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Knowledge Organiser

Year 7 - 2026/27

Student Name: _____

Table of Contents

Subject <i>(Tick Once Studied)</i>	Page	Notes	Subject <i>(Tick Once Studied)</i>	Page	Notes
Art	1-3		French	49-52	
☐ Autumn Term Formal Elements	1		☐ Unit 1 Quelle est la date de ton anniversaire?	49	
☐ Spring Term – The Art Timeline	2		☐ Unit 2 Tu es comment?	50	
☐ Summer Term	3		☐ Unit 3 Quelles matières as-tu?	51	
Computer Science	4-7		☐ Unit 4 Où est ta maison?	52	
☐ Introduction to Computer Systems	4		Spanish	53-56	
☐ Programming (Scratch & Python)	5		☐ Unit 1 ¿Cuándo es tu cumpleaños?	53	
☐ Hardware and Components	6		☐ Unit 2 ¿Qué te gusta hacer?	54	
☐ Online Safety	7		☐ Unit 3 ¿Qué estudias?	55	
Design and Technology	8-10		☐ Unit 4 ¿Qué hay en tu ciudad?	56	
☐ Food – Nutrition	8		Dance	57	
☐ Graphics – Mechanical Card	9		Drama	58-60	
☐ Textiles – Embellished Seascapes	10		☐ Skills	58	
English	11-16		☐ Types of Staging	59	
☐ Jane Eyre	11		☐ Skills	60	
☐ Short Stories	12		Music	61-62	
☐ Poetry	13		☐ The elements, notation and performance	61	
☐ Creative Writing	14		☐ Melody, hooks, riffs and instruments of the orchestra	62	
☐ Creative Reading	15		Physical Education	63-67	
☐ Rhetoric	16		Science	68-85	
Religious Studies	17-20		☐ Particles, substances and mixtures	68-69	
☐ Religion Locally and Nationally	17		☐ Separating mixtures	70	
☐ The Origins of the Abrahamic Faiths	18		☐ Fundamental in physics (forces)	71	
☐ Judaism	19		☐ Fundamental in physics (energy)	72	
☐ Christianity	20		☐ Cells and Organisation	73	
Geography	21-27		☐ Chemical Changes	74-75	
☐ Introduction to Geographical Skills	21		☐ Organ systems	76-78	
☐ Introduction to Global Climate	22		☐ Light	79-80	
☐ Development	23-24		☐ Sound	81	
☐ Rivers	25-26		☐ Materials	82-83	
☐ World of Work	27		☐ Life cycles	84-85	
History	28-43				
☐ Empires East and West	28-30				
☐ Norman Conquest	31-34				
☐ Medieval Religion	35-37				
☐ Challenges to Medieval Monarchs	38-41				
☐ Medieval Mali	42-43				
Mathematics	44-48				
☐ Number	44				
☐ Algebra	45				
☐ Statistics	46				
☐ Geometry and Measure	47-48				



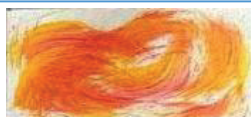
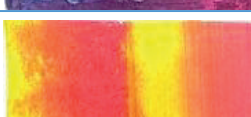
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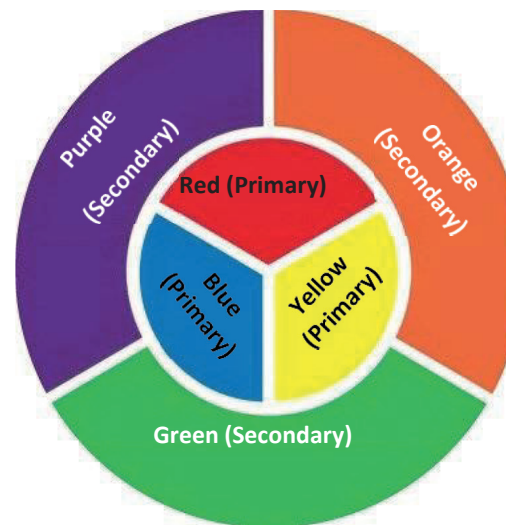
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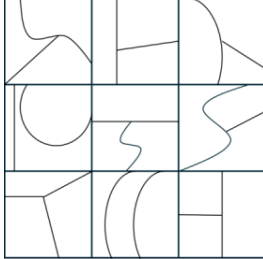
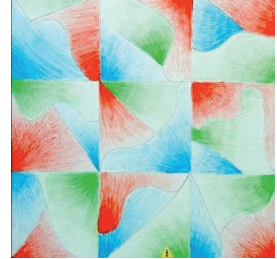
Art

Art Year 7 Autumn Term Formal Elements

Painting Techniques		
Drip and Drag	Dripping paint onto paper and using the bottom of the brush to drag the paint into a design	
Wet Brushing	Using a wet brush or wet background to apply paint to	
Dry Brushing	Using a dry textured brush to paint	
Sgraffito	Scratching through a layer of paint to reveal the surface underneath	
Sponging	Using a sponge to apply paint to a background	
Blending	Creating a smooth blend from light to dark	
Wash	A lighter layer of colour created by mixing paint with water	

The Colour Wheel		Brush Care	
The Colour Wheel	A circle with different coloured sections showing the relationship between colours	Washing your brush	To avoid damage to your brush when cleaning move the brush from side to side
Primary Colours	A set of colours which all other colours are made from	Controlling your brush	Hold your brush near the bristle/metal end for better control when painting
Secondary Colours	Made by mixing two primary colours together	Supporting your hand	When painting use the table to support your hand.



Skill Building tasks	
	Creating a gradient from dark to light with a pencil
	Create a gradient of harmonious colours
	
Create a 15x15 grid and draw in some different curved/straight lines. Once completed add gradients of coloured pencil in each section of the grid	

Tint and Tones		
Tints	A lighter tint made by adding a colour to white	
Tones	A darker tone by varying the pressure of your pencil	
Gradient	A smooth transition of one colour or value to another	
Texture	Describes how something looks and feels. E.g. scratchy, smooth.	

Pencil Information	
HB	Stands for Hard Black
Lighter tones	Created by applying less pressure to the pencil and holding it further from the lead
Darker tones	Created by applying more pressure to the pencil and holding the pencil closer to the lead
In art we use B pencils (HB, B , 2B, 3B, 4B, 5B, 6B, 7B, 8B)	

Pencil Information

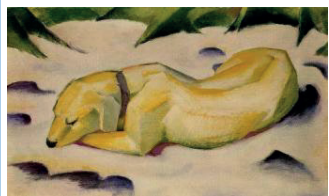
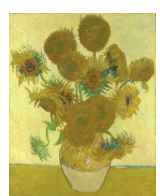
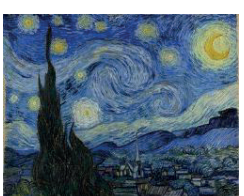
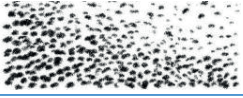
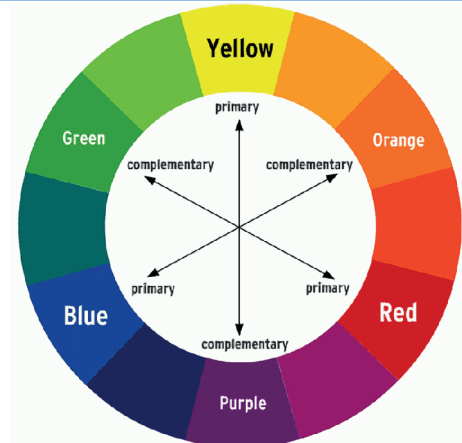
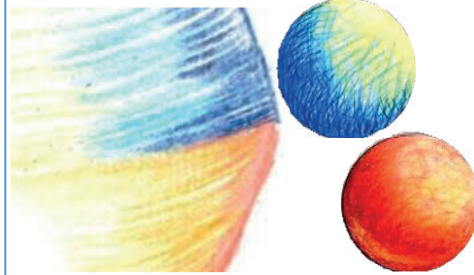


5H 6B 4H 3H 2H H HB B 2B 3B 4B 5B 6B

The higher the number the lighter/harder the pencil is

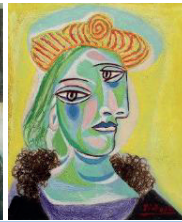
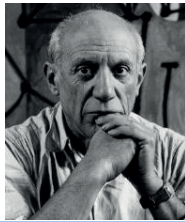
The higher the number the Darker/softer the pencil is

Art Year 7 Spring Term –TheArt Timeline

Mark Making Techniques		Franz Marc		Vincent Van Gogh	
Hatching					
Cross hatching					
Directional lines		Date of birth	8th February 1880 (Germany)	Date of birth	30th March 1853 (Netherlands)
Stippling/Pointillism		Date of death	4th March 1916 (France) (Aged 36)	Date of death	29th July 1890 (France) (Aged 37)
Colour Theory		Nationality	Germany	Nationality	Dutch
		Materials	Oil Paint	Materials	Oil Paint
Complementary colours Colours that are opposite on the colour wheel		Education	Studied Fine Art at the Academy of Arts Munich	Education	Self taught
		Art Movement	Expressionist	Art Movement	Post Impressionism
Harmonious colours Colours that are adjacent on the colour wheel		Relationships	Married twice	Relationships	Never married, Lived with his brother and his brother's wife
		Inspiration	Animals, fauvism and impressionism art movements as well as artist such as Van Gogh and Robert Delauney	Inspiration	Everyday objects people and places
		Context, Concepts and Characteristic	Helped invent camouflage while in the army during WW1 to hide military equipment Died in the battle of Verdun Fought in WW1 Exclusively painted animals	Context, Concepts and Characteristics	Was only an artist for the last 10 years of his life Suffered with his mental health and at the age of 37 he shot himself in the chest and subsequently died He created around 2,100 artworks most of which were created in the last 3 years of his life He cut off a portion of his left ear after a heated argument with his friend Gauguin
		Key Words		Skill Building tasks	
		Expressive	Effectively conveying thought or feeling. Can be expressed through colour or mark making. For example, Blue = sadness, yellow = happiness. Straight /jagged		
		Adjacent	Next to or adjoining something else.	Practice drawing the sunflower as lightly as possible with a pencil	
		Dynamic	A sense of movement		
		Art Movement	A period in history characterized by a shared artistic style, philosophy, or set of ideas adopted by a group of artists.		
		Camouflage	A technique Franz Marc helped create while in the army during WW1	Draw another sunflower lightly. Then practice layering harmonious colours to create light and shadow on the flower	

Art Year 7 Summer Term

Pablo Picasso



Date of birth	25th October 1881 (Spain)
Date of death	8th April 1973 (France) (aged 91)
Nationality	Spanish
Materials	Sculptor, Painter, Invented collage
Education	Studied under his art teacher father, Studied at the Barcelona school of fine arts at 13 then later studied at The Real Academia de San Fernando
Art Movement	Cubism, Surrealism and Post impressionism
Relationships	Married twice
Inspiration	Inspired by other cultures and artists around the world
Context, Concepts and Characteristic	Beloved that only children could be truly expressive
	Co founded the cubist art movement
	Was 'hot housed' by his art teacher father

Key Words

Abstract	Completely abstract
Art that does not attempt to represent external reality.	Completely abstract art does not resemble anything at all.

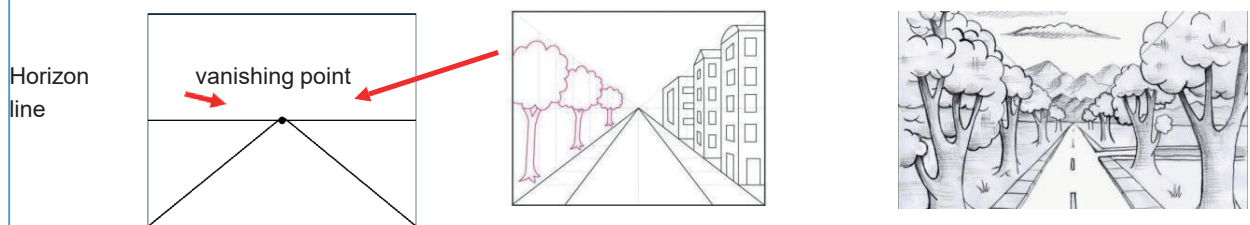


Key Words

Collage	A piece of art made by sticking various different materials such as photographs and pieces of paper or fabric on to a backing.
Hot Housed	To educate or teach to a high level at an earlier age than is usual
Still Life Drawing	Art that represents inanimate objects like fruit, cut flowers, utensils, and other everyday items

Perspective drawing

A technique used in visual arts to create the illusion of depth and space in a two-dimensional image by representing three-dimensional objects or scenes

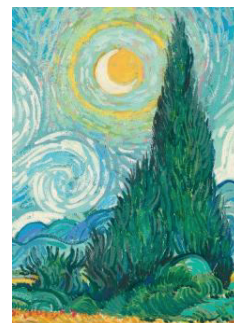


Perspective	Representing three-dimensional objects on a two-dimensional surface so as to give the right impression of their height, width, depth, and position in relation to each other.
Foreground	The part of a view that is nearest to the observer, especially in a picture or photograph
Background	The part of the picture, scene or design that forms a setting for the main figures or objects, or appears furthest
Horizon line	Represents the viewer's eye level
Vanishing point	The point on the horizon line where parallel lines appear to converge, creating the illusion of depth and distance
2D	Two dimensional
3D	Three dimensional

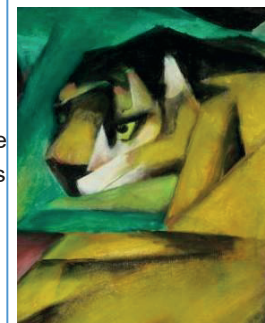
Skill Building tasks



Draw a flower using the support in you KO, use only mark making techniques to add colour.



Draw a small box. Lightly sketch out the section of Van Goghs painting to the left. Add colour by using yellow, blue and green as well as mark making techniques



Draw a box. Draw the section of Franz Marcs painting as accurately as you can. Press lightly with your pencil



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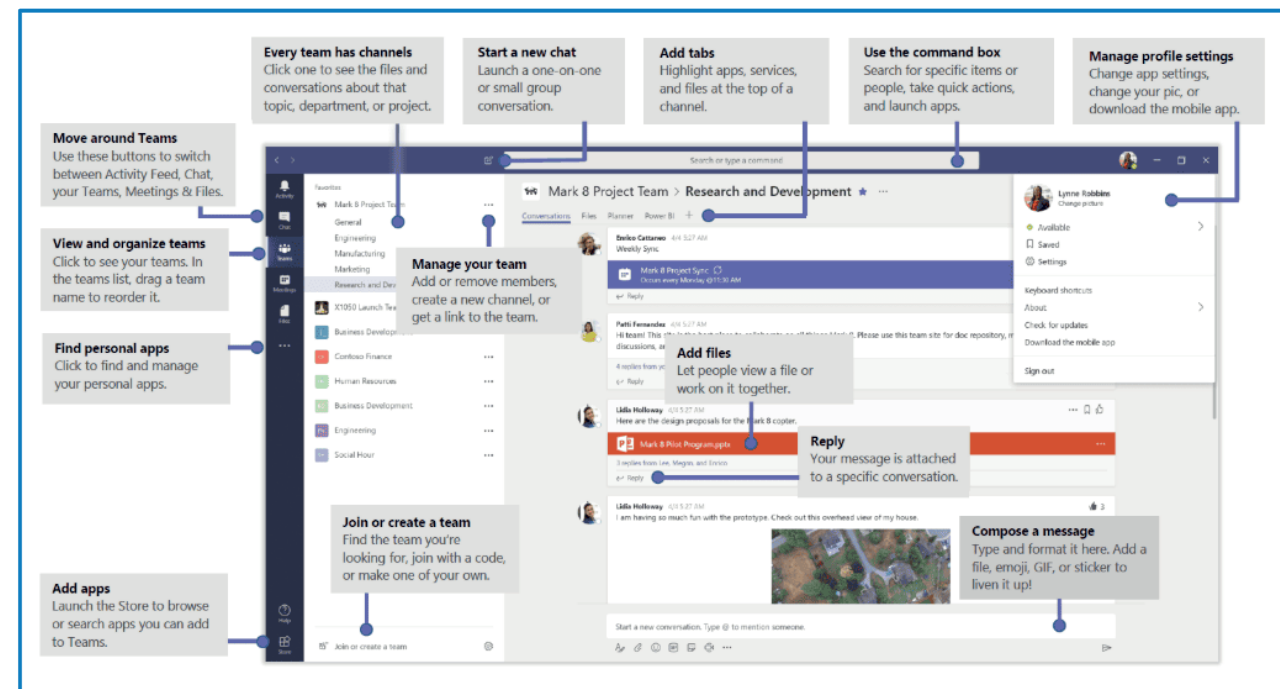
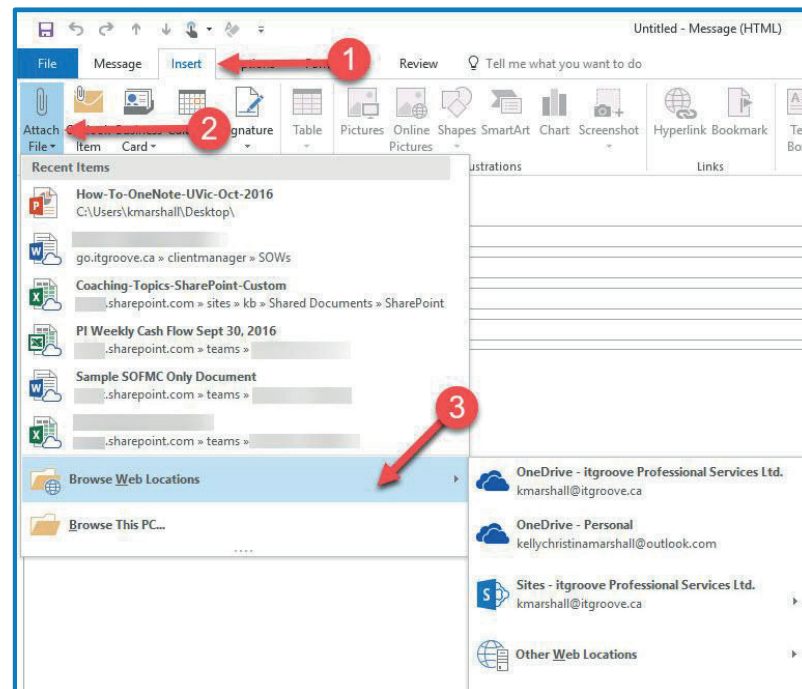
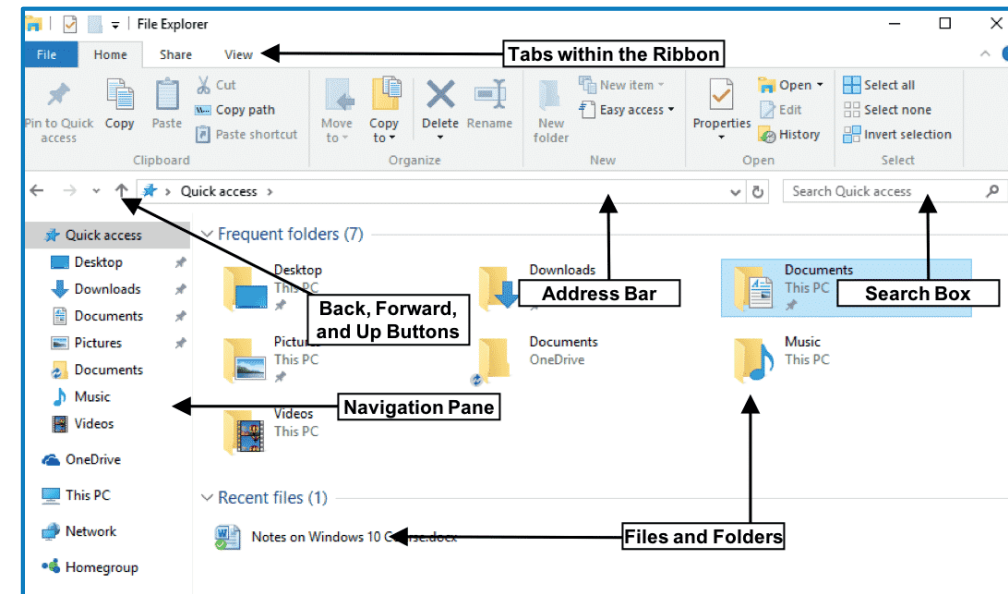
Computer Science

Computer Science – Introduction to Computer Systems

Key Vocabulary Terms

Autumn 1

Class Notebook	A digital workspace within Microsoft Teams that allows teachers and students to collaborate, take notes, and organise class materials.
Channel	A section within a Microsoft Teams group used for organising discussions, assignments, and resources.
File Explorer	A tool used to navigate, organise, and manage files stored on a computer.
OneDrive	A cloud-based storage service that allows users to save, access, and share files online.
Email	A method of sending digital messages, documents, and other files over the internet.
Attachment	A file sent alongside an email, such as a document, image, or presentation.



Computer Science – Programming (Scratch & Python)

Key Vocabulary Terms

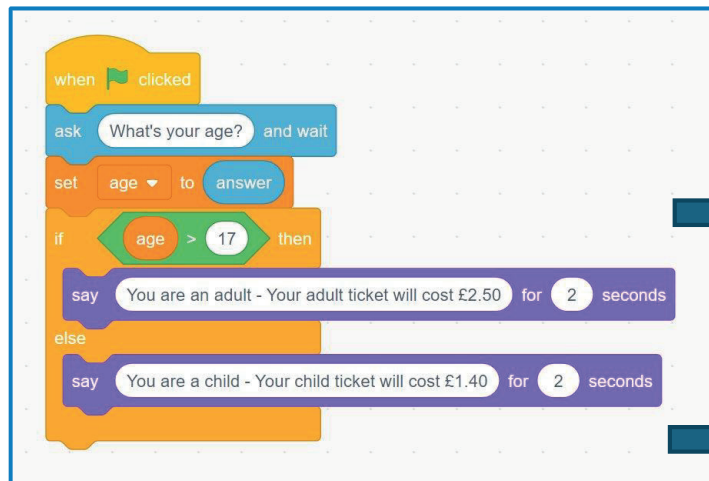
Autumn 2

Sprite	A graphical object in Scratch that can be programmed to perform actions, such as moving or interacting with other sprites.
Block	A visual programming element in Scratch that represents a command or instruction, which can be stacked together to create a program.
Variable	A container used to store and manipulate data values, such as numbers or text, in a Scratch program.
Data	Information that is processed or stored by a program, such as numbers, text, or other types of input and output.
Logic	A type of programming used to control decision-making in programs, often involving conditions or comparisons.
Boolean	A data type in programming that represents true or false values, used in logic statements to determine program flow.

Key Vocabulary Terms

Spring 1

Python	A high-level, text-based programming language known for its simplicity and readability, commonly used in various programming applications.
Syntax	The set of rules that define the structure of statements in a programming language, determining how code must be written for it to execute properly.
Output	The result produced by a program after it processes input data; typically displayed on the screen or saved in a file.
Turtle	A Python library used for creating graphics and visual outputs by controlling a cursor, called a turtle, that can move around the screen and draw.
Data Type	A classification of data, such as integers, strings, or floats, that defines what type of value a variable can hold and how it can be used in operations.
Input	Data provided to a program by the user, typically entered through the keyboard, which the program processes to produce output.



Selection in Scratch (on the left)

Selection in Python (on the right)

```
age = int(input("What's your age? "))
if age > 17:
    print("You are an adult - Your adult ticket will cost £2.50")
else:
    print("You are a child - Your child ticket will cost £1.40")
```

Computer Science – Hardware and Components

Key Vocabulary Terms		Key Vocabulary Terms	
Spring 2		Summer 1	
Hardware	The physical parts of a computer system that you can touch, such as the keyboard, monitor, mouse, motherboard, or printer.	CPU	The primary component of a computer responsible for executing instructions and processing data.
I.P.O	Stands for Input, Process, Output. It describes how a computer receives data, processes it, and then produces information.	Clock	The timing signal that controls how quickly the CPU carries out instructions. A faster clock speed usually means more instructions can be processed each second.
Input Device	A piece of hardware used to provide data or control signals to a computer (e.g., keyboard, mouse).	Cache	A small amount of very fast memory inside or close to the CPU that stores frequently used data and instructions.
Output Device	A hardware device used to display, project, or transmit data from a computer (e.g., monitor, printer).	Cores	The processing units inside a CPU. More cores can allow a computer to work on more tasks at the same time.
Storage Device	A piece of hardware used to save data, files, and programs so they can be used again later, such as a hard drive, SSD, or USB stick.	RAM	A type of volatile memory used to store data that is actively being used or processed by the computer.
Components	The parts inside or connected to a computer that help it work, such as the CPU, RAM, motherboard, and storage devices.	Motherboard	The main circuit board of a computer, connecting all the hardware components and allowing them to communicate with each other.

Input, output or storage

Hardware	Input	Output	Storage
Keyboard/Mouse	✓		
Monitor/Projector		✓	
Speaker/Headphones		✓	
CD/DVD/Blu-ray			✓
Headset	✓	✓	

Computer Science – Online Safety

Key Vocabulary Terms	
Summer 2	
Malware	Malicious software designed to harm, exploit, or compromise a computer or network.
Phishing	A type of cyberattack where fraudulent emails or websites are used to trick users into revealing personal information.
Data protection	Laws and practices that safeguard personal data and ensure it is used responsibly and securely.
Copyright	Legal protection granted to the creators of original works, preventing unauthorised use or reproduction of their creations.
Firewall	A security system that monitors and controls incoming and outgoing network traffic, helping to prevent unauthorised access to or from a private network.
Anti-virus	Software designed to detect, prevent, and remove malicious software (malware) from a computer system.

Types of Malware		
Virus	A harmful program that attaches itself to files or programs and spreads when they are opened or run.	
Worm	A harmful program that copies itself and spreads across networks without needing the user to open a file.	
Ransomware	Malware that locks or encrypts your files and demands money to get them back.	
Spyware	Malware that secretly collects information about you, such as passwords, browsing history, or personal details.	
Adware	Software that shows unwanted adverts, often through pop-ups, and may track what you do online.	

The three computer related laws		
Law	What it protects	Example of breaking the law
Data Protection Act	Protects people’s personal data , such as names, addresses, phone numbers, medical information, usernames, passwords, or school records. Organisations must keep this data safe and use it fairly.	A school worker emails a spreadsheet of student names, addresses, and medical details to the wrong person.
Computer Misuse Act	Protects computers, networks, accounts, and data from unauthorised access , hacking, and damage.	A student guesses another student’s password and logs into their school account without permission.
Copyright Law	Protects creative work, such as music, films, images, writing, games, videos, and software. The creator controls how their work is copied or used.	A student downloads an image from Google and uses it in a poster without permission or credit.



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Design and Technology

Design and Technology (Food) – Nutrition

Hygiene and safety	
Hazard	Anything that could cause harm
Food Poisoning	Illness caused by bacteria in food.
Bacteria	Single celled organisms, some can cause food poisoning
Cross Contamination	The spread of bacteria from one place to another
Food Hygiene	Food hygiene is the practice of handling, preparing, and storing food in a way that prevents foodborne illnesses
Personal Hygiene	Personal hygiene is practices such as washing your hands before handling food, never coughing, or sneezing over food, or where food is being prepared or stored.
Safety	This means working in a way to prevent any accidents or injuries such as tying back long hair, putting bags away, using the right equipment for the job

Practical skills	
Claw hold	Your little finger and thumb hold the food down and the knife briefly runs over your knuckles, keeping your finger tips safe from sharp blades.
Bridge hold	The food is held by the fingers and thumb creating a bridge. The knife should go through the bridge to cut the food.
Rubbing in	Using the fingertips to rub a solid fat such as butter or margarine into flour to create a fine breadcrumb texture
Boiling	The method of cooking food in boiling water. The boiling point of water is typically considered to be 100 °C
Baking	The method of preparing food that uses dry heat
Marinading	A mixture of oil, spices, or similar ingredients, in which food is soaked to flavour or soften it.

Chopping boards	
Red	Raw meat and poultry
Blue	Raw fish
Green	Salad vegetables and fruit
Brown	Root vegetables
Yellow	Cooked meat, poultry and fish
White	Dairy and bakery products



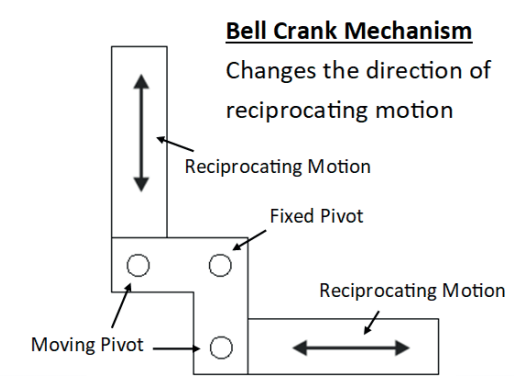
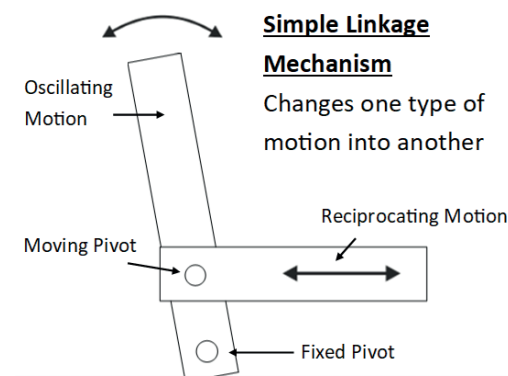
Eatwell guide food groups	
Yellow	Potatoes, rice, bread, pasta, and other starchy carbohydrates
Blue	Dairy and alternatives
Green	Fruits and vegetables
Pink	Beans, pulses, fish, eggs, meat and other proteins
Purple	Oils and spreads

Design and Technology (Graphics) – Mechanical Card

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

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

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

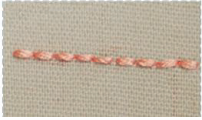


Design and Technology (Textiles) – Embellished Seascapes

Key Terminology

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

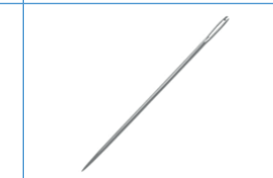
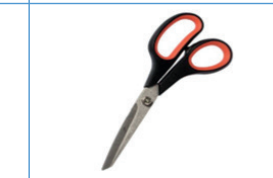
Francesca Colussi Cramer



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



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English

English – Jane Eyre

Chanting – Key Subject Terminology

Term	Definition
Pious (adjective)	Devoutly religious.
Tyrannical (adjective)	Exercising power in a cruel way.
Protagonist (noun)	The main character we support (e.g. Jane Eyre).
Patriarchy (noun)	A society controlled by men.
Dependent (noun)	Someone who relies on someone else (e.g. Jane relies on the Reeds for food and shelter).

Chanting – Key ROA Terminology

Term	Definition
Simile	Comparison using like or as.
Metaphor	Comparison stating one thing is another.
Foreshadowing	Hinting at future events.
Personification	Giving human qualities to non-human things.
Pathetic Fallacy	Nature mirroring human emotions.

Big Ideas

Big Idea (S1)	Moment (S2)	Method (S3)
Big Idea 1: Clearly, Brontë highlights that Jane is a resilient character who uses reading to find happiness when she is being treated like an outcast .	‘With Bewick on my knee, I was then happy: happy at least in my own way. I feared nothing but interruption’	Repetition The repetition of ‘happy’ highlights Jane's limited but personal source of joy.
Big Idea 2: Furthermore, Brontë presents John Reed as a tyrant who uses his power to make Jane feel like she has no value.	‘You are a dependent , mama says; you have no money... I’ll teach you to rummage my bookshelves.’	Noun The noun ‘dependent’ suggests Jane is trapped. John uses this word to remind Jane that she has no home of her own and has to obey him, which shows his cruel nature.
Big Idea 3: Finally, Brontë uses the forbidding atmosphere of the Red Room to show how Jane is punished and rejected by the family .	‘This room was chill, because it seldom had a fire... it was silent ... the dark red walls.’	Adjectives The adjectives ‘chill’ and ‘silent’ make the room feel like a prison. This shows the reader how lonely Jane feels and how the Reeds treat her like she doesn't belong.

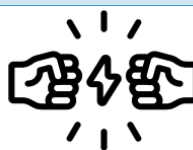
Key Themes

Love vs Hate	Social Class	Personal Growth
 		

English – Short Stories

Chanting – Key Subject Terminology		Chanting – Key ROA Terminology	
Term	Definition	Term	Definition
Sinister (adjective)	Giving the impression that something evil will happen.	Simile	Comparison using like or as.
Domestic (adjective)	Related to home, family, or household life.	Metaphor	Comparison stating one thing is another.
Tranquil (adjective)	Calm, peaceful and quiet.	Foreshadowing	Hinting at future events.
Exposition (noun)	The beginning of a narrative.	Personification	Giving human qualities to non-human things.
Macabre (adjective)	Disturbing or horrifying because it is linked to death.	Pathetic Fallacy	Nature mirroring human emotions.
Big Ideas			
Big Idea (S1)	Moment (S2)	Method (S3)	
Big Idea 1: Firstly, Dahl takes a normal, happy home , and turns it into a place of danger .	‘The room was warm and clean ... the two table lamps alight .’	Setting (The place where the story happens.) The warm room makes us feel safe at first. This makes the macabre turn more of a shock.	
Big Idea 2: Secondly, Dahl shows that a perfect wife can hide a macabre secret.	‘she put on her brightest smile’	Dramatic Irony (When the reader knows more than the characters.) Dahl makes the character act like everything is normal. This is sinister because the reader knows something they don’t.	
Big Idea 3: Finally, Dahl uses sinister humour to make the reader enjoy the unexpected ending.	‘Probably right under our very noses.’	Collective Pronoun (A pronoun that groups people together.) The pronoun ‘our’ shows that Mary has completely fooled all the policemen. It is macabre because they are helping her get away with it without knowing.	
Key Themes			
Appearance vs Reality	Power	Gender	
			

English – Poetry

Chanting – Key Subject Terminology		Chanting – Key ROA Terminology	
Term	Definition	Term	Definition
Rhythm	Stressed and unstressed syllables.	Simile	Comparison using like or as.
Form	The structure of a poem.	Metaphor	Comparison stating one thing is another.
Metre	The beat and rhythm of a poem's lines.	Foreshadowing	Hinting at future events.
Stanza	A verse in a poem.	Personification	Giving human qualities to non-human things.
Enjambment	A line of poetry ending without punctuation.	Pathetic Fallacy	Nature mirroring human emotions.
Big Ideas			
Big Idea (S1)	Moment (S2)	Method (S3)	
Big Idea 1: Firstly, in Anthem for Doomed Youth, Owen presents war as brutal, dehumanising, and shocking .	"What passing-bells for these who die as cattle? "	Simile/Dehumanisation The simile's dehumanisation emphasises the brutal, animalistic nature of death in war.	
Big Idea 2: Furthermore, in Anthem for Doomed Youth, Owen presents war as futile and a destroyer of traditional values .	‘No mockeries now for them; no prayers nor bells;’	Anaphora The anaphora of 'no' at the start of the phrases creates emphasis, making the lack of prayers and bells feel cruel and unnatural.	
Big Idea 3: Finally, in Anthem for Doomed Youth, Owen presents war as violent, chaotic, and devastating .	“The shrill, demented choirs of wailing shells”	Metaphor/Personification Metaphor (choirs) and personification (wailing, demented) create a horrifying, unified yet twisted sound of tormented, aggressive artillery fire.	
Key Themes			
Freedom	Power	Conflict	
			

English – Creative Writing

Chanting – ROA Grammar		Chanting – Key ROA Terminology			
Term	Definition	Term	Definition		
Concrete Noun	General names (e.g. dog, city).	Simile	Comparison using like or as.		
Abstract Noun	Ideas you cannot touch (e.g. freedom, love).	Metaphor	Comparison stating one thing is another.		
Collective Noun	A name for a group.	Foreshadowing	Hinting at future events.		
Proper Noun	A specific name (e.g. London). Always capitalised.	Personification	Giving human qualities to non-human things.		
Noun Phrase	A noun and its describing words.	Pathetic Fallacy	Nature mirroring human emotions.		
Crafting Creative Sentences					
More, More, More Sentences/Less, Less, Less Sentence		Nor, Nor, Nor Sentence			
What is it? 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 anaphora .		What is it? This sentence use negatives to emphasise 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.			
What does it look like? <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>		What does it look like? <i>Not a single animal, not the rabbits I had seen on the meadow, nor the mice whispering in the grass, nor even the spiders and beetles came so deeply into the forest’s reach.</i>			
The So So Sentence		Three Verb Sentence			
What is it? This is a sentence that embeds two phrases that begin with so. It will add emphasis to the focus of your sentences.		What is it? 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)			
What does it look like? <i>There was the faintest glimmer, so small, so distant, it didn’t seem to exist.</i>		What does it look like? <i>The monstrous fungi billowed, swelled, rose up and up, surrounding the base of every tree.</i>			
ROA Core Skills					
Writing		Reading		Speaking	
					

English – Creative Reading

Chanting – ROA Grammar		Chanting – Key ROA Terminology	
Term	Definition	Term	Definition
Adverb	A word that describes verbs (e.g. <i>quickly, calmly</i>). Typically ends in –ly.	Simile	Comparison using like or as.
Dynamic Verb	A word that describes an action (e.g. <i>running</i>).	Metaphor	Comparison stating one thing is another.
Stative Verb	A word that describes a state of being (e.g. <i>was, is</i>).	Foreshadowing	Hinting at future events.
Present Tense	An action that is currently happening (e.g. <i>He is walking to the shop.</i>)	Personification	Giving human qualities to non-human things.
Past Tense	An action in the past (e.g. <i>He walked to the shop.</i>)	Pathetic Fallacy	Nature mirroring human emotions.
Core ROA Reading Terminology			
Term	Definition	Example	
Explicit Characterisation	The author tells you directly what the character is like.	<i>The puppy was playful.</i>	
Implicit Characterisation	The author shows you what the character is like through their actions and interactions.	<i>His smile never reached his cold, dead eyes.</i>	
First Person Narrative	The story is told by a character within the story. This character uses pronouns like I, and me.	<i>My breath hitched when the doorknob slowly turned.</i>	
Third Person Narrative	The story is told by someone outside the story. This narrator uses pronouns like he, she, it, and they.	<i>Darkness pressed in, and he felt a prickle of fear.</i>	
Omniscient Narrator	A narrator who writes in the third person and has access to the thoughts and feelings of the characters/the plot.	<i>A chill snaked up her spine; danger waited unseen.</i>	
ROA Core Skills			
Writing	Reading	Speaking	
			

English – Rhetoric

Chanting – Key Subject Terminology		Chanting – Key ROA Terminology	
Term	Definition	Term	Definition
Persuasion	Influencing thoughts or actions.	Simile	Comparison using like or as.
Audience	The people you are trying to persuade.	Metaphor	Comparison stating one thing is another.
Ethos	Trust and character.	Foreshadowing	Hinting at future events.
Logos	Logic and reasons.	Personification	Giving human qualities to non-human things.
Pathos	Thoughts and feelings.	Pathetic Fallacy	Nature mirroring human emotions.

Rhetorical Devices		
Method	Definition	Example
Anaphora	The repetition of a word or phrase at the beginning of successive clauses or sentences.	<i>We shall not fail. We shall not yield. We shall not falter.</i>
Hyperbole	Over-the-top exaggeration for emphasis.	<i>It took forever to get through that traffic!</i>
Literary Analogy	A comparison of a character or story from literature with something that is similar.	<i>Alice's journey through Wonderland is like Dorothy's trip to Oz.</i>

Aristotle's Triad		
Ethos	Logos	Pathos
		



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Religious Studies

RE – Religion Locally and Nationally

1. Key Vocabulary

Term	Definition
diversity	Differences between a group or setting.
Christianity	The religion that Christians follow.
Islam	The religion that Muslims follow.
Judaism	The religion that Jewish people follow.
Hindu Dharma	The religion that Hindus follow.
Sikhi	The religion that Sikhs follow.
Buddhism	The religion that Buddhists follow.
Humanism	A non-religious tradition followed by Humanists .
migration	The movement of people from one place to another.
persecution	Unfair or cruel treatment over a long period of time because of race, religion or political beliefs.
census	An official survey of the people who live in a country.

3. Social Sciences

Term	Definition
Social Sciences	Social sciences are a group of subjects that are interested in how people live together in a society. Social scientists study how people change society and how society changes them.
Social Scientists	Social scientists collect data in a range of ways, including surveys like the census, as well as looking at evidence of religion in a community's buildings.

2. Religious & Non-Religious Symbols & Buildings

Religion	Symbol	Building
Christian	Cross 	church
Jewish	Star of David 	synagogue
Muslim	Crescent Moon 	mosque
Hindu	Aum 	mandir
Sikh	Khanda 	gurdwara
Buddhist	Dharma Wheel 	temple
Humanist (non-religious)	Happy Human 	(various)

4. Census Data & Key Changes

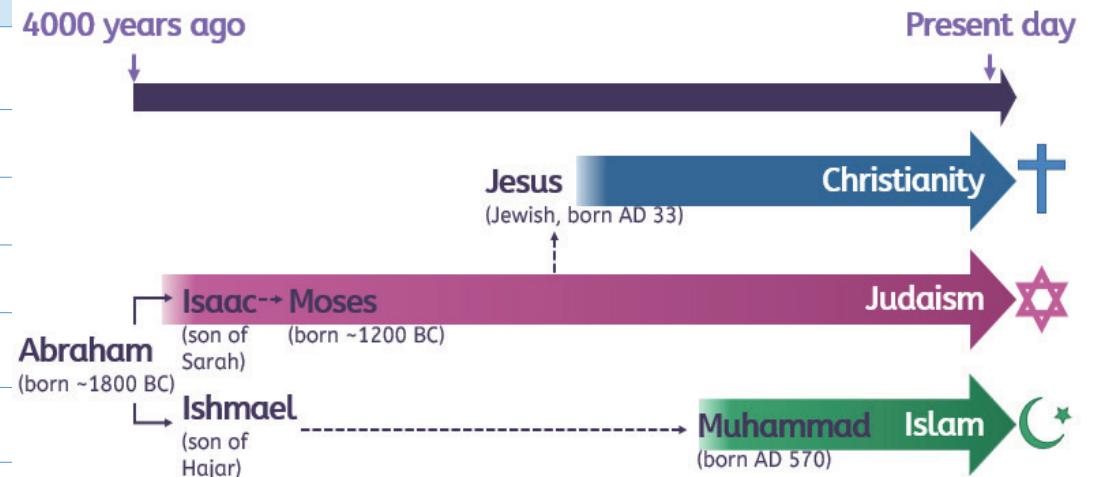
Term	Definition
In 2021	In 2021, • More people described themselves as religious than non-religious. • The largest religious group was Christianity, followed by Islam and Hindu Dharma.
Between 2001 and 2021	Between 2001 and 2021, • The number of people choosing to answer the question increased. • The number of people reporting 'no religion' increased. • The number of people reporting Muslim, Hindu, Sikh and Buddhist increased. • The number of people reporting Christian decreased.

RE – The Origins of the Abrahamic Faiths

1. Key Vocabulary

Term	Definition
Abrahamic faith	One of three faiths that are all linked by Abraham: Judaism, Christianity and Islam.
monotheism	The belief that there is only one God.
polytheism	The worship of or belief in more than one god.
covenant	An agreement between two sides (between humans and God).
sin	An action that is believed to go against the laws of God.
idol	Objects or images that represent gods.
atonement	Making up for something that someone has done wrong.
sacrifice	To give up something valuable in order to gain something else.
sermon	A talk about a religious or moral subject given by a leader in the religion.
prophet	Someone chosen by God to say the things God wants them to tell people.
resurrection	Coming back to life after someone has died.
theology	The study of God and ideas about God.
theologian	Someone who studies theology, who might look at how holy texts and ideas about God influence people's beliefs and actions.

2. Timeline of the Abrahamic Faiths



3. Holy Books

Term	Definition
The Torah	Holiest scripture for Judaism. The word means "law" in Hebrew. It was written by Moses. It is also important in Christianity and Islam.
The Qur'an	Holiest scripture for Islam. The word means "recite" in Arabic. It was revealed to the Prophet Mohammed.

4. The Covenant and the Abrahamic Faiths

Abraham is a monotheist and worships only one God. God promises to look after Abraham and his descendants because of this, and that his descendants will be a blessing to the world. Abraham has two sons, Isaac (who Moses and Jesus are descended from) and Ishmael (who Muhammad is descended from). Moses is given the Ten Commandments as part of the covenant. Christians believe Jesus is part of the covenant being fulfilled. Muslims believe prophecy is a part of the covenant.

1. Key Vocabulary

Term	Definition
Abraham	The founder of Judaism and husband of Sara.
Covenant	An agreement between two sides (between humans and God).
Sara	Female leader, mother of nations and wife of Abraham.
Isaac	The son of Abraham and Sara.
Moses	Leader who freed the Israelites from slavery and was given the 10 commandments.
Miriam	Prophetess who helped her brother Moses lead the Israelites out of slavery.
Exodus	A book in the Bible which tells the story of the Israelites being freed from slavery.
Ten Commandments	Ten rules given to Moses by God about how humans should behave.
Esther	A Jewish queen who saved her people from a plot to destroy them.
Monotheism	The belief that there is only one God.
Shema	An important prayer, declaring the oneness of God.
Messiah	A future Jewish king who is expected to bring peace.
Genesis	A book in the Bible which describes the creation of the world.
Mitzvot	613 rules in the Torah which guide Jews in their behaviour.
Tikkun Olam	“Repairing the world”, encouraging actions that improve society and bring justice.
Synagogue	A Jewish place of worship, study and community.
Prophecy	A message given to humans from God, usually to a prophet.

2. Key Vocabulary

Term	Definition
Bar/Bat Mitzvah	Coming of age ceremony (Bar Mitzvah for boys and Bat Mitzvah for girls).
Pesach/Passover	A Jewish holiday which commemorates the Exodus story.
Shabbat	A day of rest and worship observed from Friday evening to Saturday evening.
Orthodox	A branch of Judaism that follows traditional beliefs, laws and practices.
Reform	A branch of Judaism that adapts traditional beliefs, laws and practices to fit modern life.

3. Holy Books

Term	Definition
The Tanakh	Hebrew Bible, which includes three parts: the Torah, Nevi'im and Ketuvim.
The Torah	Holiest scripture for Judaism. The word means “law” in Hebrew. Written by Moses. Also important in Christianity and Islam.
Nevi'im	Contains books of the Prophets, which tell the history of Israel God's messages through the prophets.
Ketuvim	Contains various writings, including poetry, wisdom literature and historical accounts.
Talmud	Contains discussions and interpretations of the Torah, which guides Jewish law and practice.

4. Tools for studying religion

Term	Definition
Theology	Theology is the study of God and ideas about God. Theologians look at how ideas about God influence beliefs in religions and the actions people will do.
Social Scientists	Social Scientists use evidence to see how people are influenced by society. Social Scientists look at patterns in what people believe about God and how this may change due to time and place.

RE – Christianity

1. Key Vocabulary

Term	Definition
Jesus	The most important figure in Christianity, believed to be the Son of God.
Mary	The mother of Jesus.
Ministry	The work of a religious person.
Crucifixion	The execution of Jesus, by the Romans, on a cross.
Resurrection	Jesus rising from the dead three days after his crucifixion.
Ascension	Jesus' ascent to heaven, 40 days after his resurrection.
Mary Magdalene	A follower of Jesus who witnessed his resurrection.
The Great Commission	Jesus' instruction to his followers to spread his teachings to all people.
Apostles	The twelve main followers of Jesus who spread his message.
St Paul	An early Christian leader who wrote many letters in the New Testament.
Phoebe	A deaconess mentioned in the New Testament who helped the early church.
Lydia	A businesswoman and early Christian supporter of Paul.
Nicene Creed	A statement of Christian faith.
Trinity	The Christian belief in one God in three persons: Father, Son and Holy Spirit.
Reformation	A movement in the 16 th century that led to the creation of Protestant churches.
Protestant	A branch of Christianity that broke away from the Catholic Church during the Reformation.

2. Key Vocabulary

Term	Definition
Catholic	The largest branch of Christianity, led by the Pope.
Pope	The leader of the Catholic Church.
Messiah	One expected to save and lead the people. Christians believe this to be Jesus.
Salvation	Being saved from sin and its consequences.
Sermon on the Mount	A collection of teachings by Jesus covering topics like love, prayer and moral guidance.
The Lord's Prayer	A prayer taught by Jesus to his disciples, summarising key beliefs in the Christian faith.
Denomination	A specific branch of group within Christianity.
Sacrament	An important ritual that represents an important part of the faith.

3. Holy Books

Term	Definition
The Bible	The most important book in Christianity. It is divided into two main parts: the Old Testament, which contains the history and teachings of the Jewish faith, and the New Testament, which focuses on the life, teachings, death and resurrection of Jesus and the early Christian community.
The Gospels	These are four books in the Bible which contain the accounts of the life of Jesus. They are written by Matthew, Mark, Luke and John.

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Geography

Geography – Introduction to Geographical Skills

1. Where am I?

Key term	Definition
Country	Land that is controlled by a single government (e.g. UK).
Continent	Large solid area of land made up of many countries (Africa, Asia, Europe, South America, North America, Antarctica, Australia).
United Kingdom	A country made up of 4 nations; England, Wales, Scotland and Northern Ireland.



2. Where on Earth?

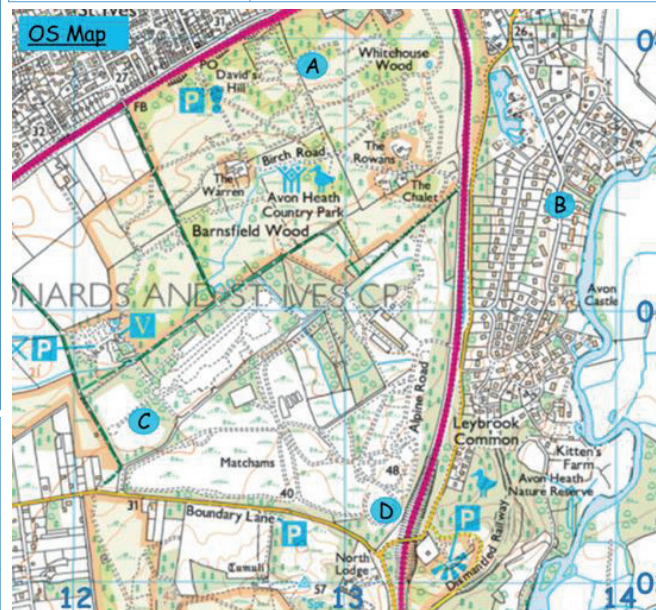
Key term	Definition
Equator	Imaginary line around the middle of the Earth at 0°.
Northern Hemisphere	The half of the Earth above the Equator.
Southern Hemisphere	The half of the Earth below the Equator.
Lines of latitude	Horizontal, imaginary lines around the Earth's surface, parallel to the Equator.
Lines of longitude	Vertical, imaginary lines around the Earth's surface. The Prime Meridian is at 0°.
Tropic of Cancer	The line of latitude at 23.5° north of the Equator.
Tropic of Capricorn	The line of latitude at 23.5° south of the Equator.
Polar Circles	The lines of latitude at 66° north and south. North = Arctic Circle. South = Antarctic Circle.

4. Relief

Relief	The height and shape of the land
Contour lines	Orange lines on an OS Map, indicating relief
Spot height	An altitude point on an OS map

3. What are grid references?

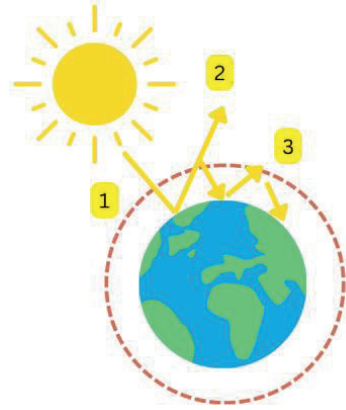
Key term	Definition
Grid reference	A position on a map that has been divided into squares, shows location.
4 figure grid references	Used to pinpoint a location on a map to a certain square. <i>E.g. On the OS map point A is at 12 03.</i> • L Find the bottom left corner of the grid • E Eastings first (read the number along the corridor) • N Northings next (read the number up the stairs)
6 figure grid reference	Used to pinpoint a location more accurately within a square. <i>E.g. on the OS map point A is at 129 039.</i> • Find the 4 figure grid reference and leave a gap: 12_ 03_ • Imagine the grid is divided into 10 along, count how far along 129 03_ • Imagine the grid is divided into 10 up, count how far up 129 039
Straight-line distance	• The straight-line distance between 2 points on a map. <i>E.g. A to B = 1.1km</i> • Hold a piece of paper against the two points • Mark on the piece of paper each point • Hold the paper against the scale/ grid to find the distance
Actual distance	The distance following the turns of a road / path.



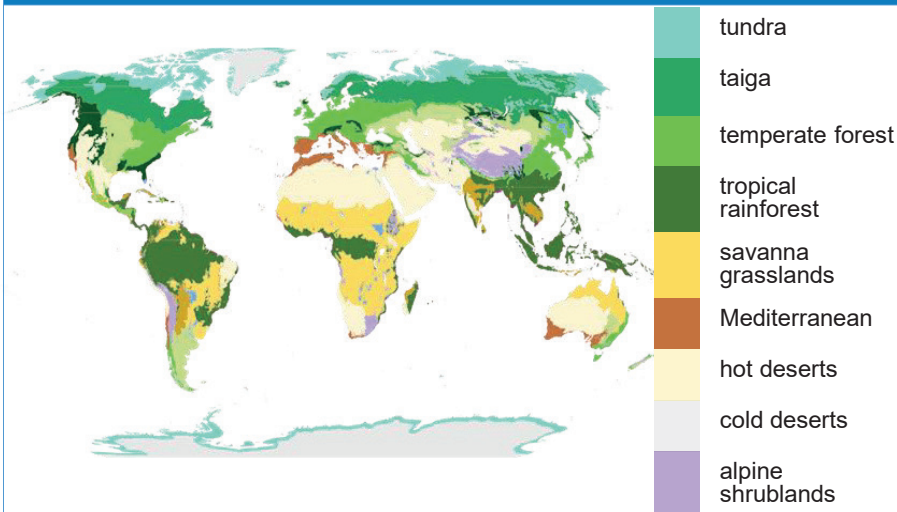
Geography – Introduction to Global Climate

1. What is the Greenhouse Effect?

1. The atmosphere is made up of **greenhouse gases**, such as carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O) and water vapour (H₂O).
2. The Sun's rays (**solar radiation**) travel through the atmosphere to Earth.
3. As the Sun's rays **reflect** off the Earth, some escape to space and some are **trapped**.
4. This **balance** is needed to keep the Earth **warm enough for life**.



4. Biomes



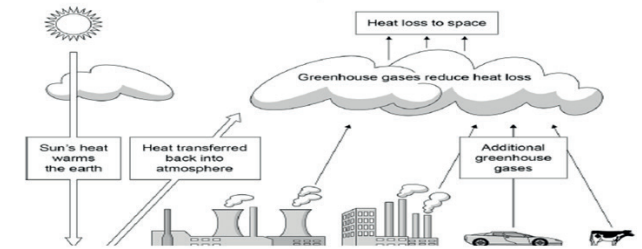
2. What is the Enhanced Greenhouse Effect?

1. Many **human activities release greenhouse gases**.
2. These **greenhouse gases** are released into the atmosphere, and they trap more of the sun's rays than would normally be trapped.
3. This makes the global temperature increase.

Human causes of short-term climate change:

- **Burning fossil fuels** by using cars (and other transport), plus coal and gas power stations. All of which release CO₂ into the atmosphere.
- **Increased agriculture** (farming) means more dung so more methane.
- **Deforestation** means less trees to absorb CO₂.
- **Waste Disposal** means more methane CO₂ is released into the atmosphere when burnt or rots.

Developed countries are the biggest contributors to the enhanced greenhouse effect. This is because they have more technology and money to do the things above.



3. Managing climate change: Mitigation

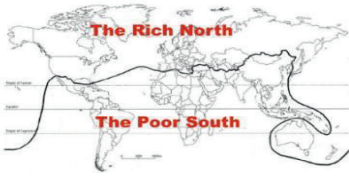
Mitigation	Trying to stop climate change from happening, by reducing greenhouse gases.		
Strategy	Description	Positive	Negative
Alternative energy sources	Using wind farms, solar energy, nuclear and tidal.	Reduced CO ₂ and associated effects, also they will not run out (infinite).	Unreliable so will need to use fossil fuels when they are not working. Expensive initially, so higher bills.
Afforestation (planting trees)	Encouraging people to plant trees, which absorb CO ₂	More carbon dioxide will be removed from the atmosphere and locked within vegetation.	Takes time for trees to grow and there is not enough available land to plant as many trees as would be needed to reverse climate change.

5. Biome characteristics

Tundra	Taiga	Temperate forest	Tropical rainforest	Savanna grasslands	Mediterranean	Hot deserts	Cold deserts	Alpine shrublands
The coldest of all the biomes. There is very little rain or snow the temperatures are freezing.	Known as snow forest, is a biome characterised by coniferous forests mostly of pines and spruces.	The deciduous forest regions are exposed to warm and cold air, which cause this area to have four seasons.	Tropical rainforests are hot and wet all year round.	The savannah is hot all year round with a long, dry season.	Dry summers and rainy winters.	Deserts are dry all year round.	Cold winters with very little rain. Permanent ice caps cover this region.	Alpine biomes are mountain regions worldwide, including the Andes, Alps, and Rocky Mountains.

Geography – Development

1. What are HICs, NEEs and LICs?

Key Term	Definition	
The Brandt Line	An imaginary line created in the 1980s splitting the world into the Rich North and Poor South.	
Development	Increasing income and improving quality of life in a country.	
Quality of life	A measure of health and happiness in a country.	
Classifying levels of development		GNI per capita
LIC	Low-income country e.g. Somalia, Nepal	<\$1,045
NEE	Newly emerging economy. A country that has rapid economic growth e.g. Brazil, China	\$1,045 - \$12,746
HIC	High income country e.g. UK, Canada	> \$12,746

2. Factors influencing development

	Reason	Description
Historical	Colonisation	When one country is controlled by another. E.g. British Empire.
	Civil war	Conflict within a country (war).
Economic	Trade	The buying and selling of goods between countries.
	Raw materials	Natural products taken from the land or sea e.g. crops.
	Primary jobs	A job that involves taking raw materials from the environment e.g. farmer.
Physical	Earthquakes	When the ground shakes and damages buildings, expensive to repair.
	Drought	A long period of time with low rainfall.
	Landlocked	A country that has no coast.

3. How is development measured?

Key Term	Definition
Development indicator	A numerical measure of quality of life and standard of living in a country e.g. birth rate.
Life expectancy	Average age you are expected to live to in a country.
Infant mortality rate	Number of babies that die before their 1 st birthday, per 1000/year.
Literacy rate	The percentage of people that can read and write.
Birth rate	Number of births per 1000 per year.
Death rate	Number of deaths per 1000 per year.

4. Development Indicators

Key Term	Description	Evaluation
HDI (Human Development Index)	- Made up of: average life expectancy, years in education, average income. - Scored between 0 and 1. - HICs have scores closer to 1.	+ Both social and economic indicators. + Removes anomalies.
GNI per capita	- Gross national income (money). - The value of a country's income divided by the population.	+ Can compare between countries - It is only an average. - Does not show inequality.

5. Development case study: Nepal

Nepal	Capital: Kathmandu	GNI per capita: \$1,370 (2022)
Causes of Nepal's uneven development		
Human	Conflict, corruption, debt, education, healthcare.	
Physical	Relief, climate, tropical diseases, tectonic hazards, lack of natural resources.	

Geography – Development

6. How tourism has led to economic growth in Nepal



Tourism impacting Nepal:

- Job Creation
- Higher GNI per capita
- Infrastructure development
- Higher government revenue
- Cultural preservation
- Environmental conservation

9. Top-down development project: The Grand Inga Dam in the DRC

Advantages	Disadvantages
- Provides reliable source of renewable energy for the DRC. - Provides electricity for Kinshasa. - DRC can sell electricity to other nearby countries. - Produces electricity for power used in coltan mines.	- It would flood 22,000 hectares of land behind the dam. - Natural habitats destroyed. - 35,000 people would be displaced from their homes. - Electricity that would be sold would leave rural areas in the DRC without power.

7. Aid

Key term	Definition	Evaluation
Aid	Help given.	
Short term aid	Given after a natural hazard to help the country through a crisis.	+ Send food, clean drinking water. - Countries depend on aid.
Long term	Given over a long period of time to help countries develop.	Teaching locals vital skills such as: · Farming · Building · First aid
Top down	· Large scale expensive projects. · Normally funded by governments.	+ Standards of living increase. + Life expectancy up from 68 to 74. - Tied aid. There is a hidden catch.
Bottom up	Small scale projects run by individuals or small businesses.	+ See 'Short term aid example' section. - Small scale only, can be just temporary.

10. Bottom-up development project: WECAN in the DRC

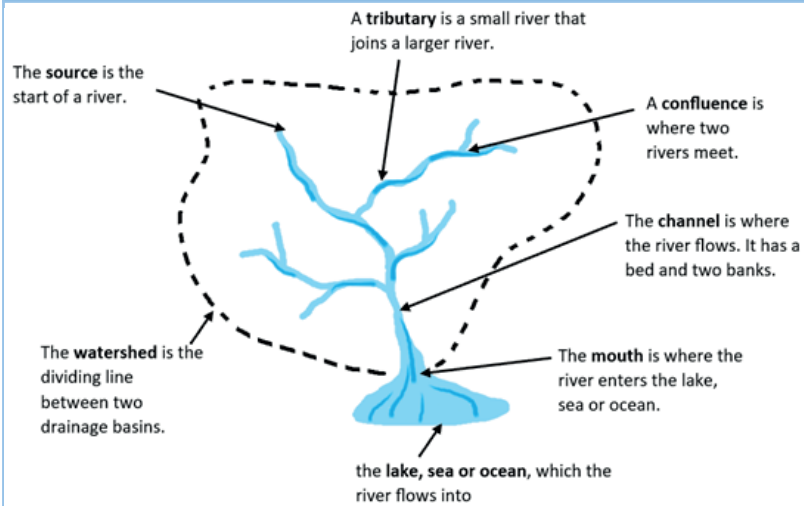
Advantages	Disadvantages
- Protects habitats of 100,000 species of plants and animals. - Empowers local, indigenous women. - Women earn money from selling fruit from planted trees. - Afforestation reduces the impact of climate change.	- Small scale project so it has limited reach. - It does not stop illegal logging. - The project currently supports only 700 women. - It takes a long time for benefits to be felt (trees take years to grow).

8. How developed is the DRC?

Democratic Republic of Congo	Capital city: Kinshasa	GNI per capita: \$660
Human features	Physical features	
Population of 16 million people. Kinshasa has vibrant culture and music. Port of Kinshasa is essential for trading.	DRC is rich in natural resources (diamond and gold). Eastern border suffers from frequent earthquakes and volcanic eruptions. DRC has the second largest tropical rainforest in the world.	

Geography – Rivers

1. Drainage basin features



3. The river profile

Upper course – the **narrow**, steep, upper part of a river. This course contains waterfalls.

Middle course – the **wider**, deeper channel in the central part of a river. This course contains meanders and oxbow lakes.

Lower course – the **widest**, flattest part of a river, near the mouth. This course contains the floodplain.

4. River processes

Erosion – the breaking down, or wearing away, of material in a river. There are 2 types of erosion:

Vertical – erosion which takes place downwards into the land.

Lateral – erosion which takes place from side to side.

Deposition – when a river drops its load.

Transportation – when rivers carry rocks and sediment (their load) along their journey. There are 4 types of transportation:

Traction – Large boulders and rocks are rolled along the riverbed.

Saltation – Medium sized pebbles are bounced along.

Suspension – Fine, light sediment is carried along by the river.

Solution – Some substances are dissolved in the water.

2. The Water Cycle

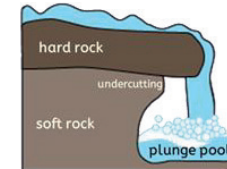
Key Term	Definition
Precipitation	water falling to the ground in all forms (rain, sleet, snow and hail).
Interception	when the leaves of trees stop precipitation from reaching the ground.
Surface runoff	the movement of water over the surface of the land and back into a river.
Surface storage	water stored on the surface in lakes or puddles.
Infiltration	the movement of water from the surface into the soil.
Throughflow	the movement of water through the soil back into the river.
Groundwater	water moving through the rock layer beneath the ground.
Evaporation	when liquid water is heated and turns into water vapour (gas).
Condensation	when water vapour turns back into liquid water, such as in clouds.

5. River features — Waterfall

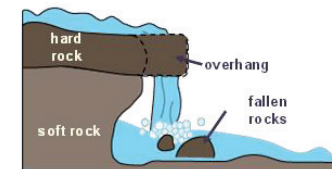
Waterfalls form in the upper course of a river, due to erosion.



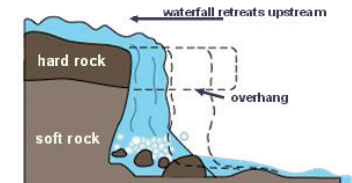
The river flows over hard and then soft rock. Soft rock erodes quicker.



A plunge pool forms at the bottom of the soft rock, which undercuts the hard rock above. This causes an overhang.



As the hard rock overhang has no support, it eventually collapses.



Over time, the process repeats and the waterfall retreats upstream. This leaves behind a steep-sided gorge.

6. River features — Meanders and oxbow lakes

A meander is a bend in a river. An Oxbow Lake is a meander that has been cut off by deposition.



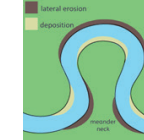
1. Water flows fastest on the outside bend, causing lateral erosion. This undercuts the riverbank, forming a river cliff.



2. Water flows slower on the inside bend, causing deposition. This forms a gently sloping bank called a slip off slope.



3. Over time, this process repeats, causing lateral erosion. The meander moves across the valley floor (migrates) in the direction of the lateral erosion.



4. When 2 meanders are near to each other, the meander neck will narrow over time, as each meander migrates due to lateral erosion.



5. When the neck is very narrow, the river will cut through during a flooding event.

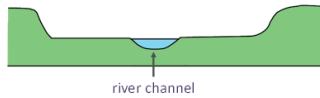


6. Deposition builds up in the entrance to the old meander. This cuts it off from the main river.

Geography – Rivers

7. River features—floodplains and levees

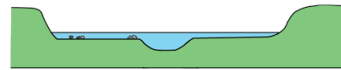
Floodplains and levees form in the lower course of a river due to deposition. Floodplains are flat and fertile. Levees are raised banks along the edge of the river.



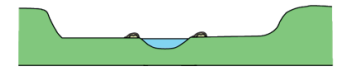
1. As a river flows through the lower course, it transports its load.



3. The heaviest material is deposited closest to the banks of the river. Finer material transported by processes such as suspension is deposited far from the river.



2. During a flood, the river bursts its banks. The transported load is lifted in the flood water, and when the flood water recedes, it is deposited across the floodplain.



4. The heavier material that is deposited on the banks of the river builds up over time due to repeated flood events. Eventually, creates natural raised banks, or levees.

9. Impacts of flooding

Impact	What happened next
Homes destroyed	Homelessness increases (social), house insurance increases (economic)
Farmland flooded	Less food produced, price goes up (economic), ecosystems destroyed (environmental)
Roads blocked	Deliveries delayed (economic), emergency services can't get through (social)

8. Causes of flooding

Cause	Human or physical	How it increases flooding
Impermeable surfaces	Both	Reduces infiltration and increases surface run off
Deforestation	Human	Reduces interception, leads to saturated soil
Storm drains	Human	Speeds up water reaching river, increases likelihood of overtopping
Steep relief	Physical	Gravity speeds water flow to river
Saturated soil	Physical	Reduces interception
Ice melt	Physical	Increases liquid water in drainage basin. Reduces storage.
Heavy, prolonged rainfall	Physical	Leads to saturated soil and increases surface run off.

10. Managing flood risk

Hard engineering - Human made structures that help to reduce flood risk.

Soft engineering - Adaptations that work in nature to reduce flood risk.

Hard engineering	Soft engineering
Dams and Reservoirs + Holds back water / Reduces insurance costs - Expensive / Flooding needed to create reservoir	Afforestation + Reduced surface run off / reduced flood risk - Less farmland / Only reduces flood by 20%
Dredging + River holds more water / Reduced insurance cost - Must be repeated regularly = expensive	Monitoring and predicting + Accurate warnings can be sent to locals - Does not stop flood / People might not see warnings

11. Dorset flood – July 2021

Where: Bournemouth, Christchurch and Poole in Dorset (UK)
When: 12th July 2021

Causes	Effects	Responses
58mm of rain fell in 8 Hours	31 houses flooded in Poole	Extra workers brought in to keep drains clear of debris.
Low-lying land with 2 major rivers running through – Stour & Avon.	4 schools closed – water was 1ft deep at Stanley Green Infants Academy.	Fleetsbridge Pumping Station upgraded to hold 3,500 litres extra.
Debris left near drainage channels, causing blockages.	8 businesses flooded on Winton High Street.	2 new water gauges installed in Christchurch and Broadstone.
Flood occurred in early hours of Monday, so few people at work.	Sewage spilled into Poole Harbour, impacting fishermen for 2 weeks.	Turlin Moor Sewage System upgraded so less sewage leaks into harbour.

12. Bangladesh flood - June 2022

Where: Sylhet region in Bangladesh, Asia
When: June 2022

Causes	Effects	Responses
Monsoon rain from March - ground was saturated	32 people died	500 flood shelters built
Low-lying land: 80% is less than 6 metres above sea level	640 schools destroyed	6,000 km of levees built
Snow melt in the Himalayan Mountains	4.5 million made homeless	Early warning systems introduced - flood alarms in urban areas
Deforestation in the drainage basin	113,000 hectares of farmland destroyed	Red Cross gave \$7.8 million for housing, food and water

Geography – World of Work

1. Employment sectors

Employment	When people are in work, receiving a wage and paying tax.
Unemployment	When people are not in work, therefore do not receive a wage and do not pay tax.
Primary Industry	Industries which collect or extract natural resources from the environment, such as farming or fishing.
Secondary Industry	Industries which manufacture goods into products, such as builders, car manufacturers or food processing.
Tertiary Industry	Industries that provide a service, such as teachers, doctors, sales assistants, hairdressers or bus drivers.
Quaternary Industry	Industries that involve using technology, design and research, including computer scientists, have designers, computer engineers and research scientists.

3. The Location of Industries

Site	The actual place where a settlement first began. This refers mainly to its physical location.
Situation	The location of a place relative to other features nearby.
Footloose	Industries which are not tied to a specific location and can operate anywhere (BT call centres in India and other parts of Asia).
Raw Materials	Natural resources (iron ore used in steel) that are used to make other things.
Labour	Workers, employed people.
Market	A place where things are brought and sold.

5. Employment structures and development

Countries	Industries
Developing countries	A large primary sector, growing secondary sector and a moderate tertiary sector.
Emerging Countries	A large secondary sector, rapidly decreasing primary sector and growing tertiary sector.
Developing Countries	A large tertiary sector, a growing quaternary sector, both secondary and primary employment is low
Change	Cause
Falling primary and secondary sector	1. Cheaper to import. 2. Mechanisation has taken jobs 3. Raw materials have been exhausted in certain areas.
Growing tertiary sector	1. Disposable income has increased, so greater demand for services. 2. A large public sector e.g. health and education, due to a high tax revenue.

2. Influences on employment structures

Industrialisation	A move from primary employment to secondary employment, with a rise in manufacturing.
Mechanisation	When machinery begins to do the jobs which once required humans.
Disposable Income	The money a person has left to spend after they have paid all their bills.
Public Services	A service that is given or funded for the benefit.

4. Trade

Trade	The exchange of goods and materials between countries.
Import	Good brought into a country.
Export	Sending goods to another country for sale.
Trade Bloc	An arrangement in which participant countries lower trade barriers with one another.
Tariff	A tax imposed on goods when they are imported or exported between countries

6. Case Study: World of Work in Russia.

Factors affecting trade in Russia.

Opportunities	Challenges
With a working population of over 75 million people, Russia has one of the largest workforces in the world.	Russia is at war with Ukraine which affects international relationships.
The Steppe and temperate woodlands of western Russia are fertile and flat.	Russia has the largest land mass of any country.
Russia has an extensive network of roads, railways, ports and pipelines.	Russia does not have a warm water port.
Russia has vast reserves of natural resources including oil and natural gas.	Many countries aim to buy and use less oil and natural gas in the future to mitigate the effects of climate change.
Russia's education system puts a strong focus on science, technology, engineering and maths (STEM).	



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History

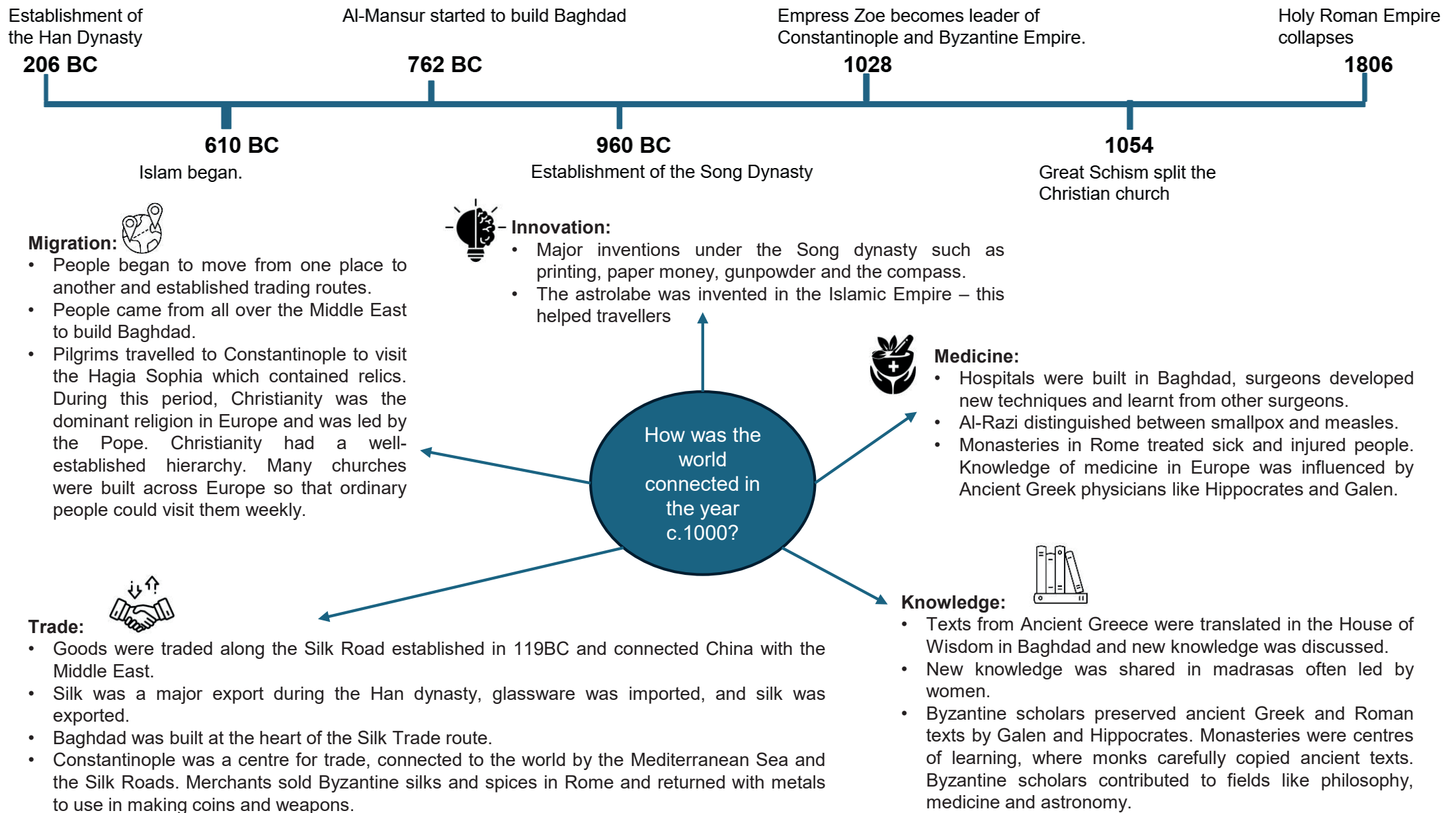
History – Empires East and West

1	What are traces of the past which historians use to study the past?	Sources
2	What is the name given to informed historical opinions made by historians?	Interpretations
3	How many years are in a millennium?	1000
4	How many years are in a decade?	10
5	What do we call a period of 100 years?	A century
6	What term refers to the arrangement of dates and events in the order that they occurred?	Chronology
7	What is the term that means a group of countries ruled by a single leader?	Empire
8	What term means that power is passed from one person to another within the same family?	Dynasty
9	What term refers to the movement of people from one place to another?	Migration
10	What was the name of the trading route that connected China with the Middle East and Europe?	Silk Road
11	Which dynasty ruled China in the year c.1000?	The Song Dynasty
12	Who was the first Emperor of this dynasty?	Taizu Zhao
13	What four new innovations came out of this dynasty?	Paper money, moveable type printing, gunpowder, compasses
14	Which religion arrived in China along the Silk Road?	Buddhism
15	What work did most Chinese people do?	Farming
16	What three things were women expected to do in China?	Marry, have children and manage household
17	What did Chinese people believe would happen if yin and yang were unbalanced?	Cause disease
18	What key term is used to describe the leader of the Islamic Empire?	Caliph
19	Why did al-Mansur choose Baghdad as the capital of the Islamic Empire?	In the heart of the Silk Road trade route
20	Where in Baghdad did scholars translate text from Ancient Greece and discuss new knowledge?	House of Wisdom

History – Empires East and West

21	What did the caliph and other rich citizens build to share knowledge?	Madrasas
22	Who ran many madrasas and mosques?	Women
23	In what subjects did scholars translate text and discuss new knowledge?	Maths, science, geography, astronomy, technology
24	From which country did knowledge of paper come to Baghdad?	China
25	Which famous Greek doctor's work was translated in Baghdad?	Galen
26	Why did Caliphs in Baghdad build hospitals?	Islam taught that sick people should be cared for.
27	What empire was Constantinople the capital of?	Byzantine Empire
28	What are two things that connected Constantinople to the rest of the world?	Silk Road, Mediterranean Sea
29	What was the name of the cathedral built in the middle of Constantinople?	Hagia Sophia
30	What did marriage help rulers do in the medieval period?	Strengthen power, make alliances, gain land
31	What was the name of the female ruler of the Byzantine Empire in the 11 th century?	Empress Zoe
32	What methods of warfare were used in the Byzantine Empire?	Fortification, cavalry, archers, infantry
33	In what year did Christianity become the official religion of the Roman Empire?	380 AD
34	Who was the head of the Church in Europe?	The Pope
35	Where did the Pope rule and live?	Vatican City
36	What term refers to a system where people are ranked according to their power and status?	Hierarchy
37	Who was directly below the Pope in the church hierarchy?	Cardinals
38	Which group of people had religious authority over a parish, village or town church?	Priests
39	Why were many churches built across Europe?	So ordinary people could visit them weekly.
40	What was the name of the European empire made up of areas with different leaders but all under the rule of one Emperor?	Holy Roman Empire

History – Empires East and West



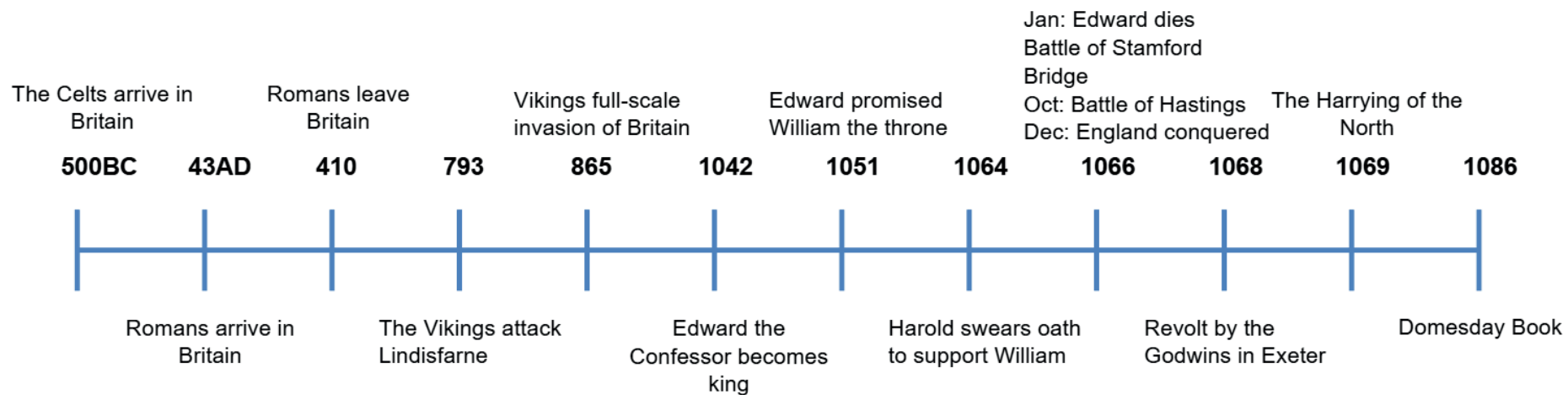
History – Norman Conquest

1	What are traces of the past which historians use to study the past?	Sources
2	What are traces of the past which historians use to study the past?	Interpretations
3	Which group started to migrate to Britain in 500BC?	The Celts
4	In which year did the Romans invade Britain?	43AD
5	What did the Romans build 16,000km of in Britain?	Roads
6	Why did the Romans leave Britain in 410AD?	Their empire was being attacked
7	Which three groups migrated to Britain in the 5 th Century AD?	The Angles, Jutes and Saxons
8	In which year did the Vikings launch a full-scale invasion of Britain?	865AD
9	Which Anglo-Saxon king died in January 1066 with no clear heir?	Edward the Confessor
10	Which Anglo-Saxon earl was crowned following the death of the king?	Harold Godwinson
11	What did William Duke of Normandy claim happened in 1051?	Edward promised him the throne
12	Which Viking warrior also claimed the throne in 1066?	Harald Hardrada
13	In which battle did the Anglo-Saxons defeat the Vikings in September 1066?	Stamford Bridge
14	What changed at the end of September that allowed the Norman army to invade?	Wind direction
15	What was Harold's force of 3,000 professional soldiers called?	Huscarls
16	What were William's heavily armoured soldiers on horseback called?	Knights
17	In which month and year did the Battle of Hastings take place?	October 1066
18	Which tactic did the Normans use to get the Anglo-Saxons off the top of Senlac Hill?	Fake retreat
19	What is the 70m long embroidered cloth depicting William's victory?	Bayeux Tapestry
20	What did William and his troops do on their way to London from Hastings?	Burnt crops and villages

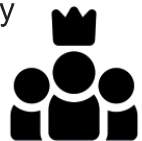
History – Norman Conquest

21	When was William crowned king of England?	25 th December 1066
22	What type of castle did William and his nobles build across England?	Motte and bailey castles
23	What did William force all surviving Anglo-Saxon nobles to do when he was crowned?	Swear an oath of loyalty
24	What did William do with the land belonging to deceased Anglo-Saxon nobles?	Gave it to Norman knights
25	What did the Godwins do in Exeter in 1068 after William was crowned?	Launched a revolt
26	What did the English enlist the help of the Vikings to do in 1069?	Take the city of York
27	What happened in 1069, following a revolt in Durham and York?	The Harrying of the North
28	Who led the final major Anglo-Saxon rebellion against the Normans?	Hereward the Wake
29	What did William build in Dorset at the site of an old Saxon Hall?	Corfe Castle
30	Which important book did William commission in 1086?	Domesday Book
31	Why did William want to find out what the English people owned?	To tax them as much as possible
32	Which social hierarchy did William introduce?	The feudal system
33	Who was higher on the social hierarchy: barons or knights?	Barons
34	Who was at the bottom of the social hierarchy?	Peasants
35	Give two examples of how William the Conqueror used terror to assert control.	Castles and Force
36	Give two examples of how William the Conqueror peacefully asserted control.	Feudal system and Domesday Book
37	Which new law meant that the whole region had to pay a fine if one Norman was attacked?	Murdrum fine
38	What is the process where the eldest son inherits everything?	Primogeniture
39	What did the forest laws prevent the English people from doing?	Hunting in the forests
40	What became the language of the aristocracy?	French

History – Norman Conquest



William's leadership – Faked retreat tactic to break Harold's shield wall, gained the Papal Banner so his soldiers believed they had God's blessing to fight, William's troops highly organised, strength of knights, William's inspiring speech on arrival at Pevensey



Why was William Duke of Normandy victorious at Hastings?



Harold's weaknesses – Harold rushed down to Hastings rather than letting his men rest, wasn't able to respond once shield wall formation was broken, Harold had called in his navy so Pevensey was undefended, Harold's army had a high number of peasant soldiers (fyrd)

Luck – The wind changed allowing William's troops to cross the channel, Harold's army was tired and injured from Battle of Stamford Bridge, both the Vikings and the Normans invaded at similar times, Pevensey was undefended



History – Norman Conquest

How did William control England?



- **Feudal system** – Ensured loyalty to superiors as land depended on it, clear hierarchy so everyone knows their place, William able to reward his knights and ensure his loyal followers were in positions of power, replaced any Anglo-Saxon earl who wouldn't swear an oath of loyalty



- **Building castles** – a stronghold to put down any uprisings, symbolised a strong occupying force scaring locals into submission



- **Force** – Harrying of the North- every village burnt to the ground between York and Durham (farm animals slaughtered, crops were destroyed, fields were laced with salt, estimated 100,000 people starved to death). Hereward the Wake- Saxon rebels were killed, imprisoned, blinded or had their arms chopped off. Noble's sons were demanded as hostage to ensure Anglo-Saxon nobles stayed loyal



- **Domesday Book**– Domesday book ensured that William could tax people the maximum they could afford raising money to pay for his armies and castles.

How far did the Norman Conquest change England?

Change - Murdrum Fines were introduced if a Norman was attacked, forest laws stopped the English hunting in the forests, the church reformed to be more Norman, Primogeniture (eldest son inherits everything) ensured large areas of land were not broken up, church courts introduced, trial by combat introduced, Norman French became the language of the clergy and nobility, Norman names like William and Matilda became fashionable.

Continuity – William kept the Saxon legal system, the Saxon coinage system remained, although standardised by the Normans.

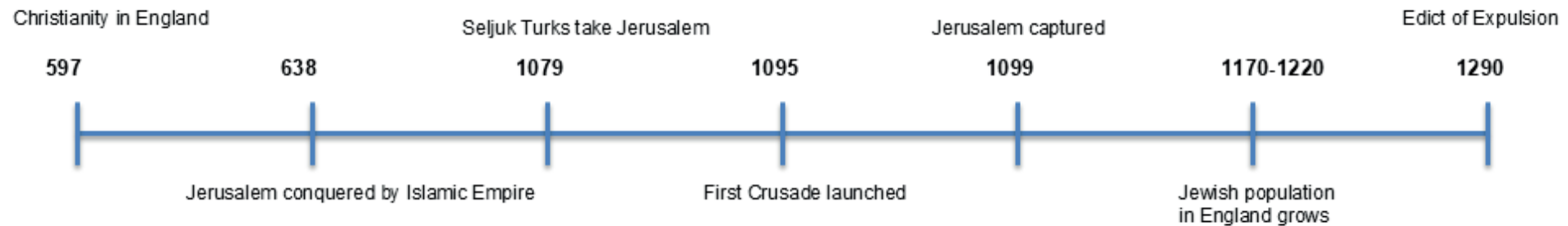
History – Medieval Religion

1	What is the Church?	A Christian place of worship
2	Who is the head of the Catholic Church?	The Pope
3	What was the Divine right of Kings?	King only answered to God.
4	Who was the most senior clergyman in England?	Archbishop of Canterbury
5	How could the Pope end a king's rule?	Excommunication
6	Why could clergy only have to answer to the Pope?	Benefit of the clergy
7	How much land did the Church own?	1/3
8	What small buildings did Monks and Nuns live in?	Monasteries
9	What large buildings did Bishops live in?	Cathedrals
10	What were small local churches called?	Parish
11	What was the 10% tax on income paid to the Church called?	A tithe
12	What was a journey to a place of religious significance called?	A pilgrimage
13	How could you get your sins forgiven?	Working on a cathedral
14	Why were medieval paintings dramatic and colourful?	Majority could not read or write
15	How did the church influence people to live a sin free life?	Fear of hell
16	Where would you get your soul cleansed after death?	Purgatory
17	Where could people see the grim details of hell?	Doom Paintings
18	What did medieval people do to prevent spending a long time in purgatory?	Church every Sunday, pilgrimages and indulgences.
19	What was the purpose of doom paintings?	To control society into conforming a living a sin free life.
20	What was the most common believed cause of diseases?	God

History – Medieval Religion

21	What was the purpose of hospitals run by churches?	Care not cure
22	Who would work in these hospitals?	Monks and Nuns
23	What moral crimes did the Church deal with?	Adultery, gambling, getting drunk, hitting your wife and swearing.
24	What was taught in church run universities?	Hippocrates and theory of four humours.
25	Who seized control of Jerusalem and stopped Christians going on pilgrimage to Jerusalem?	Seljuk Turks
26	How did Pope Urban II show his power?	Calling Western Christians to Crusade
27	What was seen as a Holy act?	Going on Crusade as it was seen as going on a pilgrimage
28	What was not successful in reclaiming the Holy lands?	Crusades
29	When did Jewish communities settle in England?	1070
30	What did Jewish communities quickly become apart?	English Economy
31	What caused the Church to become hostile?	Blood Libel
32	What did the Crusades cause Jewish people to be seen as?	'Christ-Killers'
33	What were Jews forced to pay for?	1189 Crusade
34	Who did Jewish loaners sell on their debts for?	Christians
35	When did Jewish moneylenders store official documents of the money borrowed?	Late 12 th Century
36	When was the Edict of Expulsion?	1290
37	Why did Edward I banish all Jewish communities from England?	To compensate for the debts, he was in
38	What is a source?	Anything from the past Historians can study
39	What is an interpretation?	Historians informed opinion on the past based using sources.
40	What is the past?	History begins with events the facts cannot be altered by Historians.

History – Medieval Religion



Beliefs

- Majority of medieval England believed in Christianity, and they visited Churches such as parishes and cathedrals to worship God or ask forgiveness for their sins.
- The Pope is head of the church and has to the power to excommunicate anyone (including the King). The Archbishop of Canterbury is the most senior churchman in all of England. The King is the head of the state and supported by the barons to rule the nation. It was believed that the King was only answerable to God and is chosen by God to be the ruler therefore everyone believed in the 'Divine Right of Kings'.
- The Church used to control people in society through theories relating to the afterlife such as heaven, hell and purgatory. This was conveyed through 'doom paintings' which created fear in many leading to the church establishing power over others.



Warfare

- The First Crusade took place due to the expansion of the Islamic Empire (especially the control of the Seljuk Turks).
- This led to Pope Urban II launching the First Crusades in 1095 to ensure that Christians had the opportunity.



Medicine

- Monks and nuns had a duty to provide care for the sick and terminally ill. This was not like a modern hospital but was a place to recover or die in peace.
- Some monasteries grew all sorts of herbs and plants to make medicine.
- The Church supported and taught the medical teachings of a Roman doctor called Galen, who said the body was designed by God.
- In the medieval period churches gave people care and not necessarily a cure for their illness due to the lack of understanding regarding the causes of illness.



Society

- Majority of the society believed in Christianity and therefore had to pay a 10% 'tithe' to the Church.
- People took pilgrimages to worship God or saints however during the First Crusade, Pope Urban II wanted to protect Christians; Christians felt they could no longer complete pilgrimages to the site of Jesus' resurrection following the rule of the Seljuk Turks.
- Jewish communities started settling in 1070, however they were persecuted by the people of society leading to them being expelled in 1290 due to the Edict of Expulsion.

How significant was the Church in Medieval England?

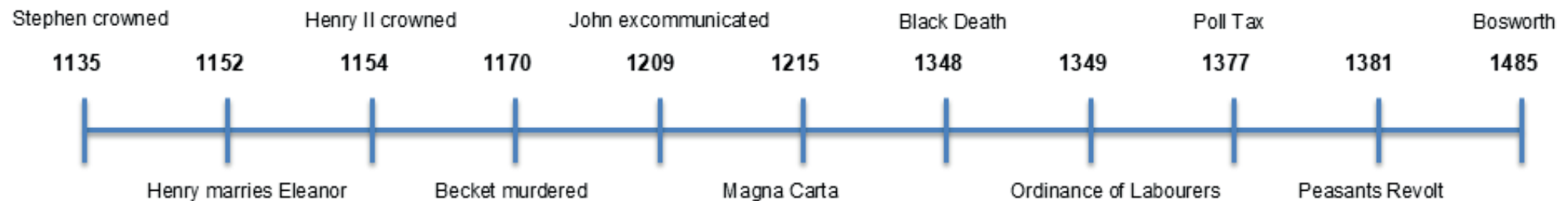
History – Challenges to Medieval Monarchs

1	When did Henry I grant Matilda as the next heir to the English throne?	1126
2	Why did Stephen break the oath of support for Matilda?	Did not believe women were capable of ruling.
3	What was the stalemate between Stephen and Matilda?	'The Anarchy'
4	Who did Stephen claim was the next heir to the throne in 1153?	Matilda's son, Henry II
5	What position did Henry II give to his friend Thomas Beckett in 1162?	Archbishop of Canterbury
6	Who murdered Becket in 1170?	Four Knights
7	What did Henry II order the monks and bishops of Canterbury do to him in 1174?	Whip him as penance
8	What was the combined land of Eleanor and Henry II known as?	The Angevin Empire
9	Who plotted against Henry II in 1173?	Eleanor and their 3 sons.
10	What did Richard I use England for?	Raising funds for the third crusade
11	Who is suspected to have been removed as a threat to King John's throne?	Arthur, his nephew.
12	Why did the Barons dislike King John?	He taxed them to fund the crusades and ruled on his own.
13	What happened to church services after King John was excommunicated?	Banned for 5 years.
14	Why did English people fear the interdict banning church services?	They would go straight to hell
15	What is a ruler who refuses to share their power, and governs cruelly and oppressively?	Tyrant
16	What did the Barons give King John at Runnymede in 1215?	Magna Carta
17	Why did the Magna Carta not support the 1.5 million peasants in England?	Due to not being free men.
18	Why did the Pope condemn the Magna Carta?	Illegal and told John not to abide by it.
19	How old was Henry III when he succeeded the English throne?	9
20	Why could Henry III not be crowned at Westminster abbey?	Prince Louis controlled London.

History – Challenges to Medieval Monarchs

21	Why did parliament begin to challenge Henry's authority?	Increasing taxation.
22	How did the Barons limit the king's power in 1258?	Provisions of Oxford.
23	What did Simon De Monfort create in 1265?	Representative parliament
24	In which year did the Black Death arrive in England?	1348
25	How many people died during the Black Death?	1/3 of the population
26	How did the Black Death weaken the feudal system?	People could move up in society.
27	How did the nobility respond to labour shortages caused by the Black Death?	Paying higher wages to peasants
28	Which law in 1349 stopped peasants from gaining more power?	Ordinance of labourers
29	Who exclaimed to the peasants that they are equal to noble men?	John Ball
30	Why was the 1381 poll tax unpopular with the peasants?	It had to be paid by everyone
31	What did the peasants do to the royal officials who tried to collect the tax?	Attacked and killed the collectors.
32	How many peasants marched to London beginning the revolt in 1381?	60,000
33	What did Richard II agree to change in England?	Divide church land and equality
34	What is the definition of a 'civil war'?	A war between sides in the same country
35	What two families emerged in the War of the Roses from 1455-1487?	House of Lancaster and York
36	Who ruled as Lord Protector during Henry VI poor mental health?	Richard, Duke of York.
37	How did Richard secure his succession after defeating the king in May 1455?	Act of Accord in 1460
38	Who supported Henry Tudor at the Battle of Bosworth, August 1485?	The Stanley family
39	How did Henry Tudor unite the House of York and Lancaster?	Marrying Elizabeth of York
40	What was the symbol that represented the new Tudor dynasty?	The Tudor Rose

History – Challenges to Medieval Monarchs



What was the greatest challenge to medieval monarchs?



Dynastic

- After the unexpected death of Henry I, Matilda was named as his successor. However, Stephen believed he deserved the throne because many, including the Pope, believed a female could not rule the country effectively. This led to The Anarchy (a civil war) between Stephen and Matilda, which was resolved through the promise that Stephen's heir to the throne would be Henry (Matilda's son).
- Eleanor of Aquitaine joined the Great Revolt against Henry II in 1173–1174 with the support of her three sons: Richard, Geoffrey and Henry the Younger. Eleanor and her sons were unsuccessful, leading to her imprisonment for 16 years until 1189, when Richard became king and released her.
- King John died in 1216 and, under male primogeniture, was succeeded by his eldest son, Henry III, who was only nine years old.
- The Wars of the Roses began between Henry VI of the House of Lancaster and Richard of the House of York over who should be the rightful King of England. Battles between Henry VI and Richard included St Albans and Wakefield. After Richard's death, his son Edward continued the Yorkist fight. Battles between Henry VI and Edward included Towton and Tewkesbury. Edward and the Yorkists were victorious, and he was crowned King of England.
- Richard III was killed at the Battle of Bosworth in 1485, and Henry VII was crowned King of England. Henry VII married Elizabeth of York, uniting both sides of the Plantagenet family who had been in conflict during the Wars of the Roses.

History – Challenges to Medieval Monarchs

What was the greatest challenge to medieval monarchs?



Religious

- Monarchs were seen as God's representative on Earth, so monarchy as an institution remained secure. However, the Church was seen as independent of the monarch, leading to disagreements over appointments of archbishops between the Pope and monarchs such as Henry II and King John.
- Archbishop Thomas Becket challenged Henry II's wishes, resulting in Becket's exile and damaging the relationship between the Crown and the Church. Becket's strong religious beliefs frustrated the King so much that they ultimately led to his murder in 1170. Henry II was forced to do public penance, allowing himself to be whipped by members of the Church, demonstrating the Church's power and influence.
- King John argued with the Pope over who should become Archbishop of Canterbury. The Pope excommunicated John in 1209 and placed England under an interdict, increasing pressure on the king.



Political

- The barons had wealth, power and private armies which they could raise against the monarch. Some barons supported Henry II's sons when they rebelled against him during the Great Revolt (1173–1174).
- As a result of poor relations with his barons and increasing taxation, King John was forced to sign the Magna Carta in 1215. When he later refused to honour the charter, the barons declared civil war against him.
- The barons tried to limit the power of Henry III in 1258 by forcing him to sign the Provisions of Oxford. Henry appealed to the Pope for support but was unsuccessful. This led to the Second Barons' War (1264–1267), led by Simon de Montfort. De Montfort established the first representative Parliament, including what became the House of Lords and House of Commons.



Social

- The Black Death spread across England from 1348, creating a shortage of labour. Peasants became more valuable to landowners and were able to demand higher wages and greater freedom from serfdom. Their increasing wealth and ability to acquire land began to undermine the feudal system, prompting the king to pass laws limiting their power.
- Ordinary people exercised their collective power following the introduction of the Poll Tax, leading to the Peasants' Revolt in 1381, led by Wat Tyler against Richard II. Tyler led around 60,000 peasants to London to force the King to accept their demands for a fairer society.

History – Medieval Mali

1	What is the definition of an empire?	A group of countries ruled by a single ruler.
2	Where is the Mali Empire located?	West Africa
3	When was Mali Empire founded by Sundiata Keita?	Around 1230
4	What natural resources made the Mali Empire wealthy?	Gold, copper and salt
5	What year did Mansa Musa begin ruling in approximately?	1312
6	Which religion was Mansa Musa?	Muslim
7	Mansa Musa believed governance was in part a dialogue between him and who?	The people
8	Where did Mansa Musa go on a pilgrimage to?	Makkah
9	How many kg of gold did Mansa Musa take on his pilgrimage?	21,000kg
10	How much would Mansa Musa be estimated to be worth today in \$?	\$400 billion dollars
11	What happened when Mansa Musa gave away so much gold in Cairo?	Decreased in value
12	What three things did Mansa Musa promote in the Empire?	Trade, education, and building
13	What kingdom was conquered by Mansa Musa that made him wealthy?	The Songhai Kingdom
14	In which city did Mansa Musa develop a library in to share ideas and learn more?	Timbuktu
15	How many manuscripts were held in the library in Timbuktu?	400,000
16	What new subjects were taught in the Empire?	Maths, astronomy, history and medicine
17	Where did scholars go to increase their knowledge further?	Madrasas
18	What did Mansa Musa build across his empire to spread Islam?	Mosques
19	What was the oldest mosque built that also became a centre of learning?	Sankore Mosque
20	At the height of its power what was the Mali Empire known as?	One of the richest and most powerful

History – Medieval Mali

What does the life of Mansa Musa reveal about the Mali Empire?



Empire: The Mali Kingdom was founded by Sundiata Keita the great-grandfather of Mansa Musa in 1230. The Mali Empire was located in West Africa and was richer than any European empire. One of Mansa Musa's generals conquered the Songhai Kingdom extending his power further. The Kingdom was annexed to the Mali Empire, which resulted in many territories coming under the control of Mansa Musa, including its capital Gao and the city of Timbuktu. The people of the country also had a good dialogue with Mansa leading to him being seen as fair and just leader. At the height of its power the Mali Empire was known as 'one of richest and most powerful in the world.'



Beliefs: The Hajj is a pilgrimage to Makkah in Saudi Arabia. It is one of the five pillars of Islam, and all Muslims are expected to make the journey at least once in their lifetime, if they can. Mansa Musa was a devout Muslim and wanted to ensure his entire kingdom believed in Islam and therefore built multiple mosques. Islam was boosted by Mansa Musa in Timbuktu, with the building of mosques under his instruction. The Sankore Mosque built in Timbuktu still stands today. He commissioned the tasks of building mosques in Gao and Timbuktu to an architect named Al-Sahili, who had accompanied him from Mecca.



Wealth: The empire was extremely wealthy, as its land was rich in resources. It contained three large gold mines containing almost half the world's gold – and all the gold belonged to the Mansa. Mali also had large copper mines which were worked by enslaved people. These natural resources all helped turn the Mali Empire into a trading centre. Mali also had large supplies of salt, which was very valuable in hot desert countries. It is estimated that he was worth \$400 billion. Mansa Musa was wise and generous and believed it was his duty to make his empire more wealthy and powerful through trade. During his stay in Cairo, Mansa Musa and his following boosted the local economy by spending huge amounts of gold decreasing its value.



Knowledge: Mansa Musa's journey to Makkah was revolutionary due to introducing scholars who he brought back to Mali to increase knowledge. This led new subjects being taught such as maths, astronomy, history and medicine. Timbuktu was flourishing as a newly conquered city with a library, and it led to it being used by scholars to share ideas leading to Madrasas being built to extend education for many. Timbuktu became a popular and significant city, beating the best learning and art centres in the world. Mansa Musa turned Sankore Mosque into a university and filled it with astronomers, mathematicians and scholars. It could educate 25,000 students and contained thousands of manuscripts. Mansa Musa wanted his empire to become a centre of learning that all could be inspired by.



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Mathematics

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 before calculating, 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.

Key Equivalents		
FDP (fraction/ Decimal/ Percentages) Conversion	$1 = \frac{1}{1} = 100\%$	$0.75 = \frac{3}{4} = 75\%$
	$0.5 = \frac{1}{2} = 50\%$	$0.2 = \frac{1}{5} = 20\%$
	$0.1 = \frac{1}{10} = 10\%$	$0.\dot{3} = \frac{1}{3} = 33.\dot{3}\%$
	$0.25 = \frac{1}{4} = 25\%$	

Key Term	Definition
Improper Fraction	A fraction where the numerator is larger than the denominator.
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	BIDMAS—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 carry meaning (ie. are significant) to the size of the number. The first significant figure of a number cannot be zero .

Mathematics – Algebra

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

Notes to add examples:

Mathematics – Statistics

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

Notes to add examples:

Mathematics – Geometry and Measure

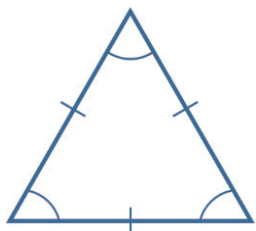
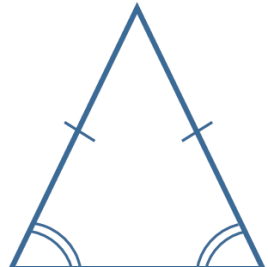
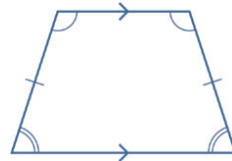
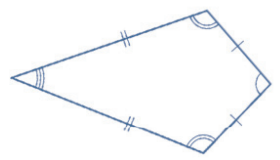
Key Term	Definition
Acute Angle	An angle less than 90°.
Adjacent	Next to, or near.
Area	A measure of the space inside a closed two-dimensional shape.
Axes	The straight lines on a graph used to define the position of a point. The x-axis goes across (horizontal). The y-axis goes up (vertical).
Centimetre (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. 1km = 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°.

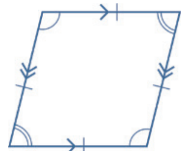
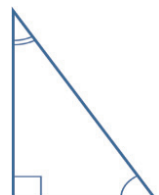
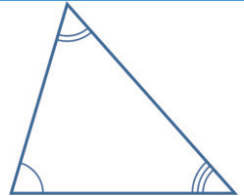
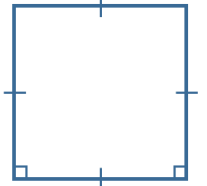
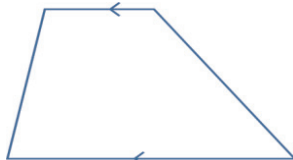
Key term	Definition
Perimeter	The total distance around the outside of a closed two-dimensional shape.
Polygon	A closed two-dimensional shape made up of all straight edges.
Protractor	An instrument used to measure angles.
Quadrilateral	A two-dimensional shape with four sides.
Reflex Angle	An angle measuring 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	Definitions
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	Definitions
Area of a rectangle or square	Length x width
Area of a parallelogram	Length x perpendicular height
Area of a triangle	$\frac{b \times h}{2}$, Where b is the base and h is the perpendicular height.
Area of a trapezium	$\frac{a+b}{2} \times h$, where a and b are parallel sides. h is the perpendicular height.

Mathematics – Geometry and Measure

Key Term	Definition	Diagram
Equilateral Triangle	A triangle with all sides the same length and angles of 60° .	
Isosceles Triangle	A triangle with two sides and two base angles of equal size.	
Isosceles Trapezium	A trapezium with two sides of equal length and 2 pairs of equal angles.	
Kite	A quadrilateral with two pairs of equal sides and adjacent sides equal.	
Parallelogram	A quadrilateral with two pairs of parallel sides and opposite sides equal.	

Key Term	Definition	Diagram
Rectangle	A quadrilateral with two pairs of parallel sides and opposite sides of equal length.	
Rhombus	A quadrilateral with four equal sides and two pairs of parallel sides.	
Right-angled Triangle	A triangle, one of whose angles is 90° .	
Scalene Triangle	A triangle, having all sides unequal.	
Square	A regular quadrilateral, having four equal sides and angles.	
Trapezium	A quadrilateral with one pair of parallel sides.	



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French

French – Unit 1 Quelle est la date de ton anniversaire?

ANSWER (1)	DAY (2)				MONTH (3)
Mon anniversaire est le <i>My birthday is on the</i>	premier <i>first</i>	onze <i>eleventh</i>	vingt-et-un <i>twenty-first</i>	trente-et-un <i>thirty-first</i>	janvier <i>January</i>
	deux <i>second</i>	douze <i>twelfth</i>	vingt-deux <i>twenty-second</i>		février <i>February</i>
	trois <i>third</i>	treize <i>thirteenth</i>	vingt-trois <i>twenty-third</i>		mars <i>March</i>
	quatre <i>fourth</i>	quatorze <i>fourteenth</i>	vingt-quatre <i>twenty-fourth</i>		avril <i>April</i>
	cinq <i>fifth</i>	quinze <i>fifteenth</i>	vingt-cinq <i>twenty-fifth</i>		mai <i>May</i>
	six <i>sixth</i>	seize <i>sixteenth</i>	vingt-six <i>twenty-sixth</i>		juin <i>June</i>
	sept <i>seventh</i>	dix-sept <i>seventeenth</i>	vingt-sept <i>twenty-seventh</i>		juillet <i>July</i>
	huit <i>eighth</i>	dix-huit <i>eighteenth</i>	vingt-huit <i>twenty-eighth</i>		août <i>August</i>
	neuf <i>ninth</i>	dix-neuf <i>nineteenth</i>	vingt-neuf <i>twenty-ninth</i>		septembre <i>September</i>
	dix <i>tenth</i>	vingt <i>twentieth</i>	trente <i>thirtieth</i>		octobre <i>October</i>
					novembre <i>November</i>
					décembre <i>December</i>

French – Unit 2 Tu es comment?

VERB (1)	FEATURE (2)	ADJECTIVE (3)		
J'ai <i>I have</i> Mon père a <i>My dad has</i> Il a <i>He has</i> Ma mère a <i>My mum has</i> Elle a <i>She has</i>	les yeux <i>eyes</i>	bleus <i>blue</i> verts <i>green</i> marron <i>brown</i>		
	les cheveux <i>hair</i>	blonds <i>blond</i> noirs <i>black</i> roux <i>ginger</i> gris <i>grey</i> chatain <i>brown</i>	et <i>and</i>	longs <i>long</i> courts <i>short</i> frisés <i>frizzy</i> bouclés <i>curly</i> raides / lises <i>straight</i>
Il est / Elle est <i>He / She is</i>	chauve <i>bald</i>			

French – Unit 3 Quelles matières as-tu?

Time Phrase (1)		Verb (2)	Subject (3)	
Le lundi Le mardi Le mercredi Le jeudi Le vendredi	<i>On Mondays</i> <i>On Tuesdays</i> <i>On Wednesdays</i> <i>On Thursdays</i> <i>On Fridays</i>	j'ai <i>I have</i>	anglais informatique EPS (éducation physique et sportive) allemand espagnol instruction civique histoire	<i>English</i> <i>IT / ICT</i> <i>PE</i> <i>German</i> <i>Spanish</i> <i>Citizenship</i> <i>History</i>
Le weekend Le samedi Le Dimanche	<i>At the weekend</i> <i>On Saturdays</i> <i>On Sundays</i>	on a <i>we have</i>	religion géographie musique technologie français théâtre	<i>RE</i> <i>Geography</i> <i>Music</i> <i>Technology</i> <i>French</i> <i>Drama</i>
Le matin L'après-midi À ... heures... À ... heures et demi... À ... heures et quart...	<i>In the morning</i> <i>In the afternoon</i> <i>At ... o'clock</i> <i>At half past ...</i> <i>At quarter past...</i>		maths sciences arts plastiques / dessin	<i>Maths</i> <i>Science</i> <i>Art</i>

French – Unit 4 Où est ta maison?

J'habite dans <i>I live in</i>	une petite maison <i>a small house</i> une grande maison <i>A big house</i> une maison individuelle <i>a detached house</i> une maison jumelée <i>a semi-detached house</i> une maison mitoyenne <i>A terraced house</i> un appartement <i>a flat</i> une caravane <i>a caravan</i>	qui se trouve qui est situé(e) Which is	dans le nord de l'Angleterre <i>in the North of England</i> dans le sud de l'Angleterre <i>in the South of England</i> dans l'ouest de l'Angleterre <i>in the West of England</i> dans l'est de l'Angleterre <i>in the East of England</i> <i>dans une ville / dans une grande ville</i> <i>In a town / In a city</i> <i>dans un village</i> <i>In a village</i> à la campagne <i>in the countryside</i> à la montagne / aux montagnes <i>in the mountains</i> au bord de la mer <i>by the seaside/coast</i> près d'un aéroport <i>near to an airport</i>	J'aime habiter ici parce qu' que <i>I like living here because</i>	j'adore la tranquillité <i>I love the peacefulness</i> il y a beaucoup de choses à faire <i>there are lots of things to do</i> Il y a beaucoup d'opportunités pour les jeunes <i>there are lots of opportunities for young people</i> il y a un bon système de transport en commun <i>there is good public transport</i> on peut (+ infinitive) faire du shopping / faire des promenades / nager / jouer dans la rue <i>You can go shopping / go walking / swim / play in the street</i>
				Je n'aime pas habiter ici car <i>I don't like living here because</i>	il n'y a pas grand-chose à faire <i>There isn't much to do</i> c'est ennuyeux. <i>It's boring.</i>



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Spanish

Spanish – Unit 1 ¿Cuándo es tu cumpleaños?

TIME PHRASE (1)	CONNECTIVE (2)	BIRTHDAY (3)	DATE (4)		MONTH (5)
Me llamo ... <i>My name is ...</i>	Tengo ... años <i>I am years old</i>	y mi cumpleaños es el <i>and my birthday is the</i>	primer (1) dos (2) tres (3) cuatro (4) cinco (5) seis (6) siete (7) ocho (8) nueve (9) diez (10) once (11) doce (12) trece (13) catorce (14) quince (15) dieciséis (16) diecisiete (17) dieciocho (18) diecinueve (19) veinte (20) veintiuno (21) veintidós (22) veintitrés (23) veinticuatro (24) veinticinco (25) veintiséis (26) veintisiete (27) veintiocho (28) veintinueve (29) treinta (30) treinta y uno (31)		enero → <i>January</i> febrero → <i>February</i> marzo → <i>March</i> abril → <i>April</i> mayo → <i>May</i> junio → <i>June</i> julio → <i>July</i> agosto → <i>August</i> septiembre → <i>September</i> octubre → <i>October</i> noviembre → <i>November</i> diciembre → <i>December</i>
Mi hermano <i>My brother</i> Mi hermana <i>My sister</i> Mi primo <i>My cousin (male)</i> Mi prima <i>My cousin (female)</i> Mi amigo <i>My friend (male)</i> Mi amiga <i>My friend (female)</i>	Tiene años <i>is years old</i>	y su cumpleaños es el <i>and his/her birthday is the</i>		de <i>of</i>	

Spanish – Unit 2 ¿Qué te gusta hacer?

Time phrase (1)	Verb (2)		Activity (3)	Connective (4)	Reason (5)
En mi tiempo libre <i>In my free time</i>	(no) me gusta <i>I (don't) like</i>		bailar salsa <i>to dance salsa</i>	porque <i>because</i>	
Normalmente <i>Normally</i>	me encanta <i>I love</i>		el reguetón <i>reggaeton</i>	ya que <i>as</i>	es emocionante. <i>it's exciting.</i>
De vez en cuando <i>From time to time</i>	odio/detesta <i>I hate</i>		cantar <i>to sing</i>	dado que <i>given that</i>	es relajante. <i>it's relaxing.</i>
Siempre <i>Always</i>	prefiero <i>I prefer</i>		hacer deporte <i>to do sport</i>	pero <i>but</i>	es entretenido. <i>it's entertaining.</i>
A menudo <i>Often</i>	a mi madre <i>my mum</i>		hacer natación/equitación <i>to do swimming/horseriding</i>	sin embargo <i>however</i>	es mi pasión. <i>it's my passion.</i>
Nunca <i>Never</i>	a mi padre <i>my dad</i>	le gusta <i>likes</i>	comer churros con chocolate <i>to eat churros with chocolate</i>		es interesante. <i>it's interesting.</i>
A veces <i>Sometimes</i>	a mi tío <i>my uncle</i>	le encanta <i>loves</i>	jugar al fútbol/tennis/rugby <i>to play football/tennis/rugby</i>		es fatal. <i>it's awful.</i>
Cuando me da la gana <i>When I want</i>	a mi tía <i>my aunt</i>	odia <i>hates</i>	jugar a la petanca <i>to play bowls</i>		es un rollo. <i>it's really boring.</i>
	a mi hermano <i>my brother</i>	prefiere <i>prefers</i>	jugar con la consola <i>to play on the games console</i>		es difícil. <i>it's difficult.</i>
	a mi hermana <i>my sister</i>		jugar con los videojuegos <i>to play videogames</i>		

Spanish – Unit 3 ¿Qué estudias?

TIME PHRASE (1)	VERB (2)	SUBJECT (3)		CONNECTIVE (4)
Los lunes <i>On Mondays</i>	tengo <i>I have</i> estudio <i>I study</i>	informática	<i>Computer Science</i>	y <i>and</i>
Los martes <i>On Tuesdays</i>		educación física	<i>PE</i>	pero <i>but</i>
Los miércoles <i>On Wednesdays</i>		ética	<i>PSHE</i>	también <i>also</i>
Los jueves <i>On Thursdays</i>		historia	<i>History</i>	
Los viernes <i>On Fridays</i>		religión	<i>RS</i>	
Por la mañana <i>In the morning</i>	temenos <i>we have</i> estudiamos <i>we study</i>	geografía	<i>Geography</i>	
Por la tarde <i>In the afternoon</i>		música	<i>Music</i>	
A las <i>At o'clock</i>		matemáticas	<i>Maths</i>	
A las y media <i>At half past ...</i>		ciencias	<i>Science</i>	
A las y/menos cuarto. <i>At quarter past/to....</i>		dibujo	<i>Art</i>	
		alemán	<i>German</i>	
		español	<i>Spanish</i>	
		diseño y la tecnología	<i>Design & Technology</i>	
		arte dramático	<i>Drama</i>	
		inglés	<i>English</i>	

Spanish – Unit 4 ¿Qué hay en tu ciudad?

VERB (1)	PLACES (2)		CONNECTIVE (3)
En mi ciudad hay <i>In my city there is/are</i>	(un) centro comercial	<i>a shopping centre</i>	pero <i>but</i>
	(un) polideportivo	<i>a leisure centre</i>	
En mi pueblo hay <i>In my town there is/are</i>	(un) parque	<i>a park</i>	sin embargo <i>however</i>
Hay muchos/as* <i>There are lots of</i>	(un) cine	<i>a cinema</i>	y <i>and</i>
No hay** <i>There isn't/there aren't</i>	(un) restaurante italiano	<i>an Italian restaurant</i>	también <i>also</i>
	(un) restaurante chino	<i>a Chinese restaurant</i>	
	(un) parque de atracciones	<i>a theme park</i>	porque <i>because</i>
	(un) teatro	<i>a theatre</i>	
	(un) castillo	<i>a castle</i>	
	(un) museo	<i>a museum</i>	
	(una) piscina	<i>a pool</i>	
	(una) pista de hielo/patinaje	<i>an ice rink</i>	
	(una) biblioteca	<i>a café</i>	
	(una) cafetería	<i>a library</i>	
	(una) bolera	<i>a bowling alley</i>	



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Dance

Dance – Year 7

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.				

Drama – Skills

Vocal Skills	
Term	Definition
Accent	The way a character pronounces words according to their location or social class
Emphasis	Adding stress to a word or phrase to enhance importance and communicate meaning
Pace	How quickly or slowly a person speaks
Pause	A moment of silence whilst speaking that can build tension or communicate another meaning
Pitch	How high or deep the voice is
Volume	How loud or quite the voice is
Tone	The way a character speaks to show emotion
Projection	The distance a voice travels
Clarity	How clearly the voice can be heard

Key Terminology	
Term	Definition
Ensemble	A group of musicians, actors, or dancers who perform together.
Script	The written text of a play, film, or broadcast.
Improvise	To create and perform (music, drama) spontaneously or without preparation
Character	A person portrayed in a drama, novel, or other artistic piece.
Fourth Wall	The imaginary wall at the front of the stage separating the audience from the performers.
Ensemble	A group of musicians, actors, or dancers who perform together.
Script	The written text of a play, film, or broadcast.
Improvise	To create and perform (music, drama) spontaneously or without preparation.

Physical Skills	
Term	Definition
Hand Gestures	Use of the hands to communicate meaning
Body Language	Use of the body to communicate meaning
Facial Expressions	Use of the face (Eye brows, Mouth and Eyes) to communicate meaning and emotion to the audience
Posture	Use of the back to show status or age
Gait	How an actor walks to show emotion or character
Eye Contact	Use of the eyes to show relationship towards another character
Proxemics	The distance between characters to show relationships
Levels	Use of different heights to show status
Control	How well you use your body during a performance to stay in character

Types of Staging	
Term	Definition
End on	The audience is seated along one end of the stage, directly facing it.
Traverse	The audience is on two sides of the stage, facing towards each other.
In the round	The stage is completely surrounded by the audience.
Promenade	Performance area may be set in various locations in a venue. Audience follows the action on foot, moving from one location to another.
Thrust	The audience are sitting on three sides of the action of the play.
End on	The audience is seated along one end of the stage, directly facing it.
Traverse	The audience is on two sides of the stage, facing towards each other.



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Drama

Drama – Types of Staging

End-on



Proscenium arch



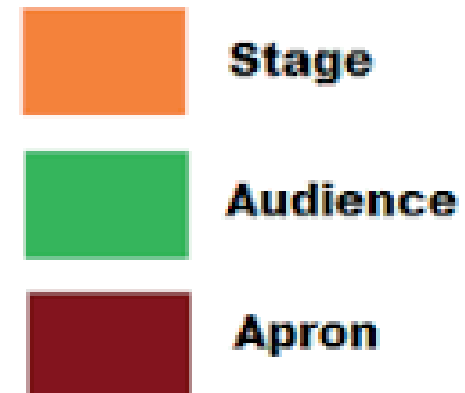
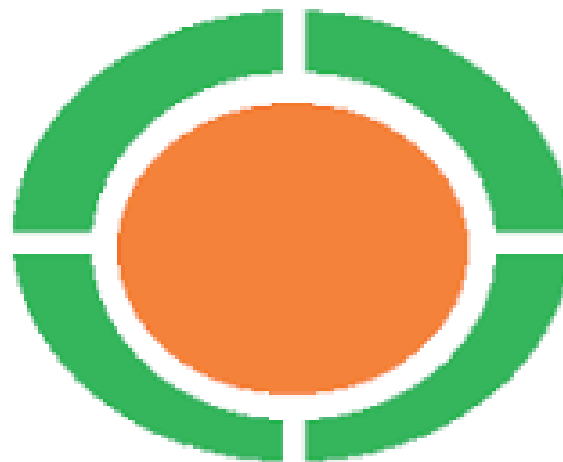
Thrust



Traverse



In the round



Drama – Skills

Creating Theatre

Term	Definition
Stimulus	The item that inspires the idea
Devise	Create a performance, usually based on a stimulus.
Artistic vision	What the actor/director wants the audience to experience
Rehearsal	The process of repeatedly practicing and refining a performance to improve the quality.

Use of space

Term	Definition
Blocking	The process of staging the movement of a scene
Levels	How high or low an actor is stood or sat to communicate meaning or status
Proxemics	The use of space to communicate meaning

Movement

Term	Definition
Unison	A group of people moving as one
Canon	Performing the same phrase of movement one after the other.
Dynamics	The quality of the movement relating to energy, effort, force, or weight.

Performance quality

Term	Definition
Clarity	Speaking clearly so that an audience can hear you
Audience Awareness	Being aware of what the audience can see and hear when blocking, rehearsing and performing a scene
Corpsing	Coming out of role or losing focus during a performance- should be avoided



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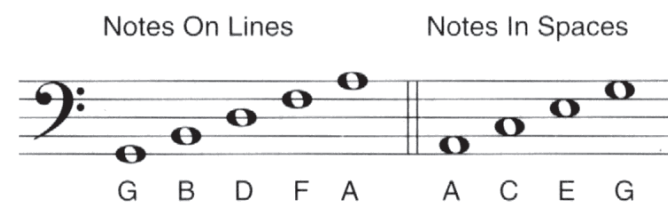
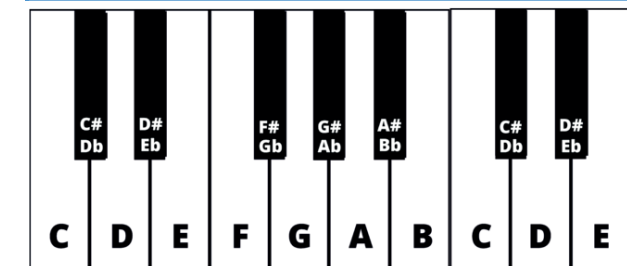
Music

Music – The elements, notation and performance

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.
Instruments	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 spikey or smooth.
Music Notation	
Time signature	At the start of the music, it tells us how many beats are in a bar and the type of beats.
Bar line	A vertical line that separates each bar.
Bar	A segment of music that holds a certain number of beats
Double bar line	Signifies the end of the piece

Performance Knowledge	
Accuracy	Being secure in terms of rhythm and/or pitch, playing at an appropriate tempo resulting in a fluent performance.
Expression and interpretation	An expressive performance in keeping with the chosen style, effective communication and sustained audience interest and maintaining a balanced performance.
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 music.
Performance directions	The tempo, dynamic and articulation markings found on a score that tells you how to perform the piece expressively.
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 as poor intonation.
Fluency	Performing with the correct rhythm/timing, without hesitation.
Stylistic Awareness	Having an awareness of the genre specific conventions that are required e.g. particular articulations or performance techniques.

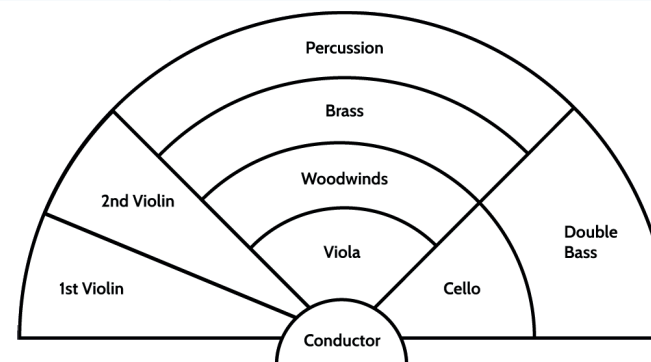
Music Notation			
Symbol	Term	Rest	Definition
	Semiquaver		A note lasting for 1/4 of a beat.
	Quaver		A note lasting for 1/2 a beat.
	Crotchet		A note lasting for one beat.
	Minim		A note lasting for two beats.
	Dotted minim		A note lasting for three beats.
	Semibreve		A note lasting for four beats.



Music – Melody, hooks, riffs and instruments of the orchestra

Hook	The 'catchy bit' of the song that you will remember. It is often short and used and repeated in different places throughout the piece.
Melodic Hook	A hook based on the instruments and the singers.
Verbal/lyrical hook	A hook based on the rhyming and/or repeated words of the chorus.
Rhythmic hook	A hook based on the patterns in the drums and bass parts.
Riff	A repeated musical pattern often used in the introduction and instrumental breaks in a song or piece of music. Riffs can be rhythmic, melodic or lyrical, short and repeated.
Ostinato	A repeating musical pattern. The same meaning as the word riff but used when describing repeated musical patterns in 'classical' and some 'world' music.
Bass Line	The lowest pitched part of the music often played on bass instruments such as the bass guitar or double bass. Riffs are often used in bass lines.
Melody	The main 'tune' of a song or piece of music, played higher in pitch than the bass line and it may also contain riffs or hooks. In 'Classical music', the melody line is often performed 'with' an ostinato pattern below.
Verse	Section of a pop song that repeats the chords and melody but changes lyrics. It tells the story of the song.
Chorus	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.

String family	They are usually played with a bow (arco) - not the Harp but can also be plucked (pizzicato). The smaller the instrument the higher pitched it is.
Brass family	They are made of metal and the sound is made by blowing into the mouthpiece by buzzing the lips in a similar way to blowing a raspberry!
Woodwind family	Wind instruments divided into two subsections: flute and piccolo (create a sound by air passing over a small hole) and reed instruments (use a piece of bamboo reed to create a vibration). Instruments include clarinet, oboe and bassoon.
Percussion family	Instruments which produce sound when hit, struck, scraped or shaken. These fall into two subsections: tuned percussion (able to play different pitches) and untuned percussion.
Orchestra	A large ensemble (group of musicians) divided into four families of musical instruments—strings, woodwind, brass and percussion—led by a conductor.
Conductor	Leader of the orchestra who stands at the front of the orchestra and directs it. They will indicate the main beats in the music using a baton. All musicians look at the conductor whilst playing as they are ultimately in control of the whole piece.
Arco	The articulation where you bow a string instrument.
Pizzicato	The articulation where you pluck a string instrument.
Mouthpiece	The part of a brass or woodwind instrument that you blow in/over.
Valves	The device on brass instruments that when pressed changes the length of tubing and allows the player to pitch different notes.
Slide	A device found on a trombone that enables it to change pitch.
Timpani	A tuned kettle drum. It plays the first and fifth note of the key it is in. It can also roll notes.
Oboe	A double reed woodwind instrument made from wood. Used to play very pastoral melodies.





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Physical Education

Year 7 Physical Education

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	
Teamwork	Means working well with others to achieve a shared goal in sport.
Leadership	Is when someone helps guide or organise a team during activities.
Fitness	Is the ability to carry out daily tasks with energy and without tiring quickly.
Verbal communication	Is used to give instructions and work effectively as a team. Includes calling for the ball or giving instructions to teammates.
Non-verbal communication	Includes hand signals, eye contact, and body gestures used to show where to pass or move.
Healthy lifestyle	Means exercising regularly and making good food choices.

Year 7 Physical Education

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).
Mobiliser	Activities that take the joints through their range of movement starting with small movements and making these bigger as the warm-up progresses.
Mobiliser activities	Open the gates, ankle rotations, wrist rolls, arm rotations/circles, skipping, side steps, High knees, heel flicks
Preparation Stretches	Stretching that takes place before the training session or match takes place
Preparation Stretching Activities	Hamstring sweeps, deltoid stretch, tricep stretch, lunges, quadricpe stretch.

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.

Year 7 Physical Education

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

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
Muscular Strength	The maximum force exerted by a muscle or muscle group against a resistance
Muscular Endurance	The ability to use voluntary muscles repeatedly without tiring.
Cardiovascular Endurance	The ability of the heart and lungs to deliver oxygen to the working muscles over a prolonged period of time

Year 7 Physical Education

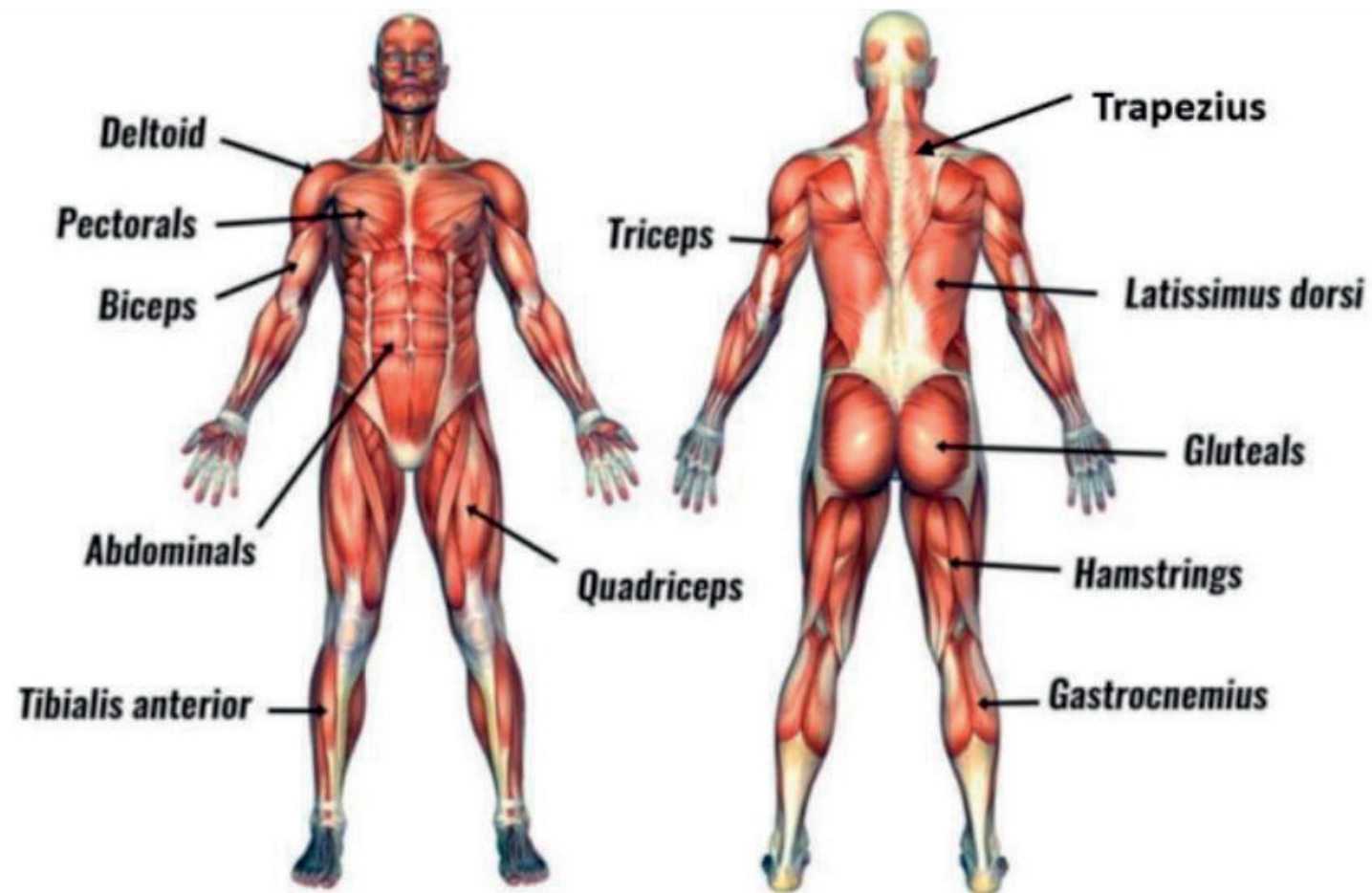
Nutrition

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.
Fats	Foods that give you energy and help keep your body warm.
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.
Carbohydrates	Foods that give you energy, like bread and fruit.
Vegetables	They give you vitamins, help you stay strong, and keep your body working well.
Dairy	help keep your bones strong.



Year 7 Physical Education

Major Muscles of the Body





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Science

Science – Particles, substances and mixtures

Change of state

Keyword	Definition
Change of State	A physical change where a substance changes from one state (solid, liquid, gas) to another without forming a new substance.
Physical Change	A change that does not produce a new substance and is usually reversible.
Reversible	A process that can be undone, returning the substance to its original state.
Energy of Particles	The amount of kinetic energy particles have, which affects how they are arranged and how they move.
Particle Arrangement	The way particles are organized in a substance, which changes during a change of state.
Particle Movement	The motion of particles, which increases or decreases depending on the energy they have.
Temperature	Remains constant during a change of state, even though energy is being transferred.
melting point:	The temperature at which a substance changes from a solid to a liquid
boiling point:	The temperature at which a substance changes from a liquid to a gas
	The diagram illustrates the three states of matter and the energy changes during transitions. Solid particles are arranged in a regular, tightly packed grid. Liquid particles are in a disordered, closely packed cluster. Gas particles are spread out and moving rapidly. Transitions are shown with arrows: solid to liquid (melting, gaining energy), liquid to solid (freezing, losing energy), liquid to gas (boiling, gaining energy), and gas to liquid (condensation, losing energy).

Particle mode of matter

	Solid	Liquid	Gas
Arrangement			
Movement	ordered and all touching	random and all touching	random and not touching
Attraction between particles	strong	weak	very weak

Diffusion

Keyword	Definition
Diffusion	The passive movement of particles from a high concentration
Random Movement	Particles move in all directions without a set pattern.
High Concentration	An area with many particles close together.
Low Concentration	An area with fewer particles spread out.

Gas Pressure

Keyword	Definition
Gas Pressure	The force gas particles create when they hit the walls of a container.
Particle Collisions	When gas particles bump into the container walls, causing pressure.
Faster Movement	Makes particles hit the walls more often and harder, increasing pressure.
More Particles	Increases the number of collisions, raising the pressure.
Higher Temperature	Makes particles move faster, leading to more collisions and higher pressure.

Science – Particles, substances and mixtures continued

Conservation of Mass in a solution

Keyword	Definition
Solution	A mixture made when a solute dissolves in a solvent.
Solute	The substance that dissolves (e.g., salt or sugar).
Solvent	The liquid that dissolves the solute (e.g., water).
Mass of Solution	Equals the mass of the solute plus the mass of the solvent.
Mass Conservation	Mass stays the same because the number of particles doesn't change

Explaining the Properties of Solids

Property	Explanation
Fixed shape and cannot flow	Strong forces of attraction between the particles keep them in fixed positions.
Cannot be compressed (squashed)	Particles are all touching and have no space to move into.

Explaining the Properties of Liquids

Property	Explanation
Takes shape of container and can flow	Weak forces of attraction between the particles, so they can move around each other.
Cannot be compressed (squashed)	Particles are all touching and have no space to move into.

Explaining the Properties of Gases

Property	Explanation
Takes shape of container and can flow	Very weak forces of attraction between the particles, allowing them to move and spread out.
Can be compressed (squashed)	Particles are not touching and have space to move into.

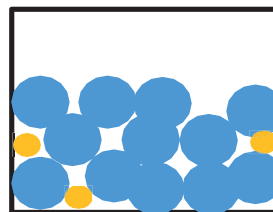
Pure substances and mixtures

Keyword	Definition
Pure Substance	Made of only one type of particle (e.g. only iron).
Mixture	Made of two or more substances that are not chemically joined and can be separated.
Physically Separated	Can be split without a chemical reaction (e.g. by filtering or evaporation)

Pure Substance	Pure Substance	Mixture
		

Solubility

Keyword	Definition
Saturated Solution	A solution where no more solute can dissolve.
Soluble	A substance that can dissolve in a solvent.
Insoluble	A substance that cannot dissolve in a solvent.
Solubility	How much solute can dissolve in a solvent.
Temperature Effect	Higher temperatures let more solute dissolve.
Different Solubility	Solubility changes with different solutes and solvents.
Dissolving Process	Solute particles spread out and fit between solvent particles.



The **solute** is dissolved in the **solvent** to create a **solution**

Science – Separating mixtures

Separating mixtures using chromatography

Keyword	Definition
Chromatography	A method to separate mixtures of coloured substances.
Solute	The coloured substance in the mixture (e.g. ink or dye).
Solvent	The liquid that moves up the paper (e.g. water or ethanol).
Solubility	How well a substance dissolves in a solvent.
Separation	Happens because some substances dissolve and move further up the paper than others.
Pencil Line	A line drawn to place the ink or dye spots before starting the chromatography.
Paper	The surface the solvent travels up, carrying the solutes with it.

Separating mixtures using distillation

Keyword	Definition
Distillation	A way to separate liquids using their different boiling points.
Boiling Point	The temperature where a liquid turns into a gas.
Evaporation	When a liquid changes into a gas by heating.
Condensation	When a gas cools down and turns back into a liquid.
Ink and Water	Water boils and is collected; ink stays behind because it doesn't boil.
Separation	Happens because one liquid turns into gas and is collected, while the other substance stays behind.

Separating mixtures using evaporation and crystallisation

Keyword	Definition
Evaporation	A method to remove liquid by turning it into gas, leaving the solid behind.
Crystallisation	A method to form solid crystals from a solution.
Soluble Solid	A solid that can dissolve in a liquid (e.g. copper sulphate).
Solution	A mixture of a solute (solid) dissolved in a solvent (liquid).
Copper Sulphate	A blue solid that dissolves in water to form a solution.
Crystals	Solid shapes formed when a solute comes out of a solution slowly.

Separating mixtures using distillation

Keyword	Definition
Filtration	A method to separate a liquid from an insoluble solid.
Insoluble Solid	A solid that does not dissolve in a liquid (e.g. sand).
Filter Paper	Special paper with tiny holes that let liquid through but block solids.
Selectively Permeable	Allows only some substances to pass through, because the holes in it are a certain size.
Sand and Water	When filtered, water passes through the paper and sand stays behind, because the sand is too big.

Science – Fundamental in physics (forces)

Types of forces	
Thrust force	A contact force arising from an interaction between two objects which are free to move apart.
Upthrust	A contact force arising from an interaction between an object and a fluid in which it is or could be immersed.
Water resistance	A contact force arising from an interaction between a fluid and an object moving through it.
Weight	The gravity force acting on an object exerted by a large body.
Air resistance	A contact force arising from an interaction between air and a moving object.
Friction	Force that opposes motion.
Magnetic force	A non-contact force arising from an interaction between magnets or a magnet and a magnetic material.
Normal contact force	A force arising from an interaction between two objects in contact and acting perpendicular to the surface.
Lift force	A contact force arising from an interaction between air moving and a curved object.
Tension	The process of forces pulling away from each other on an object.

Motion & balance	
Speed	Speed = distance / time
Velocity	Speed in a particular direction.
Terminal velocity	The maximum speed of an object.
Pressure	The force exerted over an area. Pressure = force / area
Centre of mass	The point at which the mass of an object appears to be concentrated.
Moment	A turning effect of a force.
Pivot	The point around which something can turn or rotate.
Momentum	All moving objects have momentum. Momentum = mass x velocity

Forces	
Force	Force is a push or a pull.
Newton (N)	Unit of force.
Newton meter	Apparatus used to measure force. Also called a spring balance.
Forces can...	Change an objects speed, direction of motion or shape.
Balanced forces	If forces acting on an object are balanced, there is no resultant force acting.
Unbalanced forces	If forces acting on an object are unbalanced, there is a resultant force acting.
Resultant force	The sum of forces acting on the object.
Contact force	Forces that act between two objects that are physically touching each other. Examples of contact forces include pulling, pushing, friction, up thrust, air resistance, reaction force and tension.
Non-contact force	Forces that act between two objects that are not physically touching each other. Examples of non-contact forces include magnetic force, electrostatic force and weight.
Force diagram	Used to show the size and direction of a force acting on an object. The length of the arrow is used to show the size of the force.
Hooke's law	When an elastic object, such as a spring, is stretched, the increased length is called its extension (e). The extension of an elastic object is directly proportion-al to the force applied to it.

Science – Fundamentals in physics (energy)

Stores of energy	
Kinetic energy	Energy stored in a moving object
Elastic potential energy	The potential energy stored in a spring or something stretchy that will spring back after being released
Gravitational potential energy	Energy stored in an object that is in a gravitational field
Electrostatic energy	The energy stored when charges are moved relative to one another
Chemical energy	Energy stored in the bonds of substances; typically fuels or food, i.e. energy is released when burned
Magnetic energy	The energy stored when magnetic materials are moved relative to each other.
Nuclear energy	Energy stored in the nuclei of atoms; released when nuclei are fissioned or fused
Thermal energy	Associated with changes in temperature and/or changes of state of objects.

Pathways	
Mechanical	Energy transferred by a force acting on an object
Electrical	Energy transferred when an electric current flows through a device
Heating	Energy transferred by conduction, convection or radiation
Radiation	Energy transferred by electromagnetic radiation (light, microwaves, etc.) or sound waves

Renewable Energy Resources	
Solar	Energy converted to electricity using photovoltaic cells
Wind	Wind causes turbines to turn, turning generators, which generate electricity
Tidal	Waves power turbines, turning generators which generate electricity
Hydroelectric	Running water turns turbines, turning generators to generate electricity
Biofuel	Plant matter burned to power electricity generators
Geothermal	Energy transferred from inside the Earth

Key terms	
Repeatability	(noun) a measure of the closeness of experimental results by the same person using the same method
Reproducibility	(noun) a measure of the closeness of experimental results by different people or using different methods

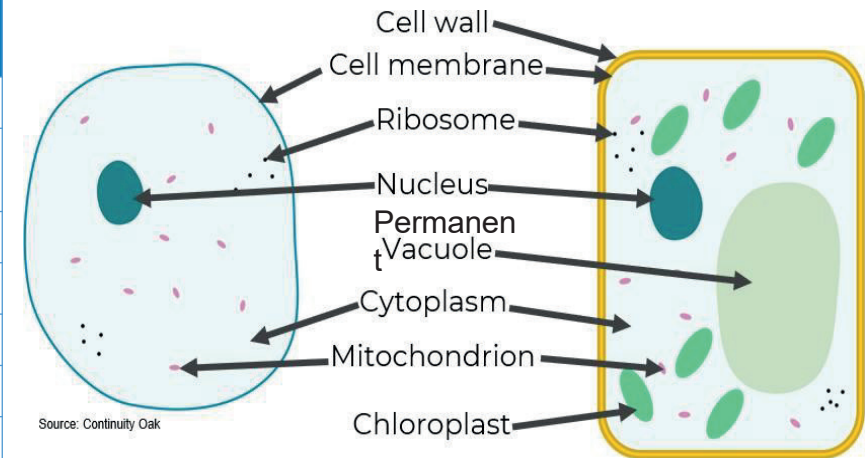
Equations to learn	
Efficiency	$\text{efficiency} = \text{useful energy transferred} \div \text{total energy input}$
Power (W)	$\text{Power (W)} = \text{Energy transferred (J)} \div \text{time (s)}$
Hooke's law	$\text{Force on spring (N)} = \text{extension (m)} \times \text{spring constant (N/m)}$
Energy transfer	$\text{Work done (J)} = \text{Force applied (N)} \times \text{distance travelled (m)}$
Cost	$\text{cost} = \text{energy used in kWh} \times \text{cost of 1 kWh}$

Non-renewable energy	
Coal	Burning coal heats water, producing steam which turns turbines to generate electricity
Oil	Burned to heat water, producing steam which turns turbines to generate electricity
Nuclear	Nuclei are split in the process of nuclear fission; heat released heats water, producing steam which turns turbines to generate electricity
Natural gas	Piped to consumer and burned on site to heat water for direct use, or producing steam which turns turbines to generate electricity

Key words	
Conservation of energy	Energy cannot be created or destroyed, only transferred from one store to another
Insulator	Materials that do not allow charge or heat to pass through them easily
Conductor	Materials that do allow charge or heat to pass through them easily
Renewable	Source of energy that can be replenished as it is being used, e.g. solar, wind
Non-renewable	Source will run out, as it is being used at a greater rate than it can be replenished e.g. oil and coal
Dissipation	Energy becoming spread out to the stores of surrounding objects (usually wasted thermal energy.)
Lubrication	A method of reducing unwanted energy transfer by reducing friction.
Useful energy	Energy transferred to where it is wanted in the way it is needed.
Wasted energy	Energy that is not usefully transferred.

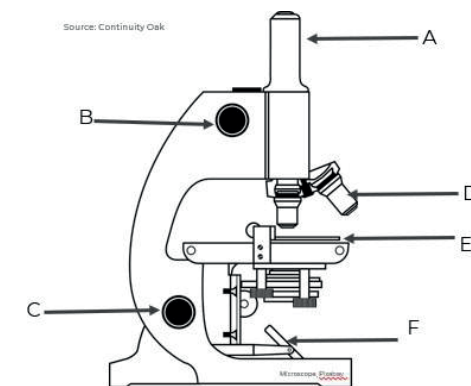
Science – Cells and Organisation

Sub-cellular structures	Function
Nucleus	Controls the cell's activities and contains genetic material
Cell membrane	Controls the movement of substances into and out of the cell
Cytoplasm	A jelly-like substance where most of the chemical reactions happen
Mitochondria	The site of respiration
Ribosome	Site of protein synthesis
Cell wall	Strengthens the cell and supports the plant, made of cellulose
Chloroplast	Site of photosynthesis (contains chlorophyll, a green pigment which absorbs light)
Permanent Vacuole	Filled with cell sap to help keep the cell turgid (stiff) to provide support



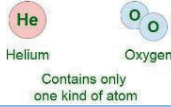
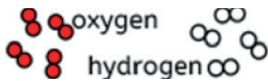
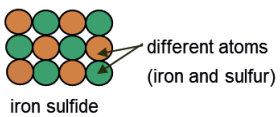
Levels of organisation: Cell → Tissue → Organ → Organ System → Organism	
Cell	The smallest unit for building all organisms e.g. muscle cell
Tissue	A group of cells with a similar structure and function, which work together to do a particular job e.g. muscle tissue
Organ	A group of different tissues, which all work together to do a particular job e.g. heart
Organ system	A group of different organs, which all work together to do a particular job e.g. circulatory system
Organism	A living thing (capable of the 7 life processes)

Microscopes		
A	Eyepiece lens	Where the viewer looks through to see the specimen
	Clips	Keep the specimen secure on the stage
B	Coarse focus	Moves the stage up and down
C	Fine focus	Used to make the image clearer
D	Objective lens	Changes the magnification of the image
E	Stage	Where the specimen is placed
F	Light	Produces light to see the specimen



Key words and definitions	
Magnification	Magnification = size of image ÷ size of real object
Diffusion	The movement of particles from an area of high concentration to an area of low concentration
Specialised cell	Cell that is adapted to do a specific job e.g. sperm
Unicellular	Organism made of only one cell e.g. bacteria
Multicellular	Organism made of many cells e.g. human

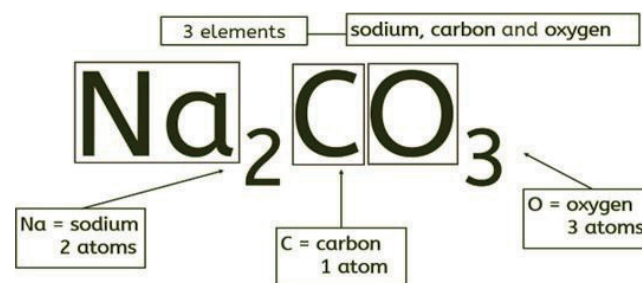
Science – Chemical Changes

Term	Definition	Example
Atom	The smallest particle of matter, which all things are made of.	 a single atom
Element	Substance that contains only one type of atom. Listed on the periodic table.	 Helium Oxygen Contains only one kind of atom
Molecule	Two or more atoms chemically bonded together. The atoms can be the same or from different elements.	 oxygen hydrogen
Compound	Contains two or more different elements chemically combined e.g. the elements iron and sulfur chemically combine to form iron sulfide compound.	 different atoms (iron and sulfur) iron sulfide

Metals	Non-metals
Most are shiny	Most are dull
Most are hard	Solid non-metals are soft and easy to cut, except carbon as diamond
Most are strong	Most are not strong
Most are sonorous (makes a ringing sound when hit)	Most are not sonorous
Malleable (easy to reshape without breaking)	Not malleable
Most are ductile (can be drawn out into a long wire without breaking)	Not ductile
Most have very high melting and boiling points	Most have very low melting and boiling points
Some but not all are magnetic	Not magnetic
Conduct electricity	Non-metals do not conduct electricity, except carbon as graphite
Good at conducting heat	Poor at conducting heat

Naming elements and compounds

Element symbols	First letter is written as a capital letter. If there is a second letter it is written in lowercase e.g. sodium is written Na.
Naming compounds	When a metal reacts with a non-metal the metal name always comes first in the name of the compound. The ending for the non-metal is shortened and changed to '-ide'. E.g. iron + sulfur → iron sulfide.
Naming three element compounds containing oxygen	If there are three elements in the compound, and one of them is oxygen, the ending of the non-metal is shortened and changed to '-ate'. E.g. lithium + nitrogen + oxygen → lithium nitrate
Chemical formulae	Uses chemical symbols and numbers to show how many of each atom is present in a compound.



Chemical reactions (reactant A + reactant B → product A + product B)

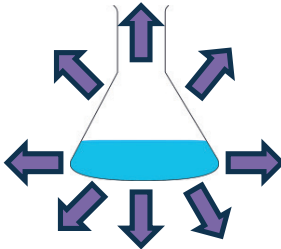
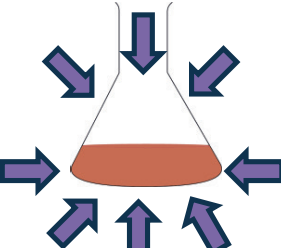
Reactants	Chemicals at the start of the reaction.
Products	Chemicals made at the end of the reaction.
Chemical reaction	When chemicals react the atoms rearrange. The compound made has different properties to both of the elements that make it.
Conservation of mass	Atoms are not destroyed nor created during chemical reactions, so in any reaction: Total mass of reactants = total mass of products.

Science – Chemical Changes

Term	Definition	Examples
State symbol	A symbol to show the physical state of the reactants and products.	(s) solid (l) liquid (g) gas (aq) aqueous— dissolved in water

Types of Reaction

Term	Definition
Oxidation	In an oxidation reaction, a substance gains oxygen. E.g. magnesium + oxygen → magnesium oxide E.g. carbon + oxygen → carbon dioxide
Combustion	The process of burning fuels in oxygen. E.g. Fuel + oxygen → carbon dioxide + water methane + oxygen → carbon dioxide + water
Thermal decomposition	Type of reaction in which a compound breaks down to form two or more substances when it is heated. E.g. many copper carbonates take part in thermal decomposition copper carbonate → copper oxide + carbon dioxide $\text{CuCO}_3(\text{s}) \rightarrow \text{CuO}(\text{s}) + \text{CO}_2(\text{g})$

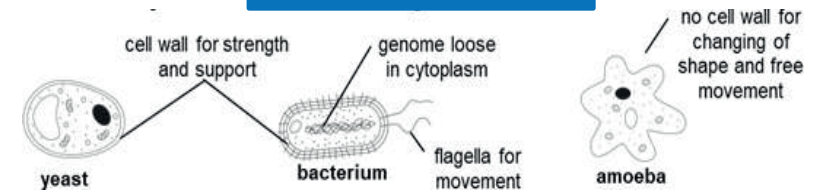
Exothermic and Endothermic Reactions			
Term	Definition	Example	Energy transfer diagram
Exothermic reaction	A reaction that transfers energy to the thermal store of the surroundings. This causes a rise in temperature (positive temperature change).	Combustion Respiration Hand warmer	
Endothermic reaction	A reaction that transfers energy in from the thermal store of the surroundings. This causes a drop in temperature (negative temperature change).	Thermal decomposition Photosynthesis Cold pack	

Science – Organ systems

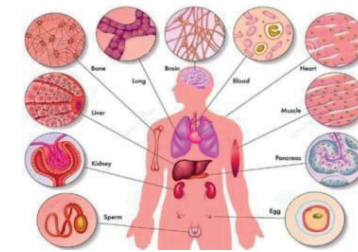
Comparing unicellular organisms and multicellular organisms

Feature	Unicellular organism	Multicellular organism
Number of cells	Made of one single cell	Made of many cells working together
Size	Usually microscopic	Usually larger and visible to the naked eye
Examples	Bacteria, Amoeba, yeast	Humans, Oak tree, Elephant
Specialisation	One cell performs all life functions	Cells are specialized for different functions
Survival	Independent, can live alone	Cells depend on each other to survive
Uses	Yeast used in baking and brewing; bacteria used in digestion and medicine	Humans build societies; plants used for food, medicine, and oxygen

Unicellular organisms

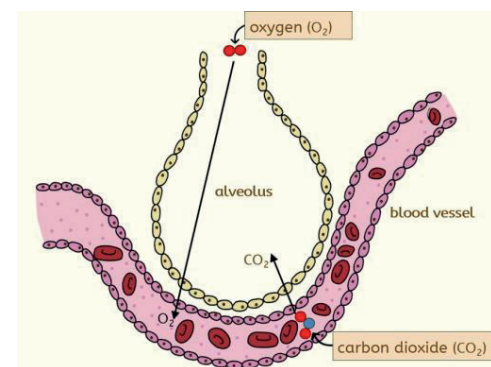
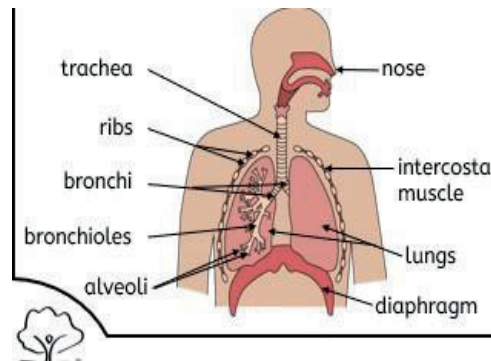


Multicellular organism



Gas exchange system

Trachea	A tube that links the mouth to the lungs, also known as the windpipe.
Bronchi	the part of the gas exchange system that is a pipe leading from the trachea into the lung
Bronchioles	small air passages in the gas exchange system that branch from the bronchi into the alveoli
Alveoli	Thin-walled air sacs in the gas exchange system, where gas exchange takes place
Diaphragm	a sheet of muscle which contracts and relaxes to change the volume of the chest



The process of breathing

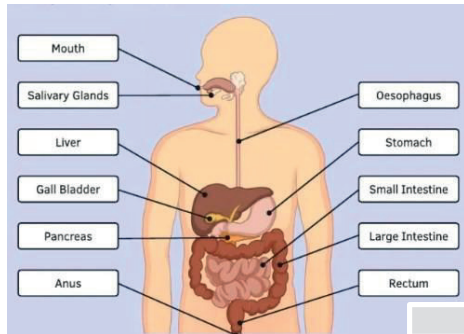
	Inhalation	Exhalation
Intercostal muscles	contract	relax
Ribcage	pulled up and out	released down and in
Diaphragm	contracts and moves down-wards	relaxes and moves upwards
Volume in the chest	increases	decreases
Pressure in the chest	decreases	increases
Movement of air	into the lungs	out of the lungs

Features of the alveoli

Thin walls	To provide a short diffusion pathway
Good blood supply	To maintain the concentration gradient for oxygen and carbon dioxide
Highly folded	To provide a large surface area of diffusion

Science – Organ systems

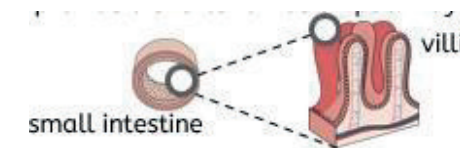
Digestive system



The human digestive system breaks down large, insoluble food molecules into small, soluble molecules so that they can be absorbed

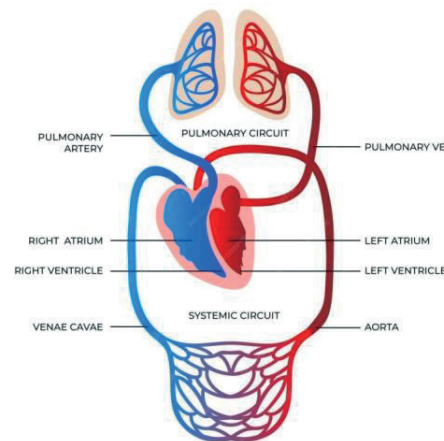
Mouth	Starts mechanical digestion (chewing) and chemical digestion (saliva)
Oesophagus	Transports food from the mouth to the stomach via peristalsis.
Stomach	Mixes food with gastric juices; begins breakdown of proteins.
Small Intestine	Continues digestion and diffuses nutrients into the bloodstream.
Large Intestine	Absorbs water and electrolytes; forms and stores faeces.
Rectum & Anus	Stores and eliminates waste from the body
Mechanical digestion	The physical breakdown of food
Chemical digestion	Using chemical substances to break down food

Adaptation	How it aids absorption
Large surface area	Villi increase the surface for absorption of nutrients
Thin walls (one-cell thick)	Short diffusion path allows nutrients to enter the blood quickly.
Rich blood supply (capillary network)	Maintains concentration gradients and rapidly transports absorbed nutrients.



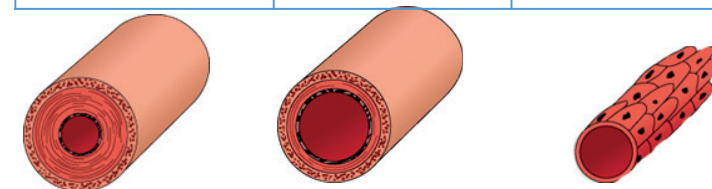
Circulatory system

Part	Function
Heart	Pumps blood around the body
Arteries	Carry oxygen-rich blood away from the heart
Veins	Carry blood back to the heart
Capillaries	Tiny vessels where gas exchange happens
Blood	Transports oxygen, nutrients, and removes waste



CIRCULATORY SYSTEM

Arteries	Veins	Capillaries
Carry oxygenated blood away from the heart	Carry deoxygenated blood towards the heart	Carries blood between arteries and veins
Thick, muscular, elastic walls	Thinner walls	One cell thick
Narrow lumen	Wide lumen	Very narrow lumen
No valves	Has valves	No valves
High blood pressure	Low blood pressure	Very low blood pressure



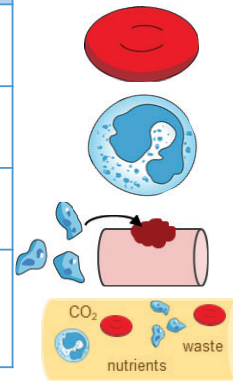
Science – Organ systems

Circulatory system

Blood is a fluid that transports substances, useful molecules and waste around the body.

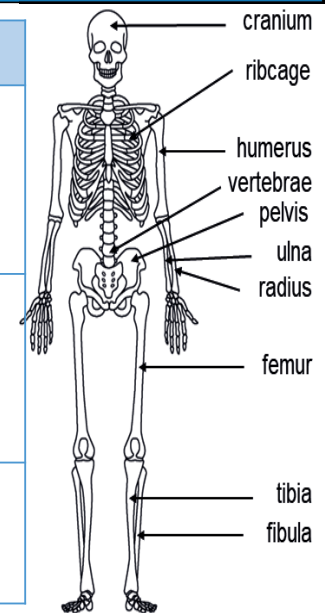
Blood helps the body to defend against diseases and to form scabs to heal cuts.

Blood components	Where it is made	Adaptations
Red blood cells	Bone marrow	Biconcave shape for large surface area; no nucleus for more haemoglobin; flexible.
White blood cells	Bone marrow	Different types adapted to attack pathogens; can change shape to engulf invaders.
Platelets	Bone marrow	Irregular shape to help in clotting; release chemicals to initiate clotting cascade.
Plasma	Liver (proteins) & small intestine (nutrients)	Straw-colored liquid that transports substances; dissolves gases, nutrients, hormones, waste.



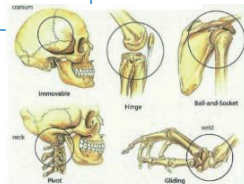
Skeletal system

Function	Description
Support	Provides a rigid frame-work that supports the body and maintains shape.
protection	Shields vital organs (e.g. skull protects the brain, ribs protect the heart).
movement	Works with muscles to enable body movement via joints and levers.

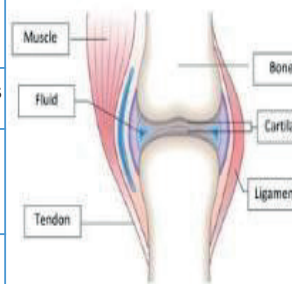


Joints, muscles and movement

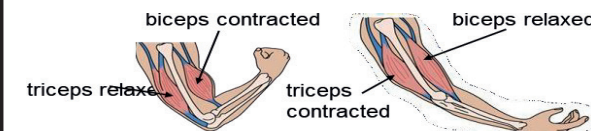
Type of joint	Example	Movement
Fixed	Skull	No movement
Hinge	Elbow/knee	Movement in one direction
Ball and socket	Shoulder/hip	Movement in all directions
Pivot	Neck	Rotates around a single axis



Structure	Function
ligaments	Connect bones to other bones
Tendons	Attach muscles to bones
Muscles	Contract to produce movement
Synovial fluid	Lubricates joints to re-duce friction
Cartilage	Cushions joints; reduces friction between bones



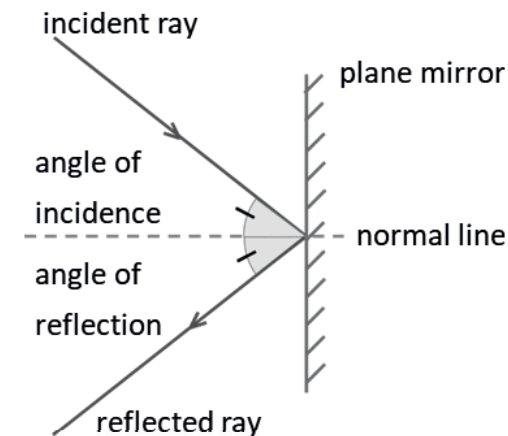
Antagonistic muscle pair	How they work together
Biceps and triceps	Biceps contract to bend the arm (flexion); triceps contract to straighten it (extension)
Quadriceps and hamstring	Hamstrings contract to bend the knee; quadriceps contract to straighten it.



• **Muscle strength** varies based on muscle size, age, sex, training, nutrition and injury.

Science – Light

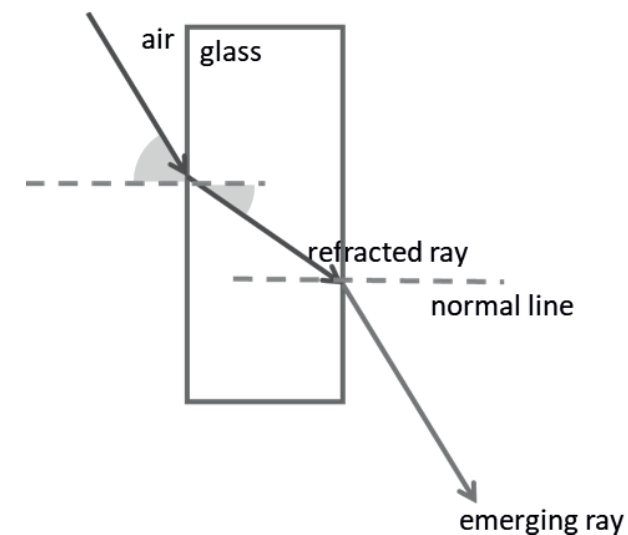
Light	
Key word	Definition
Shadow	Dark area produced by an object blocking light
Opaque	Light cannot pass through
Translucent	Allows some light to pass through, objects are unclear
Transparent	Allows light to pass through so objects can be clearly seen
Filter	Allows certain colours of light to pass through
Absorb	Take in
Reflect	Light bounces off a surface
Refract	Where a ray of light changes speed when entering a different density medium and so changes direction
Density	How tightly packed particles are, density = mass / volume
Medium	Substance the wave is travelling through
Spectrum of visible light	Band of colours seen in a rainbow (red, orange, yellow, green, blue, indigo, violet)
Speed of light	300 million m/s (metres per second)
Law of reflection	Angle of incidence = angle of reflection
Electromagnetic spectrum	A continuous spectrum of waves with different frequencies and wavelengths
Luminous	An object emits their own light
Illuminated	An object needs light shining on them



specular reflection



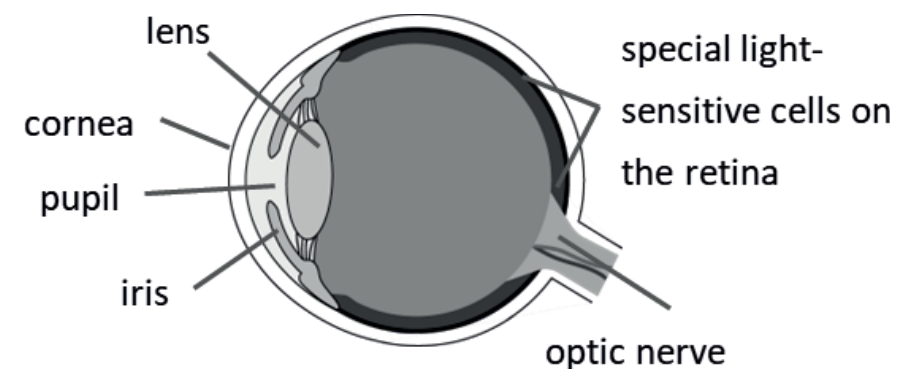
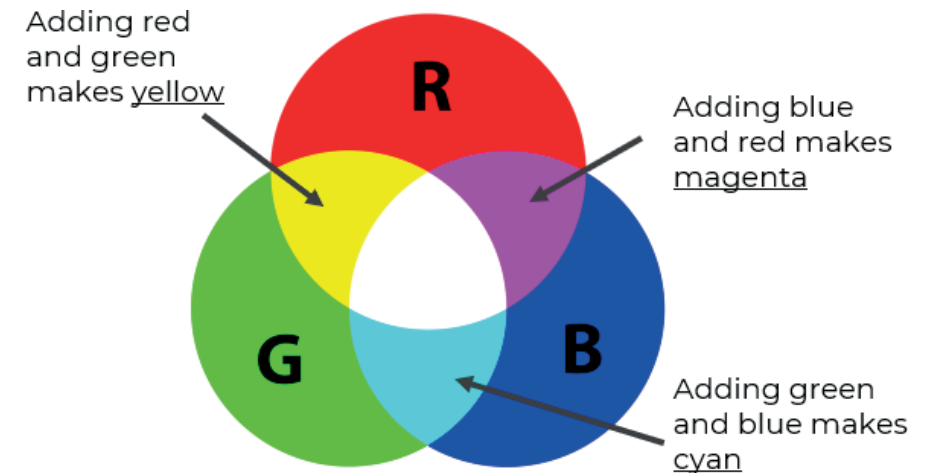
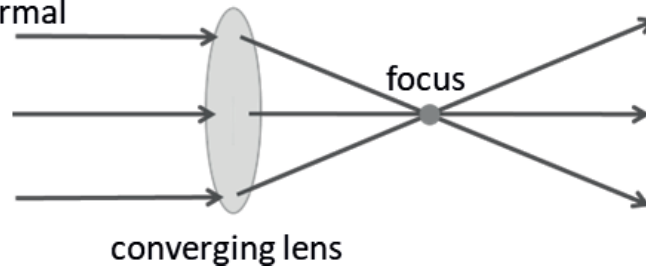
diffuse reflection



Science – Light

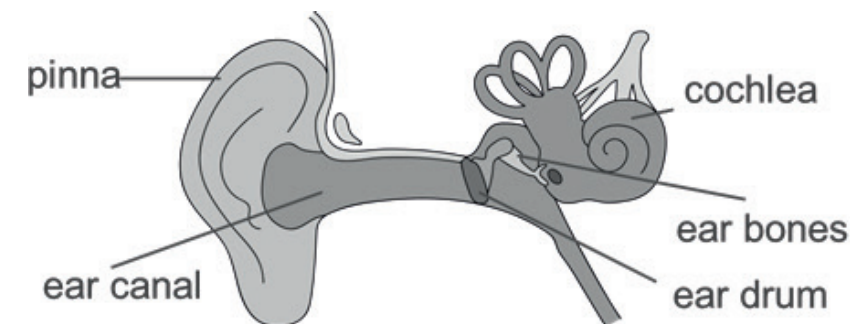
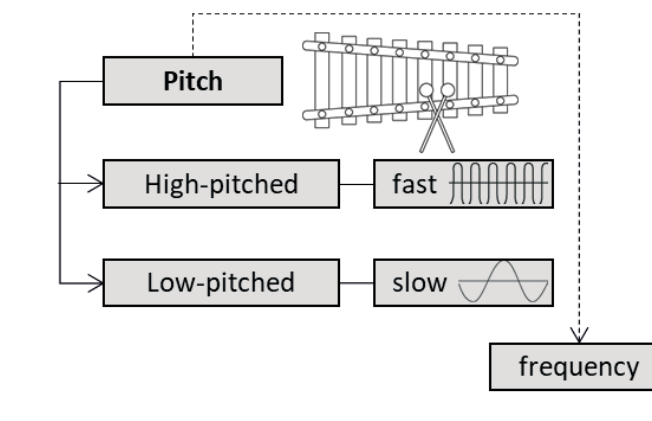
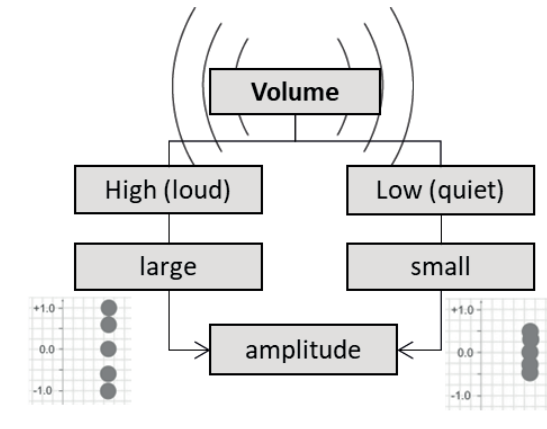
Light	
Key word	Definition
Converging Lens	Form a focus and can form a clear image
Concave Lens	Refract light rays away from the normal
Primary colours	Red, Blue, Green
Secondary Colours	Magenta, Cyan, Yellow
Cornea	refracts light before it enters the eye
Iris	controls the size of the pupil
Pupil	lets light enter the eye
Lens	refracts light to form an image
Retina	made up of cells that detect light
Optic Nerve	carries electrical signals to the brain

incident light parallel to
central normal



Science – Sound

Light	
Key word	Definition
Amplitude	Height from centre line to the peak, or from centre line to the trough.
Wavelength	The length of 1 wave (in metres) from one point on one wave to another
Frequency	The number of waves passing a point each second, measured in hertz (Hz)
Period	The time taken for 1 wave to pass a certain point
Oscillation	Movement back and forth
Wave	The transfer of energy without transferring particles
Transverse wave	A wave produced when the oscillations are perpendicular to the direction of energy transfer
Longitudinal wave	A wave produced when the oscillations are parallel to the direction of energy transfer
Pitch	Increased frequency, higher sound. Decreased frequency, lower
Volume	Increased amplitude, louder sound. Decreased amplitude, softer
Echo	Reflecting sound wave
Audible range	20Hz—20,000Hz
Infrasound	Below 20Hz
Ultrasound	Above 20,000Hz
Decibels	Unit for volume of sound



Science – Materials

Materials	
Key idea	Explanation
What is a material?	What something is made of (e.g. glass, plastic, paper)
Types of material	<i>Natural (from nature) or Synthetic (made by humans).</i>
Why materials matter	The chosen material depends on what the object is used for.
Why it's important to understand materials	Helps us pick the right material based on its properties (e.g. strong, flexible, waterproof).



glass
cup



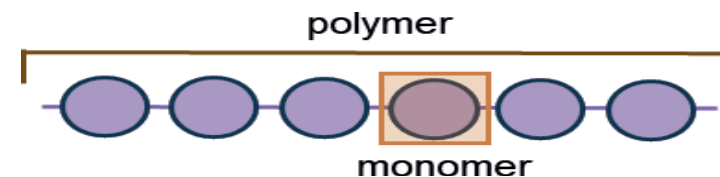
plastic
cup



paper
cup

Ceramics	
Key point	Explanation
What is a ceramic?	A hard, non-metallic material made by heating and cooling a soft substance.
How is it made?	Shape the soft material, heat it to a high temperature, then let it cool.
Example—clay ceramics	Made by shaping wet clay and heating it to make it hard and durable.

Polymers	
Key point	Explanation
What is a polymer?	A long chain molecule made of repeating units called <i>monomers</i> .
How are they made?	<i>Polymerisation—joining monomers together to form polymers.</i>
Natural polymers	Found in plants and animals (e.g. cellulose, starch, wool, chitin).
Synthetic polymers	Made using chemicals from crude oil (e.g. polyester, nylon, PVC, polyethene).



Factor	Effect on polymer properties
Different monomers	Different starting units lead to different properties in the final polymer.
Different chain length	Longer chains make polymers stronger and increase their melting point.

Property	Examples of uses
Good electrical insulators	Casing around electrical wires
Chemically unreactive	Food containers
Durable	Shopping bags
Mouldable	Plastic bottles

Science – Materials

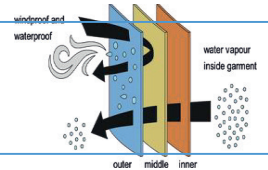
Polymers (continued)

Key idea	Explanation
Population growth	More people means more demand for resources and raw materials.
Raw materials	Natural resources (e.g. crude oil) used to make products like fuels and plastics.
Resource shortage	Many raw materials are running out or becoming harder to find.
Consequence of competition	Can lead to ethical (fairness), social (impact on people), economic (costs), and political (global tensions) issues.

Issue/action	Explanation
Environmental impact	Plastics take hundreds of years to degrade; build up in landfills and oceans.
Health impact	Chemicals from polymers may disrupt reproduction in animals and humans.
Global effort	Policies like the plastic bag charge aim to reduce plastic waste.
Reuse	Using items again reduces waste but may not be possible for all plastics.
Recycle	Turns plastics into new products; helps conserve resources but needs sorting.
Incinerate	Turns waste to generate energy; reduces volume but may release pollutants.
Landfill	Easy option but leads to long-term pollution and land use

Composites

Key idea	Explanation
What is a composite?	A material made from two or more different materials.
Why use composites?	Combines useful properties from each material to make something better.
Material properties	Each material keeps its own properties, and they work together.
Example	Breathable fabric used for outdoor clothing.
What affects the proper-ties?	The materials used - How much of each is used - How they are structured

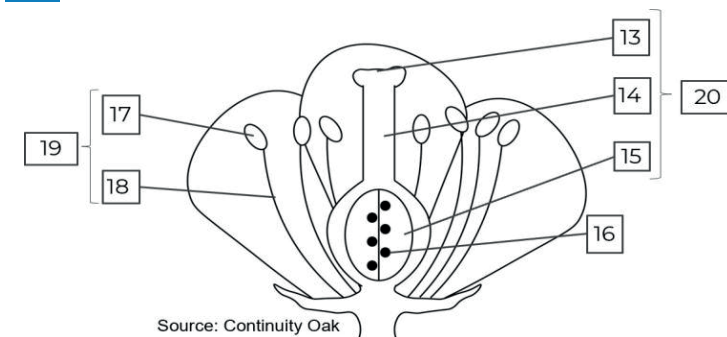
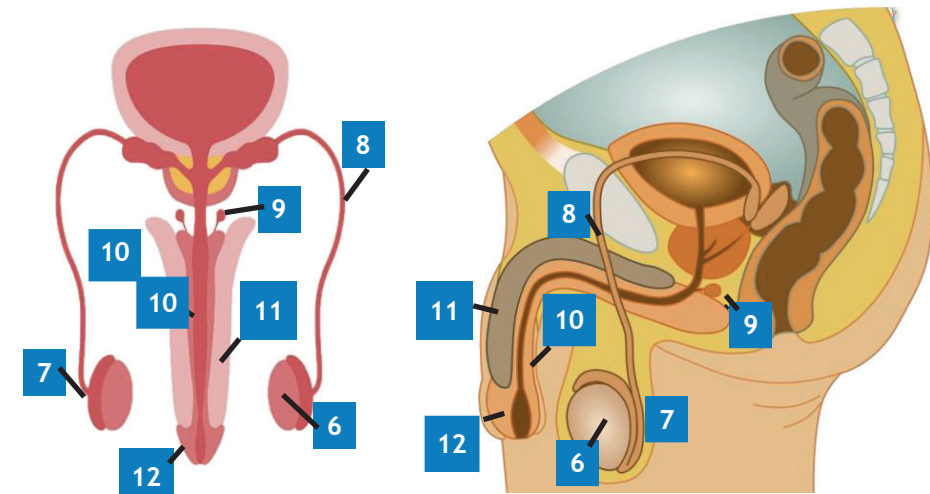
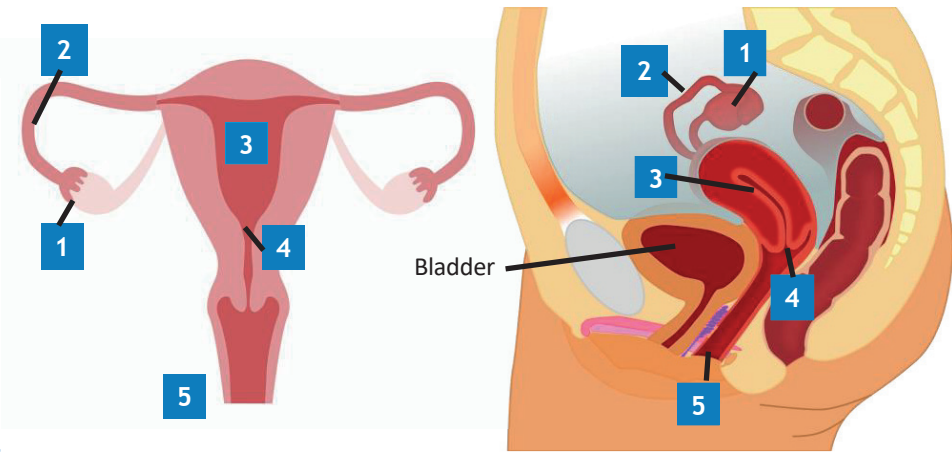


Composite material	Components	Uses
Fibre glass	Glass fibres + polymer resin	Boat hulls, car parts, helmets
Carbon fibre	Carbon fibres + polymer resin	Aircraft, bicycles, high-performance sports gear
Concrete	Cement + sand/ gravel + water	Buildings, roads, bridges
Kevlar	Kevlar fibres + resin	Bulletproof vests, protective gear
Wood-plastic composite	Wood fibres + plastic	Outdoor decking, fencing, furniture



Science – Life cycles

Reproductive Part		Function
Ovary	1	The organ where egg cells (ova) are both produced and mature, ready to be released each cycle
Oviduct	2	Tube connecting the ovary to the uterus and where fertilisation occurs
Uterus (womb)	3	The organ where an embryo grows into a foetus until birth
Uterus lining		The wall of the uterus; the destination for a fertilised egg
Cervix	4	A ring of muscle tissue between the uterus and vagina; this helps keep a foetus in the uterus during pregnancy
Vagina	5	The organ that is entered by the penis during sexual intercourse; sperm must pass through for fertilisation to be possible
Testes	6	The organ where sperm cells are made
Scrotum	7	The skin that holds the testes and helps maintain constant temperature
Sperm ducts	8	The tubes that carry sperm from the testes to the urethra
Prostate Glands	9	These add liquid, including nutrients for the sperm; the mixture of sperm cells and this fluid is called semen
Urethra	10	The tube that carries either urine or semen out of the body through the penis
Penis	11	The organ which carries sperm out of the male body and enters the vagina
Foreskin	12	The skin that protects the end of the penis
Pollen		Male gamete (sex cell) for flowering plants
Stigma	13	Structure that the pollen sticks to and where pollen enters the style
Style	14	Connects the stigma to the ovary, by a pollen tube
Ovary	15	Produces and stores the female gamete (ovule)
Ovule	16	The female gamete (sex cell), found in the ovary
Anther	17	Produces the male gamete (pollen)
Filament	18	Holds the anther to the edge of the flower
Stamen	19	Male reproductive organs; consists of anther and filament
Carpel	20	Female reproductive organs. consists of stigma, style and ovary



Source: Continuity Oak

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Science – Life cycles

Human Reproduction	
Term	Information
Gametes	Sex cells: sperm (male) and egg (female)
Gestation	Process where foetus develops during pregnancy (fertilisation to birth), lasts approximately 40 weeks
Embryo	Collection of dividing cells up to 8 weeks
Foetus	The developing baby in the uterus during pregnancy from 8 weeks to birth
Placenta	Organ that provides the foetus with oxygen and nutrients and re-moves waste substances (carbon dioxide and urea)
Umbilical cord	Connects the foetus to the placenta
Amniotic fluid	Liquid that surrounds and protects the foetus
Birth	Uterus muscles contract and the baby passes through the cervix and out of the vagina
Puberty	Is the process of changes by which a child's body becomes an adult body capable of reproduction usually during teens

Menstrual Cycle	
Term	Information
Menstrual cycle	Body's preparation for pregnancy, controlled by hormones, cycle stops if egg is fertilised by sperm
Duration	Approximately 28 days
Day 1 - 5	Menstruation (period): uterus lining breaks down and is shed through the vagina.
Day 6 - 28	Uterus lining thickens to prepare for pregnancy
Day 14	Ovulation: release of an egg cell from the ovary
Menstrual cycle pauses	If the egg is fertilised an embryo develops and implants into the uterus wall = pregnancy

Plant Reproduction	
Term	Information
Pollination	Pollen transferred from the anther to the stigma, by wind or insects
Fertilisation	Fusing of the nuclei from a male and female sex cell
Fertilisation stages	Stage 1: The pollen grain on the stigma grows a pollen tube down the style to the ovary
	Stage 2: The nucleus of the pollen grain then travels down to meet the ovule
	Stage 3: The nucleui fuses and this is fertilisation. Fertilised ovule becomes the seed and the ovary becomes a fruit
Seed	Structure that contains the embryo of a new plant
Fruit	Structure containing seeds
Seed dispersal	Seeds spread to reduce competition for light, nutrients and water
Methods of seed dispersal	Water, wind, animals, explosion

Variation and Inheritance	
Term	Information
Variation	The differences in characteristics between living things of the same species, e.g. different coloured fur
Inherited variation	Different characteristics due to differences in genes, inherited from parents
Environmental variation	Different characteristics due to impact of surroundings, e.g. diet, lifestyle, injury
Continuous data	Where differences can have any numerical value between a maximum and minimum, for example, height and weight
Discrete data	Where differences can only be grouped into categories, e.g. eye colour and blood group
Inheritance	When living things reproduce, they pass on characteristics to their offspring via genes e.g. eye colour
DNA	Is a chemical made up of two long strands, arranged in a double-helix structure; which carries genetic information