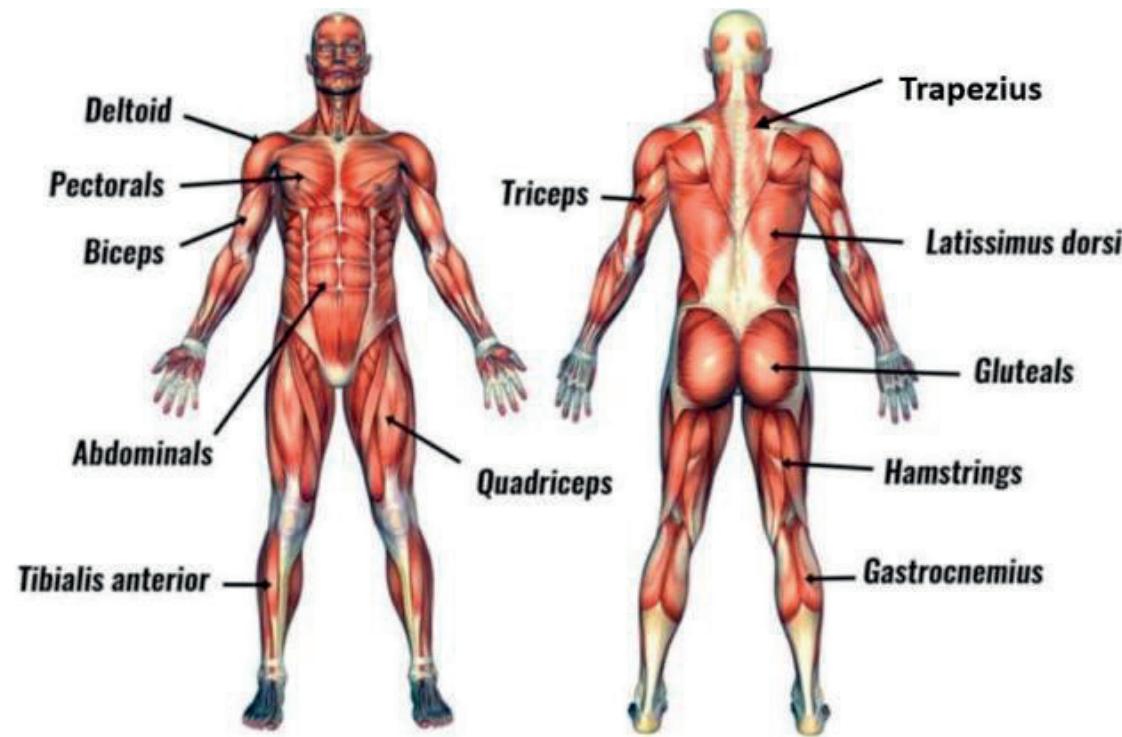
Cool Down	
Cool down	Easy exercise done after an activity to allow the body to return to a resting condition
Pulse lowering (first part of cool-down)	Gradually lowering the heart rate and body temperature. A slow walk or jog
Stretching (second part of cool-down)	Return muscles that have been used back to their normal length

Components of fitness	
Flexibility	The range of motion at a joint.
Muscular Endurance	The ability to use voluntary muscles repeatedly without tiring.
Strength	The amount of force a muscle can exert against a resistance.
Agility	The ability to change the position of the body quickly and control the movement.
Balance	The ability to maintain the body's centre of mass above the base of support.
Coordination	The ability to use two or more body parts together
Power	The ability to perform strength performances quickly
Reaction time	The time taken to respond to a stimulus
Speed	The ability to put body parts into motion quickly

# Physical Education - Year 8

Nutrition	Functions	Sources
Nutrition	Substances in food that the body needs to grow, stay healthy, and function properly.	
Balanced Diet	A diet that includes the right amounts of all the necessary nutrients from different food groups.	
Vitamins & Minerals	Essential nutrients that help keep the body healthy and support different body functions.	Fruit and vegetable
Fats & Oils	Foods that give you energy and help keep your body warm.	Butter, olive oil, nuts, avocado (in small amounts)
Hydration	Drinking enough water to keep your body working properly.	
Protein	Nutrients that help the muscles grow and repair itself, found in meat, eggs, beans, and nuts.	Chicken, fish, eggs, beans, lentils
Carbohydrates	Foods that give you energy, like bread and fruit.	Bread, rice, pasta, potatoes
Vegetables	They give you vitamins, help you stay strong, and keep your body working well.	Apples, bananas, carrots, broccoli
Dairy	help keep your bones strong.	Milk, cheese, yogurt

## Muscles



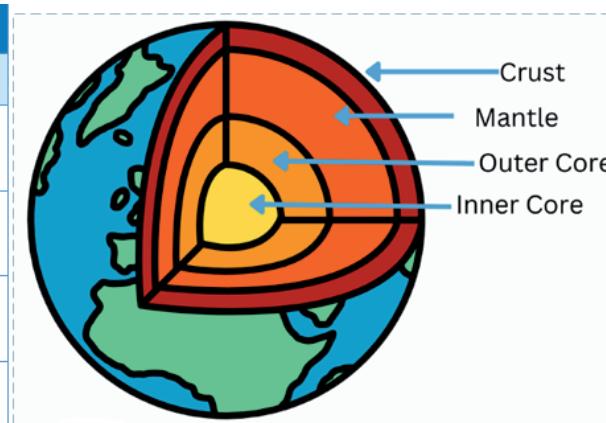
# Science - Heating and Cooling

Particle model			
Organisation (Pattern)	Regular pattern	No pattern, random arrangement	No pattern, random arrangement
Spacing (Touching?)	All touching, close together	Close together but may still be touching	Wide spaces between, far apart
Motion (Movement of molecules)	Vibrate in a fixed position	Move and slide around each other	Move quickly in all directions
1. Melting			
2. Boiling			
3. Condensing			
4. Freezing			
5. Sublimation			
1. Solid			
2. Melting			
3. Liquid			
4. Boiling			
5. Gas			
A. Temp.			
B. Heat absorbed			

Types of Energy Stores	
Term	Definition
<b>Kinetic</b>	Energy stored in a moving object
Stores	<b>Gravitational potential</b>
	Energy stored in an object in a gravitational field.
	<b>Chemical</b>
	Energy stored in the bonds of substances; typically fuels or food, i.e. energy is released when burned
	<b>Elastic potential</b>
	The potential stored in a spring or something stretchy that will spring back after being released
	<b>Nuclear</b>
	Energy stored in nuclei of atoms, released through nuclear fission or fusion.
Transfers	<b>Magnetic</b>
	The potential energy stored in a magnetic field
	<b>Electrostatic</b>
	The energy stored when like charges are moved closer together/unlike charges are pulled
<b>Thermal</b>	Associated with changes in temperature and/or changes of state of objects.
Transfers	<b>Mechanical</b>
	A force moving an object through a distance
	<b>Electrical</b>
	When an electric current flows through a device
Heat transfer	<b>Heating</b>
	By conduction, convection, or radiation
Heat transfer	<b>Radiation</b>
	Energy transferred by electromagnetic radiation (e.g. light)

# Science—Materials and the Earth

Structure of the Earth	
Layer	Description
Crust	Top layer of the Earth that is relatively thin and rocky.
Mantle	Thickest layer made from molten rock that can flow.
Outer core	Made from liquid nickel and iron.
Inner core	Centre of the Earth made from <u>solid</u> nickel and iron.

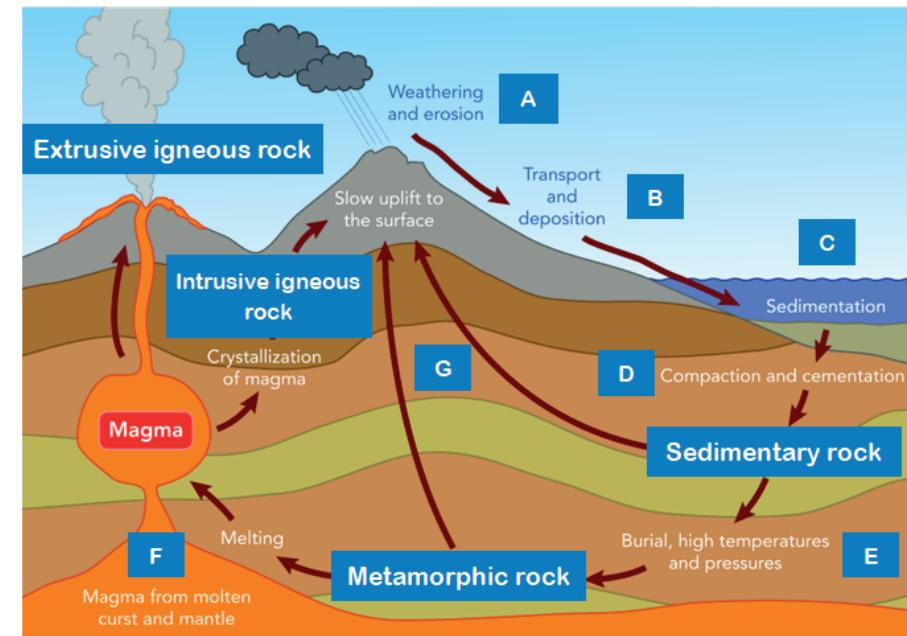


Composition of the current atmosphere	
Gas	Percentage (%)
Nitrogen	78
Oxygen	21
Other gases e.g. carbon dioxide	1

The rock cycle		
Letter	Process	Description
A	Weathering and erosion	Weathering breaks down rocks on the surface of the Earth.
B	Transportation and deposition	Rivers and streams transport rock particles to other places. Rock particles are deposited in lakes and seas.
C	Sedimentation	Rock particles form layers in lakes or seas
D	Compaction and cementation	Pressure from the above layers compresses the layers and causes particles to cement together
E	High temperature and pressure	Rocks underground get heated and put under pressure, and are changed into metamorphic rock
F	Melting	Rocks underground that get heated so much they melt turn into magma. Some reaches the surface as lava and cools quickly to form extrusive rock.
G	Slow uplift to the surface	Some magma rises slowly cooling slowly within the earth to form intrusive rock.

Types of rock		
Rock	How it is formed	Properties
Sedimentary	Broken remains of other rocks by weathering, which are joined together	<ul style="list-style-type: none"> <li>porous (contains small holes)</li> <li>soft</li> <li>contains fossils</li> <li>made of layers of grains</li> </ul>
Igneous	Molten rock that has cooled and solidified – either intrusive or extrusive	<ul style="list-style-type: none"> <li>hard rock.</li> <li>does not contain fossils.</li> <li>contains crystals (intrusive igneous rock has cooled slowly and has large crystals, extrusive igneous rock has cooled quickly and has small crystals).</li> </ul>
Metamorphic	High heat and pressure	<ul style="list-style-type: none"> <li>hard rock</li> <li>contains distorted layers and crystals.</li> <li>colourful</li> </ul>

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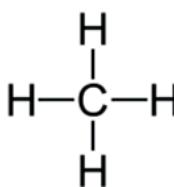
# Science—Materials and the Earth

Materials	
Key term	Definition
<b>Monomer</b>	Substance made of single molecules.
<b>Polymer</b>	Substance made from long chains of monomers.
<b>Ceramic</b>	Materials made out of clay soil that have been dug up from the ground and heated in a kiln.
<b>Composite</b>	Made from two or more different types of material.
<b>Resources</b>	Any materials that are useful
<b>Recycling</b>	Reusing materials or reprocessing waste materials to produce new materials.
<b>Hydrocarbons</b>	Compounds that contain hydrogen and carbon only
<b>Fossils</b>	The remains of a dead organism from millions of years ago trapped in rocks

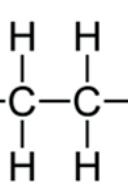
Crude oil	
Definition	A mixture of different length hydrocarbons (compounds made from carbon and hydrocarbon atoms only)
<b>Formation</b>	Formed from ancient remains of plankton from millions of years ago
<b>Uses</b>	Can be extracted and separated for fuels and plastics



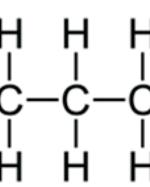
Methane



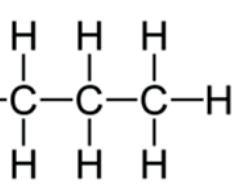
Ethane



Propane



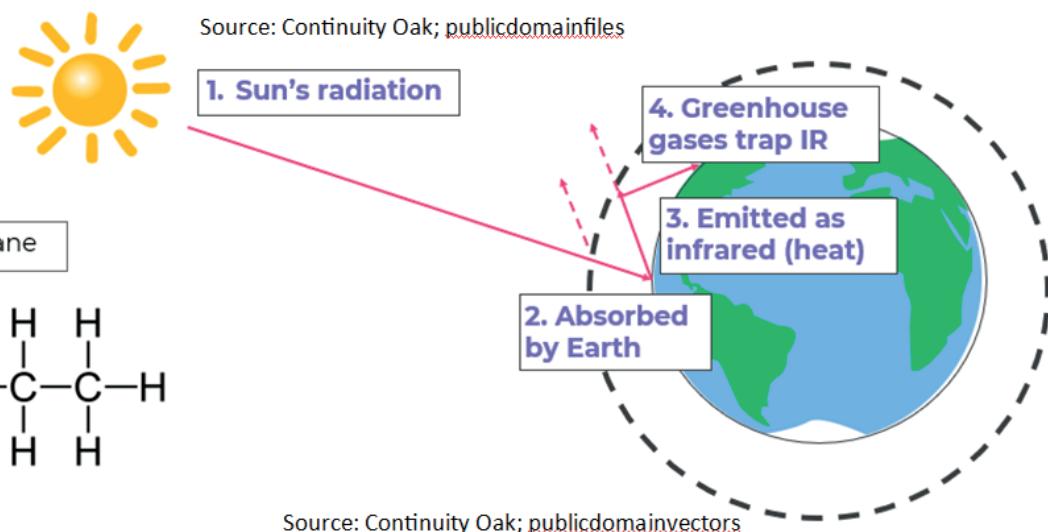
Butane



Source: Continuity Oak; [Wikimedia Commons] - [Ethan Lewis]

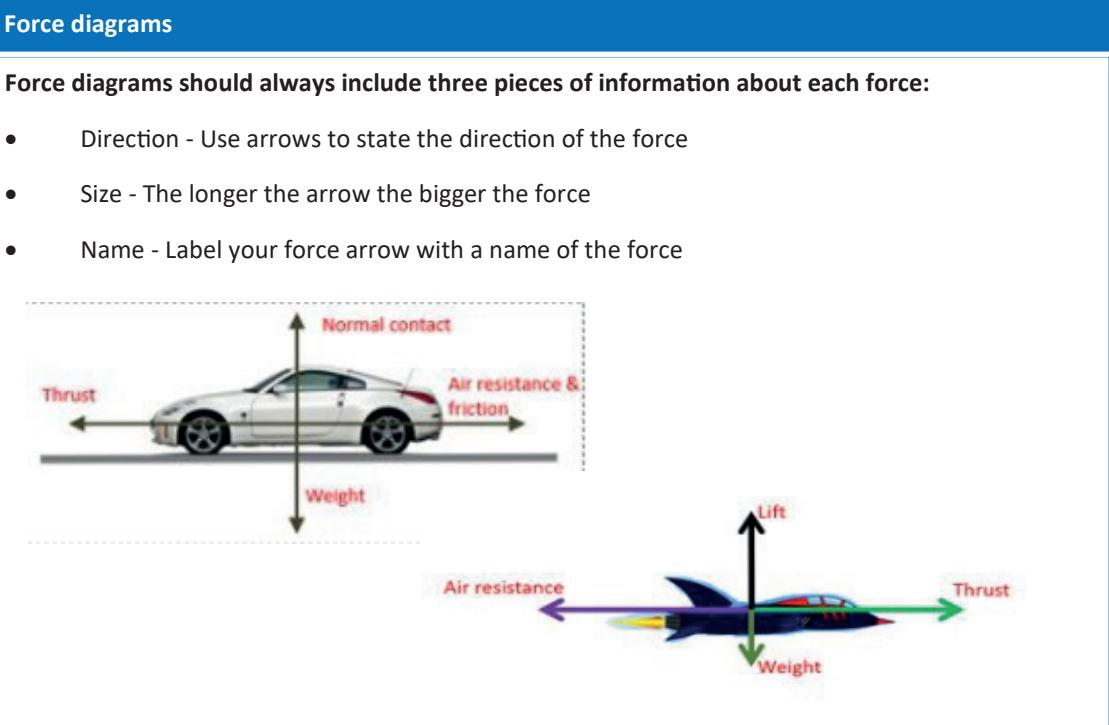
The carbon cycle	
Stage	Description
<b>1</b>	Carbon enters the atmosphere as carbon dioxide from respiration and combustion.
<b>2</b>	Carbon dioxide is absorbed by producers through photosynthesis.
<b>3</b>	Animals feed on the plant passing the carbon compounds along the food chain. Most of the carbon they consume is exhaled as carbon dioxide formed during respiration.
<b>4</b>	Decomposers eat the dead organisms and carbon in their bodies is released, as carbon dioxide. In some conditions, decomposition is blocked. The plant and animal material will become fossil fuels.

Greenhouse gases	
Global warming	The rise in the average temperature of the Earth's surface
<b>Greenhouse effect</b>	The retention of heat in the atmosphere caused by the build-up of greenhouse gases
<b>Greenhouse gases</b>	Gases responsible for global warming - carbon dioxide, methane and nitrous oxides
<b>Effects of climate change</b>	Droughts, ice caps melting, extreme weather patterns, flooding, rising sea levels



# Science—Forces and Motion

Types of force	
<b>Weight</b>	The force acting on an object due to gravity.
<b>Normal reaction force</b>	The force exerted by a surface to support an object resting on it, acting perpendicular (at a right angle) to the surface.
<b>Thrust</b>	A force that causes an object to move forward.
<b>Upthrust</b>	The upward force exerted by a fluid (liquid or gas) on an object that is submerged or floating in it.
<b>Air resistance (Drag)</b>	The force that opposes the motion of an object through the air.
<b>Friction</b>	A force that opposes motion between two solid surfaces in contact.
<b>Water resistance</b>	A force which acts to slow down or stop objects that are moving through liquid.
<b>Tension</b>	A pulling force that acts along a stretched object, like a rope, string, or cable, when it's being pulled from both ends.
<b>Lift</b>	The upward force that opposes gravity, enabling objects like airplanes and birds to stay aloft.
<b>Magnetic force</b>	A non-contact force of attraction or repulsion that exists between magnets or between a magnet and a magnetic material.
<b>Electrostatic force</b>	A non-contact force of attraction or repulsion between charged objects.



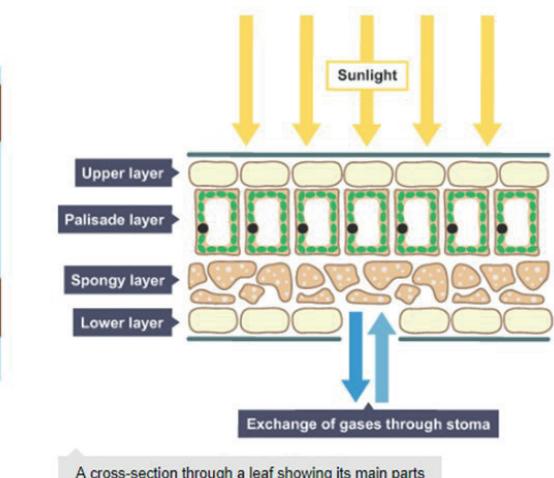
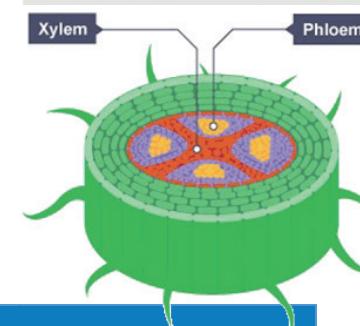
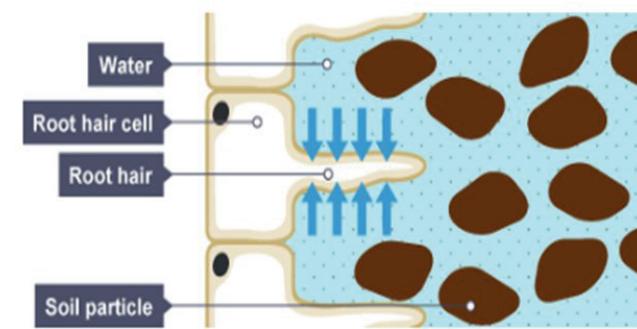
Key terms	
<b>Mass</b>	A measure of how much matter an object is made up of. It is measured in <b>kilograms (kg)</b> .
<b>Weight</b>	The force of gravity pulling on every kg of mass. It is measured in <b>Newtons (N)</b> .
<b>Gravitational field strength</b>	How strongly gravity pulls on an object in a specific location.
<b>Pressure</b>	A measure of how spread out a force is.
<b>Force</b>	A push or pull that acts on an object due to an interaction with another object. This interaction can be either a contact force, where objects are physically touching, or a non-contact force, where objects are separated. Forces are measured in <b>Newtons (N)</b> using a <b>Newton metre</b>
<b>Speed</b>	A measure of how quickly an object travels a given distance.
<b>Velocity</b>	The same as speed, but tells us the direction we are travelling in as well (ie forwards or backwards).
<b>Balanced forces</b>	Balanced forces acting on an object will cause it to stay stationary or travel with constant speed.
<b>Unbalanced forces</b>	Unbalanced forces acting on an object will cause it to accelerate, decelerate or change direction.
<b>Stationary</b>	An object that is not moving.
<b>Constant speed</b>	An object moving at a speed that does not change, meaning it doesn't speed up or slow down.

Key equations	
$W = m \times g$	weight (N) = m = mass (kg) x gravitational field strength (N/kg)
$p = F/A$	pressure (N/m <sup>2</sup> ) = F = Force (N) / Area (m <sup>2</sup> ).
$V = d/t$	Speed (m/s) = distance (m) / time (s)

# Science—Plants and Photosynthesis

## Features of a plant leaf

Thin	Short distance for carbon dioxide to diffuse into the leaf
Waxy Layer	Prevents water loss by <b>evaporation</b>
Palisade cells	Contain a lot of <b>chloroplasts</b> to absorb light
Chloroplasts contain chlorophyll	Absorbs light
Stomata	Allows carbon dioxide to diffuse into the leaf (and oxygen out)
Guard cells	Open/close stomata depending on conditions
Network of tubes (xylem & phloem)	Transports water (xylem) and food (phloem)



Key Theme	Definition
Effect on the atmosphere	Photosynthesis helps keep: <ul style="list-style-type: none"> <li>• levels of oxygen high;</li> <li>• levels of carbon dioxide low.</li> </ul>
Chloroplasts	<ul style="list-style-type: none"> <li>• Photosynthesis takes place in the chloroplasts.</li> <li>• Chloroplasts contain chlorophyll which absorbs the energy transferred by light waves for photosynthesis</li> </ul>
Equation	<p>The equation for photosynthesis is:</p> $\text{carbon dioxide} + \text{water} \rightarrow \text{glucose} + \text{oxygen}$
Requirements for photosynthesis.	<p>These are the things that plants need for photosynthesis:</p> <ul style="list-style-type: none"> <li>• carbon dioxide – absorbed through their leaves;</li> <li>• Water - from the ground through their roots;</li> <li>• light (a source of energy) - from the Sun.</li> </ul>

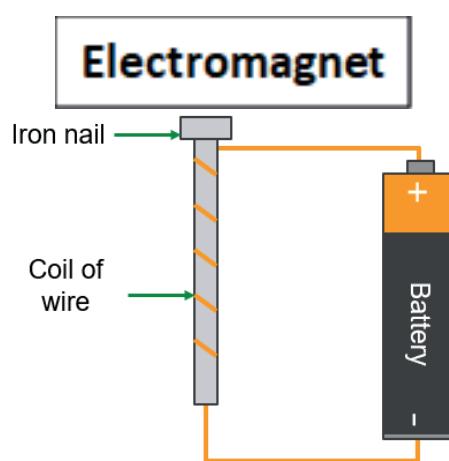
## Respiration vs Photosynthesis

Respiration	$\text{glucose} + \text{oxygen} \rightarrow \text{carbon dioxide} + \text{water}$
Photosynthesis	$\text{carbon dioxide} + \text{water} \rightarrow \text{glucose} + \text{oxygen}$
<b>Exchange of Substances</b>	
Water	<ul style="list-style-type: none"> <li>• Water is absorbed into the roots by a process called osmosis, which does not use energy.</li> <li>• It is transported through tubes (xylem) to the leaf;</li> <li>• The roots contain cells called a root hair cells:</li> </ul>
Minerals	<ul style="list-style-type: none"> <li>• Minerals are absorbed into the roots by a process called active transport, which uses energy.</li> </ul>
Carbon Dioxide	<ul style="list-style-type: none"> <li>• Enters leaf by diffusion through the stomata.</li> <li>• Guard cells control the size of the stomata</li> <li>• Stomata closes in hot, windy or dry conditions.</li> <li>• Spongy layer has gaps between cells;</li> <li>• Allows carbon dioxide to diffuse to other cells in the leaf;</li> <li>• Allows oxygen produced in photosynthesis diffuse out of the leaf.</li> </ul>

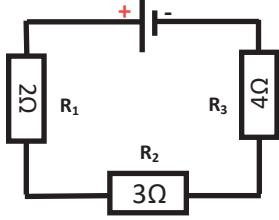
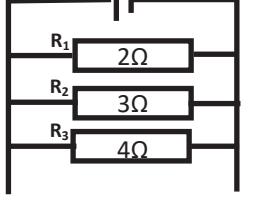
# Science—Electricity

Key terms	
Key words	Definition
<b>Current</b>	The flow of electrical charge per second measured in Amps (A) using an Ammeter
<b>Electron</b>	Subatomic particle, with a negative charge
<b>Potential difference</b>	Tells us the amount of energy being carried by the electrons and the amount of energy they are transferring to the components it is measured in volts (V) using a Voltmeter
<b>Resistance</b>	Resistance opposes the flow of current in a circuit. Measure in Ohms ( $\Omega$ )
<b>Factors affecting resistance in a wire</b>	<ul style="list-style-type: none"> <li>as the length increases the resistance increases</li> <li>as the cross-sectional area increases, resistance decreases</li> <li>as the temperature increases the resistance increases</li> <li>the material of the component effects the resistance</li> </ul>
<b>Conductor</b>	An electrical conductor is a material which allows electrons to flow through it easily. It has a low resistance
<b>Insulator</b>	Material that does not allow electrons to flow through it easily. It has a high resistance
<b>Series circuit</b>	Circuit with only one branch
<b>Parallel circuit</b>	Circuit with multiple branches

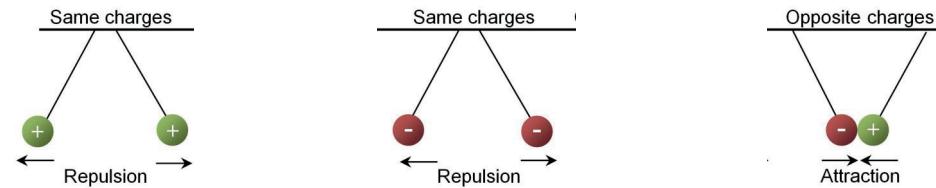
Electromagnets	
Solenoid	A coil of wire carrying an electric current to create a magnetic field
Electromagnet	A magnet made by wrapping a coil of wire around an iron bar and
<b>Increasing the strength of an electromagnet</b>	<ul style="list-style-type: none"> <li>use an iron core</li> <li>increase the number of coils</li> <li>increase the current</li> </ul>



Symbol	Component
— —	Cell
— --- —	Battery
—V—	Voltmeter
—A—	Ammeter
—○—	Lamp
—Ω—	Resistor
— —	Switch
— —	Variable Resistor

Components connected in...	Current	Potential Difference	Resistance
<b>Series</b> - one branch	In a series circuit, the current is the <b>same</b> in all parts of the circuit	The potential difference is <b>shared</b> between the components	The <b>more resistors</b> , the <b>greater</b> the resistance. The total resistance of two components is the sum of the resistance of each component. $R_{total} = R_1 + R_2 + R_3$
			
<b>Parallel</b> - multiple branches	The current in a parallel circuit is <b>shared</b> between the branches	In a parallel circuit, the potential difference across each branch is the <b>same</b> as the potential difference of the cells	Total resistance is less than the smallest resistance of $R_1$ and $R_2$ and $R_3$
			

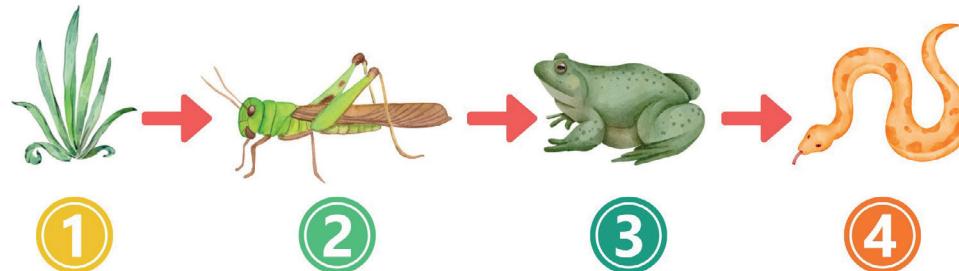
Static Electricity	
Static electricity	Static electricity is caused when electrons are transferred from one insulator to another by friction
Static charges	<ul style="list-style-type: none"> <li>If an object gains electrons, it becomes negatively charged</li> <li>If an object loses electrons, it becomes positively charged</li> <li>Opposite charges attract, like charges repel</li> </ul>



Equations	
Potential difference (V) = current (A) x resistance ( $\Omega$ ) (V = IR)	
Power (W) = current (A) x potential difference (V) (P = IV)	

# Science - Interactions and Interdependence

Food Chains		
Number on diagram	Part of food chain	Definition
1	<b>Producer</b>	The start of a food chain, usually a plant, they produce their own food via photosynthesis
2	<b>Primary consumer</b>	The first consumer in the food chain; they feed on the producer
3	<b>Secondary consumer</b>	The second consumer in the food chain; they feed on the primary consumer
4	<b>Tertiary consumer</b>	The third consumer in the food chain. This consumer does not usually have any predators and is the end of the food chain



Classification	
Key term	Mnemonic
Kingdom	Keep
Phylum	Ponds
Class	Clean
Order	Or
Family	Frogs
Genus	Get
Species	Sick
Binomial name	The scientific name given to a species. It is always the genus and then the species written in italics, with the genus capitalised. E.g. <i>Panthera leo</i>

Key Terms	
<b>Environment</b>	All the conditions surrounding a living organism e.g. water, soil, temperature
<b>Habitat</b>	The place in which an organism lives
<b>Population</b>	Total number of a single species living in the same habitat
<b>Community</b>	The populations of all the different organisms living in the same habitat
<b>Ecosystem</b>	The interaction between the community and the habitat in which organisms live
<b>Interdependence</b>	Within a community each species depends on other species for food, shelter, pollination, seed dispersal etc
<b>Photosynthesis</b>	The process plants use to produce food using sunlight (carbon dioxide + water → glucose + oxygen)
<b>Herbivore</b>	An organism which only eats plants
<b>Carnivore</b>	An organism which only eats other animals
<b>Omnivore</b>	An organism with a diet made up of both plants and animals
<b>Predator</b>	An animal that hunts, kills and eats other animals for food
<b>Prey</b>	Organisms that predators hunt and kill for food
<b>Extinction</b>	When there are no more individuals of a certain species left alive
<b>Species</b>	An organism which is able to breed to produce fertile offspring
<b>Variation</b>	The differences between organisms of the same species e.g. environmental or inherited
<b>Adaptation</b>	Organisms have features that enable them to survive in the conditions in which they normally live
<b>Competition</b>	Plants compete for light, space, water and mineral ions. Animals compete for food, mates and territory
<b>Bioaccumulation</b>	The gradual build up over time of a chemical in a food chain
<b>Pesticides</b>	These are not broken down in the food chain and accumulate. The further up the food chain, the higher the concentration of toxic chemicals. Examples are mercury and DDT
<b>Quadrat</b>	A grid used during sampling to count the number of organisms in an area

# Science - Interactions and Interdependence

Biodiversity	
<b>Biodiversity</b>	The variety of all the different species of organisms living in the same ecosystem
<b>Factors that reduce biodiversity</b>	Destruction of habitats, global warming, waste and deforestation.
<b>Maintaining biodiversity</b>	Breeding programmes, protection and regeneration of habitats, keeping hedgerows in farmers' fields, reduction of deforestation and carbon dioxide emissions, recycling rather than using landfill

Natural Selection	
<b>Charles Darwin</b>	Wrote the theory of natural selection in his book 'On the Origin of Species' in 1859.
<b>Natural selection</b>	The idea of 'survival of the fittest' where the organisms best adapted for survival in their habitat will survive, reproduce and pass on the successful genes to offspring.
<b>Evolution</b>	The change of inherited characteristics within a population over time through natural selection, which may result in the formation of a new species.

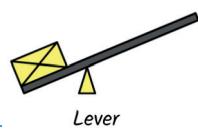
Extinction	
Factor	Reason
<b>New disease introduced</b>	A species is not adapted to fight off a new disease.
<b>New predators</b>	A species is not adapted to avoid being preyed upon.
<b>Change in the physical environment</b>	A species is not adapted to the change in its environment e.g. loss of shelter or food.
<b>New species introduced</b>	A species is not able to compete for resources against another species.
<b>Habitat destruction</b>	Deforestation for agriculture and urbanisation

Key terms	
<b>Decay</b>	the state or process of rotting or decomposition.
<b>Microorganism</b>	A microscopic organism
<b>Biomass</b>	A measure of the total mass of living material in each trophic level
<b>Food web</b>	The interconnection of food chains and a graphical representation of what-eats-what in an ecological community.

# Science - Forces in Action

## Simple Machines

Simple machines are ways to multiply a force, so that more work can be done with a lower input force. See examples of simple machines below.



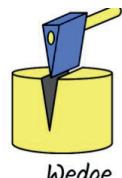
Lever

A board resting on a pivot, or fulcrum. A force is applied to one side, and is multiplied on the other side. Examples include a see-saw.



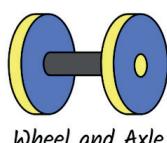
Inclined Plane

Used to raise heavy objects by reducing the force needed to lift the object. Examples include ramps and slides.



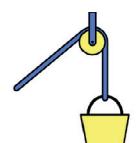
Wedge

An object that tapers from a wide to a narrow edge used to change the direction of the force from downwards to outwards. Examples include axes and chisels.



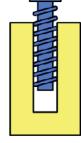
Wheel and Axle

An object which multiplies the force using a round, rotating wheel around a pole, or axle. Examples include bicycle wheels and rolling pins.



Pulley

A pulley is a rope which passes over a wheel, and allows the user to both multiply a force and change its direction to heavy objects can be lifted up. Examples include elevators and zip lines.



Screw

Can be described as an inclined plan wound around a cylinder, this can change the size and direction of a force. Examples include lids on jars and corkscrews.

## Moments

**Moment** The turning effect of a force around a pivot. Measured in Ncm or Nm.

**Balanced moment** When the clockwise moment is equal to the anti-clockwise moment. The moments are balanced.

**Unbalanced moment** The clockwise and anticlockwise moment are not equal. There will be motion in the direction of the larger moment.

**What affects the size of moments**

- Distance—the greater the distance between the force and the pivot, the greater the moment
- Force applied—the greater the force applied, the greater the moment

**Equation**  $\text{Moment (Nm)} = \text{Force (N)} \times \text{perpendicular distance (m)}$

## Maths skills

**Unit conversions** 100cm in 1m  
1000m in 1km

**Work done equation**  $\text{Work done (J)} = \text{Force (N)} \times \text{distance (m)}$

**Hooke's Law**  $\text{Force (N)} = \text{spring constant (N/m)} \times \text{extension (m)}$

**Moments**  $\text{Moment (Nm)} = \text{Force (N)} \times \text{distance (m)}$

**Equation**  $\text{Moment (Nm)} = \text{Force (N)} \times \text{perpendicular distance (m)}$

## Hooke's Law

**Hooke's Law** Extension of an elastic object is directly proportional to the force applied

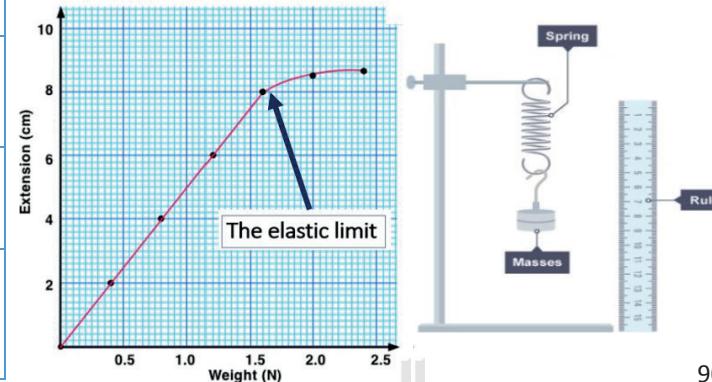
**Directly proportional** If one value is increases, the other value also increases at the same rate. E.g. if one value doubles, the other value also doubles.

**Practical method (diagram below shows set-up)**

- hang the spring from a stand and clamp;
- measure its length with a ruler;
- hang a mass from the spring and measure the new length of the spring;
- Work out: extension = new length – original length;
- keep adding more masses, measuring the new length each time;

**Elastic deformation** When a force is applied to an object and it changes shape, but returns to its original shape when the force is removed. Can be either extension or compression.

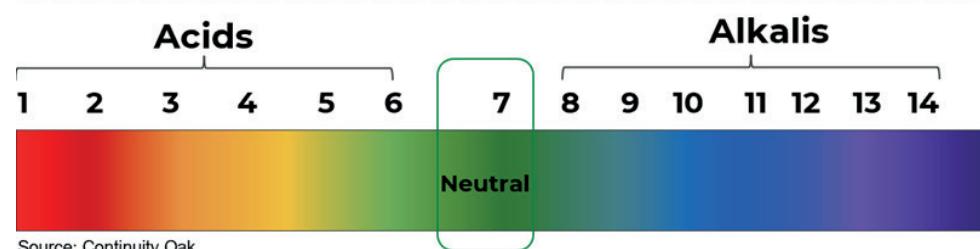
**Elastic limit** When too much force is applied and the object will not return to its original shape.



# Science - Acids and Alkalis

Chemical reactions	
Term	Definition
Reactant	Chemicals at the start of a reaction
Product	Chemicals at the end of a reaction
Chemical reactions	A new substance is formed. Difficult to reverse the reaction.
Physical reactions	Usually a state change or mixture, relatively easy to reverse the reaction or separate the mixture.
Evidence of chemical reaction	<ul style="list-style-type: none"> <li>Change of colour</li> <li>Change of odour</li> <li>Light and/or heat given off</li> <li>Formation of gases, often appearing as bubbles or fizzing in liquids</li> <li>Formation of a precipitate (insoluble particles)</li> <li>The change is difficult or impossible to reverse</li> </ul>
Conservation of mass	Mass cannot be created or destroyed. The mass of the products is equal to the mass of the reactants.

Acids and alkalis	
Term	Definition
Acid	Contain H <sup>+</sup> ions, and have a pH of less than 7
Alkali	A soluble base that contains OH <sup>-</sup> ions, have a pH of more than 7
Base	A substance that will neutralize an acid.
pH scale	A scale which measures how acidic a substance is based on the concentration of H <sup>+</sup> ions. It goes from 1 to 14.
Indicator	A substance that changes colour in an acid or an alkali
Litmus indicator	Turns red in an acid, turns blue in an alkali.
Universal indicator	Tells us the pH of a substance using the pH scale depending on the colour it turns. Red/orange in an acid, green in neutral, blue/purple in an alkali



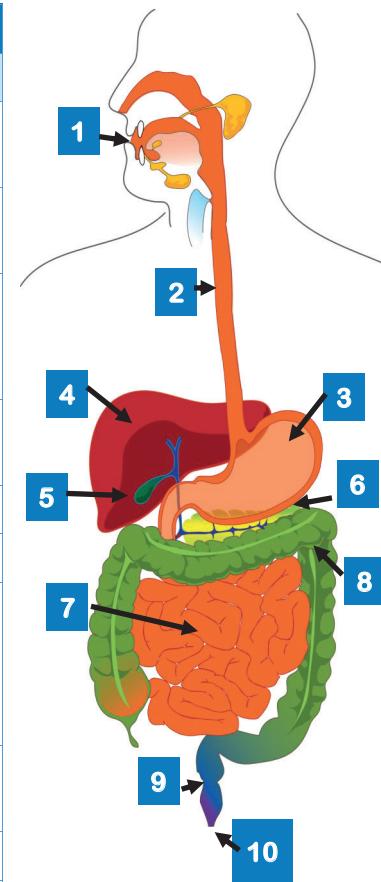
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Chemical equations	
Term	Definition
Metals and acids	Metal + acid → metal salt + hydrogen
Acid and alkali	Acid + alkali → salt + water
Oxidation	Metal + oxygen → metal oxide

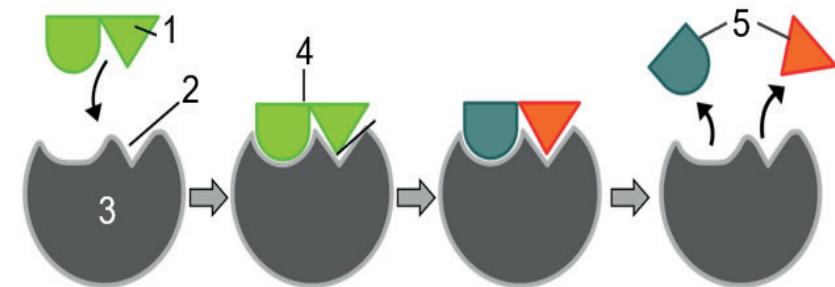
Titration	
Term	Definition
Titration	A method of identifying the exact volume of acid needed to neutralise an alkali. Can calculate very precise measurements.
Method	<ol style="list-style-type: none"> <li>Fill burette with acid to the 100cm<sup>3</sup> line</li> <li>Add a known volume and known concentration of alkali to a conical flask below the burette.</li> <li>Add a couple of drop of indicator to the conical flask (usually use phenolphthalein)</li> <li>Open the tap on the burette and allow acid to gently pour in, swirling the conical flask until the solution turns colourless.</li> <li>Repeat again, this time stopping the flow of acid before the measurement recorded before, and drop the acid in slowly until the colour change is observed.</li> <li>Repeat 3 times and calculate the mean volume of acid added.</li> </ol>

# Science—Digestion and Nutrition

Parts of the digestive system		
#	Organ	Function
1	Mouth	Mechanical digestion by chewing. Saliva from salivary
2	Oesophagus	Muscular tube which moves ingested food to the stomach
3	Stomach	Mechanical digestion by churning. Cells in the lining of the stomach release acid to kill bacteria and produce the enzyme protease.
4	Liver	Produces bile (neutralises stomach acid and emulsifies
5	Gall bladder	Stores bile.
6	Pancreas	Produces and releases digestive enzymes.
7	Small intestine	Where large molecules are broken down into small soluble molecules that can diffuse into the blood. It has a large surface area, good blood supply and thin membranes so
8	Large	Where water is absorbed into the blood stream.
9	Rectum	Where faeces is stored.
10	Anus	Ring of muscle allowing faeces to exit the body.



Digestive enzymes				
Enzyme	Site of production	Site of action	Substrate	Product
Carbohydrase - e.g. amylase	Salivary glands, pancreas and small intestine wall	Mouth, small intestine	Carbohydrates	Simple sugars
Protease	Stomach, pancreas, small intestine wall	Stomach, small intestine	Proteins	Amino acids
Lipase	Pancreas, small intestine wall	Small intestine	Lipids	Glycerol and fatty acids



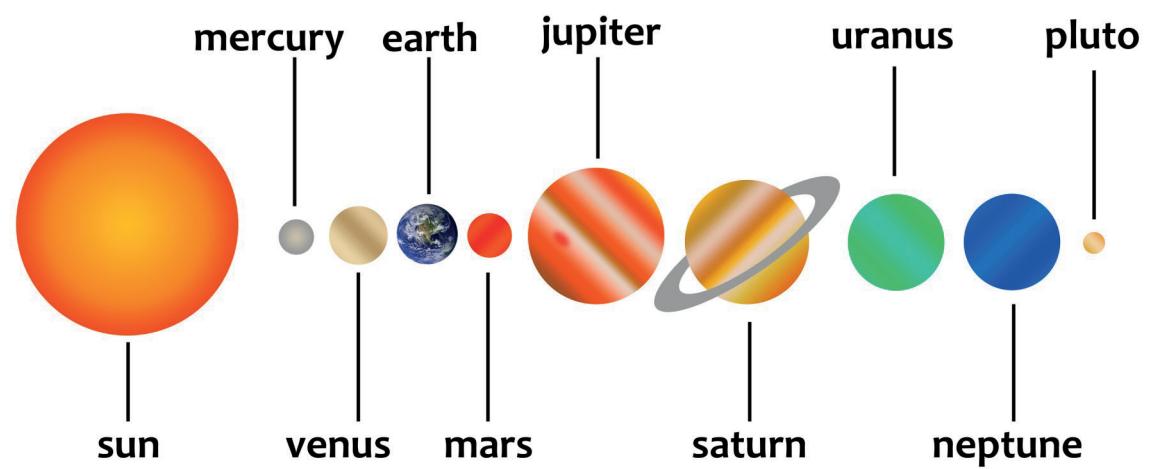
Nutrient groups	
Nutrient	Function
Carbohydrate	Quick release energy
Protein	Growth and repair
Fat	Energy store, insulation and protection of organs
Vitamins and minerals	Maintain health e.g. calcium for strong teeth and bones
Fibre	Helps digestive system run smoothly, by helping the food to pass through the gut
Water	Needed for cells and body fluids

Lock and Key model	
Number	Organ
1	Substrate
2	Active site
3	Enzyme
4	Enzyme-substrate complex
5	Products

Chemical Food Tests		
Nutrient	Chemical test	Positive result
Starch	Iodine solution	Iodine solution turns from orange/brown to blue black
Sugar	Benedict's solution & heat	Benedict's solution turns from: blue to green /yellow/brick red
Fat	Ethanol & shake, then water & shake	Ethanol turns cloudy white
Protein	Biuret reagent	Biuret reagent changes from blue to purple

Earth and Gravity	
Keyword	Definition
Gravity	A non-contact force that pulls objects towards the center of a planet or star.
Orbit	The curved path of a celestial object around a star, planet, or moon.
Seasons	Periods of the year with different weather patterns caused by Earth's tilt.
Day Length	The duration of daylight in a 24-hour period, varying with Earth's tilt.

The Solar System	
Keyword	Definition
Planet	A celestial body orbiting a star, massive enough to be rounded by its gravity.
Comet	A small icy body that releases gas or dust and orbits the Sun.
Asteroid	A rocky object orbiting the Sun, mostly found in the asteroid belt.
Gravitational Field Strength	The force of gravity on a mass at a specific location.



The Universe	
Keyword	Definition
Light Year	The distance light travels in one year (about 9.46 trillion km).
Big Bang Theory	The leading explanation of how the universe began from a singularity.
Universe	All of space and time, including all matter and energy.
Cosmic Background Radiation	Faint radiation left over from the early stages of the universe.

Stars and Galaxies	
Keyword	Definition
Star	A luminous ball of gas held together by gravity, undergoing nuclear fusion.
Galaxy	A massive system of stars, gas, and dust bound together by gravity.
Nuclear Fusion	The process that powers stars, where nuclei combine to form heavier elements.

