Year 8 Cycle 1

Knowledge Organisers

Contents

Design and Technology Vocabulary

Aesthetics	The study of the shape or form of every day products; as in … "That product is aesthetically pleasing"
Analysis	Looking in detail at the design problem, what the problem involves what needs to be looked at (researched), and who needs to be consulted for advice.
Anthropometrics	The measurements of humans, e.g. heights, arms / leg lengths, hand widths, head sizes, or similar.
Batch Production	The production of products in 'batches'. E.g. batches of different types of bread products …brown then white bread … large and then small loaves, etc. batches of red china mugs, then blue ones, etc. A batch of benches for a park, or a batch of children's seating for a McDonalds restaurant.
BSI	British Standards Institute has responsibility of devising standards that particular products must meet, for a variety of reasons. For example toys must be tested to BS EN 71, for safety reasons. The full definition is at http://www.bsieducation.org/Education/14-19/default.shtml
CAD	Computer software that helps the designer to create designs, plan, technical drawings and 3-D images of the design being explored.
CAM	Computer software programs and Computer Numeric Control (CNC) machinery, such as a milling machine lathe or vinyl cutter machine, that allows CAD produced designs to be made by the CAM machinery.
Compressive strength	The ability to resist a pressing force, e.g. concrete or cast iron.
Conductivity (Electricity)	The ability of a material to conduct electricity e.g. copper, aluminium, gold.
Conductivity (Heat)	The ability of a material to conduct / transmit heat, e.g. copper.
Corrosion	The tendency of a material to rust (iron/steel) or corrode (aluminium)
Corrosion Resistance	The ability for a material to resist corrosion / discolouring /rotting, e.g. copper, lead, gold, silver.

Design and Technology Vocabulary

DTP (Desk Top Publishing)	Computer software that is designed for producing leaflets, booklets and text-based documents.
Ductility	The ability of a material to be drawn / stretched pulled into thin strands, e.g., copper electrical cables.
Durability	The ability of a material or product to last a long time. The ability to do its job for a long period.
End User	A person who uses the product for its intended purpose, but may not have bought it.
Ergonomics	The study of 'Man in his Environment', e.g. work space, activity space, sitting, working heights or similar.
Flexibility	The ability of a material to bend and change shape, without cracking or breaking.
Gantt Chart	A method of planning that places tasks down the left hand side of the page and dates across the top, to enable you to see what needs to be done by when.
Malleability	The ability of a material to be bent, shaped, hollowed, etc. into a complex shape, e.g. steel sheets pressed into car body panels or copper sheet shaped into hot water cylinders.
Media	The general term for paper, card, paint, printer print-outs and other materials that are used in producing design work and products (mainly in Graphic Products).
Manufacturer	A person or company that will make the product.(See also One OFF production, Batch Production and Mass Production)
Market Research	The process of finding out what customers require from a product, e.g. questionnaires and interviews.
Mass Production	The continuous production on one product: e.g. motor cars, TVs, aluminium cans, plastic vending beakers, etc. The product may be produced around the clock and once it has commenced, the (sometimes automated?) machinery is made maximum use of.
Model	An attempt to build a version of your design to see if it works, if it is the right size or if it looks good. This could be done using CAD.

Design and Technology Vocabulary

One-off production	The design and manufacture of one product only, e.g. a sculpture for a shopping centre or a signboard for a shop front.
Patent	A form of Intellectual Property Protection that applies to the function of a newly invented product.
Pattern	(See Template)
PCB	Printed Circuit Board
Planning	The process of sorting out how the design work will be done, how the product will be made, which processes get done first and the time needed for all of these activities.
Plasticity	The ability to change shape, to deform or to mould. (Similar to malleability).
Product Designer	A person who designs the overall shape and appearance of a product and concerns themselves with the aesthetics of the product, shape size, form etc.
Product Life	The period of time that a product is designed to last. (Related to planned obsolescence).
Prototype	The first model made to decide if the design works, if it is the right size, comfortable, safe, attractive or suited to the user's needs. This allows changes to be made, before the final version is made.
Quality Assurance	The guarantee a company can give that their product will be reliable based upon the reliability of the tests carried out when the product was made.

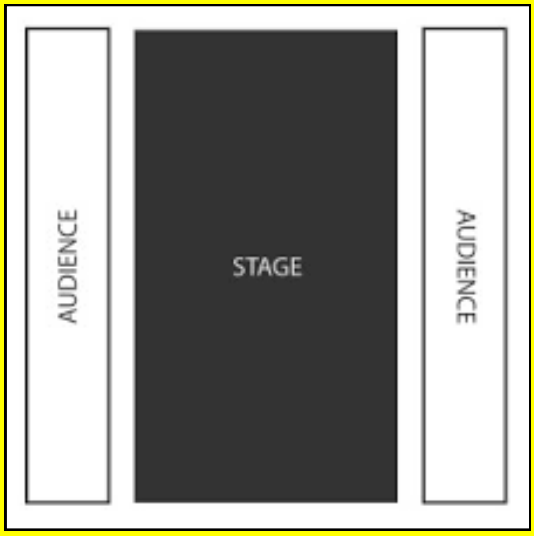
Design and Technology Vocabulary

Quality Control	Individual tests carried out to check the product is being assembled correctly during production.
Questionnaire	A list of questions that are given to potential customers to find out their needs and preferences.
Recycle	Recycling involves processing used materials into new products in order to prevent waste.
Reduce	Reduce everything about the product. Reduce the size of the product making it less of an impact on the environment. Reduce the energy consumption when making the product. Reduce the number of batteries in the product.
Refuse	Refuse to use certain materials because they are not sustainable. Refuse to buy products that are not made ethically. Refuse to make products that are not sustainable.
Registered Design	A form of Intellectual Property Protection that applies to the outward appearance of a product. For example the glass coke bottle design was registered in 1937. Design registration lasts up to 25yrs.
Repair	Repair the product, don't throw it away. Graphics – facelift. Systems – fix it. Design for disassembly so parts are not thrown away.
Research	Gathering information to help with design work. The process of looking at existing ideas, designs and listing good and bad features. Gathering other information that will assist with design work.
Retailer	A person who sells products through shops directly to consumers.
Rethink	Designing products by "re-thinking" about the needs and wants for the product. Is the product REALLY needed? Is the product ONLY wanted, but not needed. Re-thinking the types of material to make the product.
Reuse	Reuse the product when it has come to end of its lifecycle. Reuse food. Rechargeable batteries. Reuse textiles. Reuse containers. Reuse the product in some way. Don't throw it away

Design and Technology Vocabulary

Rigidity	To make a product or structure stiff and resist deformation
Six Rs of Sustainability	Sustainability canbe refined down into 6 'R's those being 'Refuse', Rethink, Repair, Reduce, Reuse, Recyle.
Shelf life	The period of time a product remains safe to sell and / or safe to eat.
Smart Material	Smart materials are materials that have one or more property that can be significantly altered in a controlled fashion by external stimuli, such as stress, temperature, moisture, pH, electric or magnetic fields. E.g. Nitinol Wire, Thermochromic pigments, Thermochromic film.
Star diagram	A diagram that compares the good and bad features of a product.
Stiffness	(See Rigidity)
Strength	The ability of a material to resist pressure / loads.
Sustainable Design	Designing a product using the philosophy of RETHINK, REFUSE, REDUCE, REUSE, REPAIR, RECYCLE in order to reduce the use of energy and environmental impact of products. (each is defined in this glossary)
Target Group	When producing new products, the likely purchaser or user's needs and preferences are considered by the designer and manufacturer.
Template	A paper or card cut-out showing the shape of a product. Used to improve / finalise a shape and to transfer it to the chosen manufacturing material.
Tensile strength	The ability to resist a pulling force, e.g. a tow rope or lift cable.
Testing	The process of trying out a product to see if it does it's job or to see if it is strong enough or durable enough.
Toughness	Similar to durability. The ability to withstand repeated force, impact and rough use.

Drama Knowledge 6



Traverse Stage

The diagram is a **ground plan** of a **Traverse Stage**. A ground plan is an overhead view of the theatre stage area or of a **set design.**

Pros of a Traverse Stage — The audience on either side can clearly see work that happens.
The audience can see each other, creating **intimacy.**

Cons of a Traverse Stage — The opposing sides of the audience might see two entirely different shows and **sight lines** are an issue.

Upstaging

Upstaging is when one actor takes **attention** away from another during a live performance (even if it happens **downstage)**.

Example—When an actor steals focus in the background by being over the top or stumbling into the set, all eyes go to him.

Status Ranking — is a **rehearsal technique** used to explore the status of characters in a scene. Each performer 'ranks' their roles rise and fall of **power/status** within a scene assigning a number between one and ten. One is the lowest status and ten the highest. Actors can experiment with the status of the roles within the scene to see how it alters the quality of the drama.

Vocal Skills

Clarity — Clarity simply means speaking clearly on stage so every member of the audience can hear you. **Professional performers** will undertake complex vocal **warm ups** to make sure their **articulation** is the best it can be.

Physical Skills

Proxemics— This comes from the word **Proximity** and means the position of people in relation to each other on stage. The distance between characters on stage communicates to the audience how comfortable they are with each other.

Colour Symbolism

Colour can be used in **costumes, set, props and lighting** to communicate a deeper meaning to the audience.

Example:

NATURE **BROWN** **DULL**

HONESTY **RELIABLE**

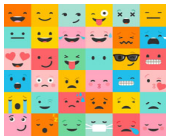
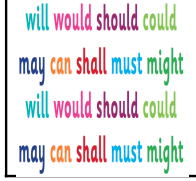
Drama Techniques and Terminology

Anticlimax – As a **climax** is meant to be where all things come together as a **conclusion**, an **anticlimax** is incomplete and therefore can be disappointing or unsatisfying.

Improvisation – To perform quickly in response to something, or to act without previous planning. A distinction is made between **spontaneous** (making it up as you go along) and **prepared improvisation** (working within a previously agreed **structure** of ideas and roles).

ENGLISH - Year 8 Cycle 1 – Exploring Poetry

General Topic Vocabulary

	Word	Example:
	**poetry -** literary work in which special intensity is given to the expression of feelings and ideas.	When we read **poetry**, we are looking at the meanings created by the writer's use of language and structure.
	**evoke -** to bring or recall (a feeling, memory or image) to the mind.	When we read a poem, it can **evoke** certain emotions.
	**analyse –** Examine something in detail.	We will **analyse** different poems by exploring their in detail.
	**interpretation** – the act of explaining the meaning behind something.	It is possible to have several different **interpretations** of the poem.
	**ambiguous –**open to more than one possible interpretation.	Often, the meaning of a poem can be **ambiguous**: there are different possible interpretations.
	**hedging language –** words and phrases that are used to present ideas as possible rather than certain.	The phrases 'might show' and 'could suggest' are examples of **hedging language.**

What does structure mean in poetry?

Structure in poetry covers the following things:

- The focus of each stanza (e.g. The first stanza focuses on description. The second focuses on emotion.)
- Anything that is repeated – a word, phrase, line, image or even whole stanza
- Any links between different parts of the poem
- How the ending compares to the beginning
- The journey the poem takes us on

What are the different elements of a metaphor or simile?

Metaphor and **simile** are both types of figurative imagery. This means that they need interpretation. Metaphors and similes are both made up of 3 different elements:

tenor – the **subject** of the metaphor, and its meaning

vehicle – the thing that is being **compared with** the tenor.

ground – the **connection or relationship** between the tenor and the vehicle, that helps us to understand the subject in a new way.

Questions to ask about poems:

What?
What is the mood/tone/feeling of the poem?
What does the writer want the reader to think or feel?
What is the message in the poem?

How?
How does the writer show the tone/mood/feeling?
How does the writer use language to effect the reader?
How is the message shown in the poem?

Why?
Why might the writer want the reader to feel this tone/mood/feeling?
Why does the writer want to have this effect on the reader?
Why is the message important?

ENGLISH -Year 8 Cycle 1 – Exploring Poetry

Key Word	Definition	Example
imagery	'A picture made out of words': if something is described in a way that you could *imagine* through your senses, it is imagery.	'When you died your hair blue (or, at least ultramarine for the flipped sides, with a crest of jet-black spikes on top)' (from *For Heidi With The Blue Hair).*
simile	A form of imagery that describes something in terms of a comparison with something else, using the words 'like' or 'as'.	They beat him **'soft like clay'.** (from *Not My Business')*
motif	A **motif** is a repeating image in a text that suggests, represents or symbolises something else.	The elevator **motif** in 'Long Way Down' may represent Will's sense of feeling trapped by the rules.
symbol	A **symbol** is something that represents something else. Very often, the symbol is something physical (we could touch it), and it represents something abstract (we can't physically touch it.	In *Nettles*, the nettle could represent all the painful events from which the father can't protect the child.
metaphor	A form of imagery which describes something in terms of a comparison with something else. Doesn't use 'like' or 'as'.	'Hope is the thing with feathers' (from *Hope*).
personification	A form of imagery where a non-human object is given human qualities (i.e. described like a person). Can be used to describe abstract ideas.	In *Nettles*, the plants are **personified** when they are referred to as 'tall recruits'.
juxtaposition	Where two things or images are placed next to each other, to show up the difference or contrast between them.	The phrase 'nettle bed' **juxtaposes** the pain and discomfort of nettles with the comfort of bed. (from *Nettles*).
semantic field	A group of words that are all associated with the same topic.	The words 'battle', 'army', 'weapon' and 'fight' all belong to the **semantic field** of war.
rhyme	Words that have the same final sounds. Note that rhyme is about *sounds* – the spellings of the word endings might not be the same. A pattern of rhyme in a poem is called a **rhyme scheme.**	Carroll uses a regular **rhyme scheme** in the poem *Jabberwocky*.

ENGLISH - Year 8 Cycle 1 – Exploring Poetry

Key Word	Definition	Example
verse	Poetry or parts of a poem – a single line, a stanza, or the entire poem	'Long Way Down' is a novel that is written in **verse**.
line break	(In poetry) where the writer decides that one line ends and another line begins.	**Line breaks** can be used to emphasise a specific word by placing it at the beginning or end of a line.
end-stopping	Where a line of poetry ends with the end of a phrase or sentence, clearly marked with punctuation. Only used in relation to poetry.	Armitage's use of **end-stopping** in '*About His Person'* may represent the finality of death.
enjambment	Where a sentence or phrase runs over from one line of poetry to the next, across the **line break**, with no end-of-sentence or end-of-phrase punctuation at the end of the lines. Only used in relation to poetry.	Seatter's use of **enjambment** in '*I Come From'* may represent the speaker's sense of freedom.
voice	The person – or character – behind the words in a text, and the way that person or character sounds.	The character of Will provides the **voice** of 'Long Way Down'.
colloquial language	The language of everyday speech: it is **informal** and casual, and is more often heard than seen written down	Using the word 'beef' instead of argument; using the phrase 'kicked the door down'.
structure	The arrangement or organisation of ideas within a whole text; how different parts of something are put together.	Armitage structures *Not The Furniture Game* by arranging most lines to start with the word 'and'.
stanza	The equivalent of a paragraph within a poem: a group of lines arranged together on the page.	*Not My Business* is written in four stanzas.
onomatopoeia	A word that creates a vocal representation of a sound when it is said.	Words such as 'cuckoo' and 'sizzle' are examples of **onomatopoeia**.

Geography Knowledge Organiser

Year	8	Cycle	1	Topic	Weather and climate

Subject vocabulary

Ready to test your knowledge? Scan this QR code to access Quizlet

Weather	Describes the day-to-day conditions of the atmosphere. It can change quickly – one day it can be dry and sunny and the next day it may rain.
Climate	Describes the long-term pattern of weather in an area, typically averaged over a period of 30 years.
Meteorologists	Scientists who study the weather; a weather forecaster
Precipitation	Rain, sleet, snow and hail
Humidity	The amount of water vapour in the air
Air pressure	The weight of the air pressing down on the Earth
Altitude	Height above sea level (metres)
Continentality	A climate condition in which it takes less energy to heat a location while water bodies do not influence temperature much or at all
Prevailing wind	The dominant (main) wind direction in an area
Latitude	Distance from the Equator: Imaginary lines around the globe
Air pressure	It is the force exerted on a surface by the air above it as gravity pulls it to Earth
Low pressure	Low pressure forms when warm air rises, it then cools in the atmosphere, condenses and forms clouds. Depressions are associated with low pressure.
High pressure	High pressure is when cold dense air falls (but warms as it is falling). This creates clear skies. Anticyclones are associated with low pressure.
Coriolis effect	Because the Earth rotates on its axis, circulating air is deflected toward the right in the Northern Hemisphere and toward the left in the Southern Hemisphere.
Insolation	The amount of Solar radiation received in the Earth's atmosphere or at the Earth's surface.
Extreme weather	When a weather event is significantly different from the average or usual weather pattern.
Tropical storms	A hazard that brings heavy rainfall, strong winds and other related hazards such as mudslides and floods. The strongest tropical storms are called hurricanes, typhoons or tropical cyclones. All are tropical storms- but in different parts of the world.
Climate change	A large-scale, long-term shift in the planet's weather patterns or average temperatures.
Global warming	The gradual increase in the overall temperature of the Earth's atmosphere. Many people believe that this is caused by the Enhanced Greenhouse Effect – increased levels of greenhouse gases in our atmosphere.
Greenhouse gases	A gas that contributes to the greenhouse effect by absorbing infrared radiation. Exampled include: Carbon dioxide, CFCs, methane and nitrous oxide. Humans are increasing more of these gases through agriculture, burning fossil fuels, waste production and deforestation.
The Greenhouse Effect	The greenhouse effect is a process that occurs when gases in Earth's atmosphere trap the Sun's heat. This process is natural and makes Earth much warmer than it would be without an atmosphere.
The Enhanced Greenhouse Effect	This is the same effect, but it has become exacerbated (made worse) by humans creating more greenhouse gases.
Anthropogenic	Originating in human activity; humans responsible for.
Mitigation	Refers to efforts to reduce or prevent emission of greenhouse gases.
Adaptation	Making adjustments to our environment to cope with climate change
Renewable energy	Energy from a source that is not depleted when used, such as wind or solar power. This is often called 'green' or clean energy- as opposed to burning fossil fuels.

Lesson content

(If you cannot access the QR code, ask your teacher to share the folder with your school email)

1. What is 'weather' and how do we measure it?	This lesson introduces the difference between weather and climate. We define different types of weather conditions, from heatwaves, humidity, wind, clouds to precipitation. Scientists that study the weather are called meteorologists. Lastly, we learn about the different methods to measure the weather (temperature, cloud cover & type, air pressure, wind speed and direction, sunlight and precipitation) and the instruments used to measure them.
2. What factors affect climate?	This lesson explores the reason why we have different climate zones across the world. The factors associated with climate are: The prevailing winds, altitude, continentality, latitude and ocean currents. We the identify the specific factors that make the UK's climate temperate (mild). The ocean current called the Gulf Stream keeps us insulated, south westerly prevailing winds brings warm moist air to the western UK resulting in precipitation. Altitude in some areas, such as Dartmoor, means they may receive snow in the winter for being a lot colder than surrounding areas.
3. High and low pressure systems	This lesson introduces the meaning of air pressure, high and low pressure and how wind is created. Air moves from areas of high pressure to low pressure- this is how wind is created. This wind bends as it moves due to the Coriolis effect (deflection caused by the Earth's spin. Lastly, we look at synoptic weather charts and identify the symbols for a warm, cold and occluded front.
4. Global pressure systems	In this lesson, we use our knowledge of high and low pressure systems to identify pressure zones across the world. We identify three global pressure systems, the Hadley, Ferrel and Polar cell, which are responsible for transporting warm and cold air across the globe. We identify the equator as the area that receives the most insolation, creating a zone of low pressure which helps power the Hadley cell.
5. Types of rainfall	We start this lesson by recapping some KS2 knowledge (evaporation, condensation, precipitation) before identifying how rain is formed (warm air rising and condensing to form droplets). We then progress to looking at three types of rainfall; Convectional (powered by the sun's insolation causing rapid evaporation, then condensation). Frontal (when a cold air mass meets a warm one and lifts it up into the cold atmosphere) and Relief (air rises at areas of high land, and condensates at increasing altitudes).
6. The UK climate enquiry	We start this lesson by recapping the factors that affect climate from lesson 2. In addition, we identify all the different air masses (cold, warm, wet & dry) that affect the UK. We then identify what a climate graph is (bars show precipitation and line shows temperature) and construct two climate graphs for the SW and NW of the UK.
7. Weather hazards	This lesson starts by recapping what a hazard is (from Year 7 cycle 3) 'A threat (natural or human) that has the potential to cause loss of life, injury, property damage'. We identify what extreme weather is, then we identify 5 examples of extreme weather (Beast from the East and Storm Dennis in the UK, Australian Forest fires, Pakistan Floods and North East African Drought) and their impact on people and the environment.
8. What are tropical storms?	We identify the factors needed for tropical storm formation (warm ocean water at least 27°c, ocean 60-70 metre depth, low wind sheer, the Coriolis effect and low latitudes 5 - 35° north and south of the Equator). We then talk through the stages of formation of tropical storms, then how they can be classified by using the Saffir- Simpson Hurricane Wind Scale.
9. Mid cycle assessment	
10. Hurricane Katrina (1)	Hurricane Katrina was a category 5 storm that affected the South East of the USA, namely Florida and Louisiana (New Orleans). We identify the causes of the hurricane then watch a small documentary to identify the social, economic and environmental effects, and the immediate and long term responses to this hazard.
11. Hurricane Katrina (2)	Following on from last lesson, this lesson we explore why the effects of Hurricane Katrina were so devastating, especially in a HIC, USA. We then explore how the authorities had let down the poorest and most vulnerable people in the aftermath.
12. The Greenhouse Effect	This is the first lesson on climate change. Here we learn what climate change and global warming is and the various greenhouse gases responsible for warming our planet. The greenhouse effect is a natural phenomenon, and without it life on earth would not be as we know it. But humans are responsible for 'enhancing' this effect through producing more greenhouses gases.
13. The causes of climate change	We identify the difference between physical (natural) and anthropogenic (human) causes of climate change. We discuss the anthropogenic causes: deforestation, waste in landfill, agriculture and burning fossil fuels. We then identify the physical causes of climate change (volcanic eruptions, eccentricity, precession, axial tilt and sunspots) which have been responsible for the long term pattern of climate change over the 4.5 billion years of Earth's existence. We then identify that the changing climate over the last few centuries were anthropogenic in nature.
14. Impacts of climate change	We first identify impacts of climate change on a national level. In the UK we are already experiencing issues related to sea level rise, increasing rates of coastal erosion and severe flooding. We then use our knowledge of latitude and longitude to plot global impacts on a map. Lastly, we look at 6 different stories from around the world, about how more vulnerable people are being impacted more by climate change.
15. Bangladesh: Impacts and responses	In this lesson, we start by identifying the location, landscape and river systems of Bangladesh, followed by an insight into the country's GNI, which is low compared to us in the UK. We identify the human (deforestation) and physical factors (low-lying, prone to cyclones, glacier meltwater and extensive river systems) that put Bangladesh at risk of flooding. Lastly, we look in greater depth at the effects of the flooding, but also how Bangladesh are responding to it; planting trees, cyclone shelters, changing food from chicken to duck, building on raised ground etc.
16. Responding to climate change	We introduce the terms mitigation and adaptation in regards to responding to climate change. We then look at further examples of each. We briefly look at what COP 26 was, and identify why it is important. We then use our understanding of scale to categorise between individual, local, national and international responses. Lastly, we look at what actions we can take on an individual basis to help play our part in the fight against climate change. This is where we hope you can make a mini- pledge to change a few aspects of your lifestyle to lower your carbon footprint.

Key concepts

Processes

A sequence of actions, natural and/or cultural, that shape and change environments, places and societies. Processes are the driving forces (cogs) behind natural and human change.

Spanish

Risk

The probability of an event causing harmful consequences (loss of life, injuries damage) to humans and the environment. Humans can become resilient towards risk.

Adaptation

The process of change. This can be how humans alter their behaviour in order to become more resilient, or can refer to organisms adapting in order to suit their environment better.

Inequality

This means unequal. This normally is applied in human geography when looking at development, migration and resources.

Sustainability

Meeting our needs today without compromising future generations to meet their own needs. It is all about being caring and considerate of the present and the future.

History Year 8 Knowledge Organiser: The English Civil War; causes and consequences, Cycle 1a

Summary of the causes of the war:

Why did the King dissolve Parliament and rule for 11 years without them? King **Charles** 1st believed in the **divine right of kings**. **Parliament** had refused to grant him more personal money, and had also criticised his marriage (to a Catholic) and his religious reforms.

Why did Civil War break out in 1642? Religious divides, different beliefs about power and arguments over the king's finances. **Charles** had ruled for 11 years without **Parliament**, raised taxes without their consent and made religious changes they hated. **Parliament** criticised the king, issued the **Grand Remonstrance**, with **Charles** even trying to use soldiers to arrest his leading critics in **Parliament**. **Charles** felt he had no choice left if he was to defend his authority from **Parliament**. **Parliament** felt they had a right to fight and protect their rights and freedoms from the King.

Why was Charles executed in 1649? He lost the **civil war**, started a second **civil war** by getting the Scottish to invade and was accused of treason.

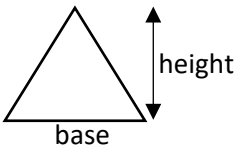
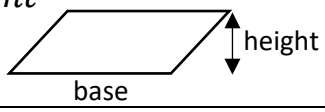
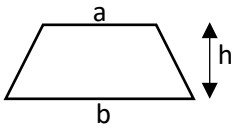
Key dates	
1625	**Charles I** becomes King. Marries **Henrietta Maria**.
1629	**Charles I** dissolves **Parliament** and rules without them.
1635	**Charles** I imposed the tax '**ship money**' across the country.
1640	**Charles** was forced to recall **Parliament** as he needed more money to fight the Scottish.
1641	The **Grand Remonstrance**. **Charles** retaliates by marching 400 soldiers into the House of Commons to arrest the MP's responsible.
1642	**Civil war** between King and **Parliament** begins on August 22nd.
1644	Battle of Marston Moor
1645	**New Model Army** created. Battle of Naseby.
1646	End of First **Civil War**.
1648	Second **Civil War** begins. Battle of Preston. **Parliament** victory.
1649	Trial of **Charles** I, followed by his execution. England a republic.
1653	**Oliver Cromwell** appointed Lord Protector
1658	Death of **Oliver Cromwell**
1660	Restoration of the monarchy. Coronation of **Charles** II
1665	The Great Plague
1666	The Fire of London
1688	The 'Glorious Revolution' overthrow of Catholic James II

Key people	
Charles I	Ruled between 1625 – 1649, king during the civil war
Henrietta Maria	Wife of **Charles** I, daughter to Henri IV of France. Catholic
Thomas Fairfax	**Parliamentarian** General and creator of the **New Model Army**
Oliver Cromwell	Ruled England as Lord Protector from 1653 to 1659
James II	Ruled 1685-1688, brother of Charles II. Deposed as was a Catholic
William and Mary	Protestant monarchs who overthrew James II in 'Glorious Revolution'

Key concepts	
Charles and money	**Charles** had a lavish lifestyle and was running out of money – he was bankrupt. He tried raising taxes without consulting **Parliament**.
Charles and religion	**Charles** married a Catholic in 1625, **Henrietta Maria** of France. **Charles** forced the Scottish church to look more Catholic, and introduced a new prayer book in 1637. **Charles** allied Protestant England with Catholic Spain.
Charles and power	**Charles** believed in divine right, he did not want **Parliament** telling him what to do. In 1640 **Charles** lost a war with the Scottish which made him look weak. In 1642 **Charles** took control of the army without **Parliament**'s permission.
Divine right of kings	A belief that the monarch was chosen by God, and that their power and authority came from God. Only answerable to God.
restoration	Re-instating the monarchy following the period of rule as a **republic**.

Key vocab	
civil war	A war between different groups in the same country
Puritans	Thought the Church of England needed to go further the remove Catholic practices; wanted a 'purified' church
Parliament	A group of people who helped advise the monarch (king or queen). They were not nearly as powerful as **Parliament** today, however monarchs were not *supposed* to create laws or introduce taxes without **Parliament**'s agreement.
ship money	A tax traditionally only imposed on coastal towns in times of war. **Charles** imposed this tax on the whole country at a time of peace
Court of Star Chamber	A special, medieval law court which sat in secret and needed no evidence or witnesses. **Charles** used it to remove opponents
Grand Remonstrance	List of demands presented to **Charles** I by **Parliament**. One of the key trigger events leading to the Civil War.
Cavaliers	The insulting nickname given to the Royalists who fought for the king. Literally means 'horsemen'
Roundheads	The insulting nickname given to those who fought for **Parliament**
New Model Army	Full time, highly disciplined, professional army that fought for **Parliament**
regicides	Literally 'king killers' – the name given to those who signed **Charles**' death warrant
republic	A country ruled by an appointed or elected leader, *not* a monarchy.
tolerant	Showing willingness to accept the beliefs and opinions of another person
democracy	System of government in which power is shared amongst the people

Y8C1 Maths Key knowledge

Item	Description
'Expand' or **'multiply out'**	A process that **removes brackets** from an expression Eg. $3(x+5) = 3x+15$
Factorise	A process that **uses brackets** to separate the factors of an expression Eg. $20x+35 = 5(4x+7)$
Term	An algebraic object made of numbers and letters joined by multiplication or division.
Expression	An algebraic object made from one or more terms added together.
Equation	An algebraic object that contains an **equals** sign. There are always two sides to an equation.
Sides of an equation	The right and left hand sides of the **equals** sign are referred to as the sides of the equation.
Balancing	Performing the same operation to both sides of an equation
Area of a rectangle	$Area\ of\ rectangle = base \times height$
Area of a triangle	$Area\ of\ triangle = \frac{1}{2} base \times height$ 
Area of a parallelogram	$Area\ of\ parallelogram = base \times height$ 
Area of a trapezium	$Area\ of\ trapezium = \frac{1}{2}(a+b) \times h$ 
Area of a circle	$area = \pi \times radius^2$
Circumference of a circle	$circumference = \pi \times diameter$

Y8Fr LC1 : Sentence Builder 1 : What I watch (TV) - Qu'est-ce que tu regardes à la télé ?

Verb	Noun	Opinion verb	Noun	connective	verb	opinion adjective
Je regarde (**I** watch) **Je ne** regarde **pas** (**I don't** watch) **Je ne** regarde **jamais** (**I never** watch) **Je ne** rate **jamais** (**I never** miss) 	**les** émissions **de** sport (sports programmes) **les** émissions **de** télé-réalité (reality TV programmes) **les** émissions musicales (music programmes) **les** infos (**the** news) **les** séries (series) **les** jeux télévisés (game shows) **les** dessins animés (cartoons) **les** documentaires (documentaries)	**j'adore** **(I love)** **j'aime** **(I like)** **je déteste** **(I hate)** **je n'aime pas** **(I don't like)**	**les** émissions **de** sport (sports programmes) **les** émissions **de** télé-réalité (reality TV programmes) **les** émissions musicales (music programmes) **les** infos (**the** news) **les** séries (series) **les** jeux télévisés (game shows) **les** dessins animés (cartoons) **les** documentaires (documentaries)	**parce que** **car** **(because)**	**je trouve ça** **(I find it)**	amusant (funny) bien (good) barbant (boring) chouette (great) effrayant (scary) émouvant (moving) génial (great) intéressant (interesting) passionnant (exciting) stupide/idiot (stupid)

Y8Fr LC1: Sentence Builder 2: What I watch (films) - Tu aimes regarder les films?

Verb		Noun	Connective	Intensifier	Opinion adjective	connective	Opinion adjective
J'aime **Je n'aime pas** **Je** regarde **Je ne** regarde **jamais** **J'ai une** passion **pour** (**I have a** passion **for**) **Je ne** supporte **pas** (**I can't** stand)	**les**	films **d'**action (action films) films fantastiques (fantasy films) comédies (comedy films) films musicaux (musicals) films **d'**amour (love films) films **d'**aventure films **de** science-fiction films **d'**arts martiaux (martial arts films) dessins animés (animated films)	**car je trouve ça** **(I find it)**	**assez** **(quite)** **très** **(very)** **un peu** **(a bit)** complètement (completely) extrêmement (extremely) **vraiment** **(really)** hyper (super)	amusant (funny) **bien** **(good)** barbant (boring) chouette (great) effrayant (scary) émouvant (moving) génial (great) intéressant (interesting) passionnant (exciting) stupide/idiot (stupid)	**et** **(and)** **mais** **(but)** **aussi** **(also)**	amusant (funny) **bien** **(good)** barbant (boring) chouette (great) effrayant (scary) émouvant (moving) génial (great) intéressant (interesting) passionnant (exciting) stupide/idiot (stupid)
Je suis fan **de** (**I'm a** fan **of**) **Je ne suis pas** fan **de** (**I'm not a** fan **of**) 							

Y8Fr LC1: Sentence Builder 3 : What I read - Tu aimes lire ?

Time marker	Verb	Noun	Verb	Intensifier	Opinion Adjective	verb	Intensifier	Adjective
En ce moment (**at the** moment) Normalement (Normally) D'habitude (usually) Quelquefois (sometimes) 	**Je** lis (**I** read/ **I am** reading)	**un** roman policier (**a** crime novel) **un** roman de science-fiction (**a** sci-fi novel) **un** roman d'amour (**a** romantic novel) **un** roman fantastique (**a** fantasy novel) **un** roman d'aventure (an adventure novel) **un** livre sur **les** animaux (**a** book about animals) **un** livre d'épouvante (**a** horror/scary book) **un** magazine (**a** magazine) **un** journal (**a** newspaper) **une** BD (**a** comic book) **un** mang**a** (**a** manga book)	**et c'est (and it's)** **et je pense que c'est (and I think it's)** **et à mon** avis **c'est (and in my** opinion **it's)**	**assez (quite)** **très (very)** **un peu (a bit)** complètement (completely) extrêmement (extremely) **vraiment (really)** hyper (super) **trop (too)**	drôle (funny) triste (sad) effrayant (scary) intéressant (interesting) passionnant (exciting) émouvant (moving) ennuyeux (boring) difficile (difficult) nul (rubbish)	**mais c'est (but it's)**	**assez (quite)** **très (very)** **un peu (a bit)** complètement (completely) extrêmement (extremely) **vraiment (really)** hyper (super) **trop (too)**	drôle (funny) triste (sad) effrayant (scary) intéressant (interesting) passionnant (exciting) émouvant (moving) ennuyeux (boring) difficile (difficult) nul (rubbish)

Y8Fr LC1 : Sentence builder 4 : What I do online - Que fais-tu en ligne ?

Verb	Frequency	key phrase	connective	opinion phrase	Adjective
Quand je suis connecté (**When I am** online) 	quelquefois (sometimes) **tous les** soirs (**every** evening) **une** fois **par** semaine (**one** time **per** week) d'habitude (usually) souvent (often)	**Je fais des** achats (**I make** purchases) **J'**envoie **des** emails/**des** textos (**I** send emails/texts) **Je fais mes** devoirs (**I do my** homework) **Je** joue **à des** jeux **(I** play games) **Je fais des** quiz (**I do** quizzes) **Je** regarde **des** clips vidéos (**I** watch video clips) **Je** lis **des** infos (**I** read **the** news) **je** télécharge **des** chansons (**I** download songs) **Je** tchatte **en** ligne (**I** chat online)	**parce que** **(because)** **car** **(because**)	selon **moi c'est** (according to me it's) **je pense que c'est** **(I think it's)** **Je trouve que c'est** **(I find it's)** **à mon** avis **c'est** (**in my** opinion **it's**)	amusant (funny) **assez bien** **(quite good)** barbant (boring) chouette (great) pratique (practical) génial (great) intéressant (interesting) passionnant (exciting) stupide/idiot (stupid)

Y8Fr LC1: Sentence builder 5 : What I'm going to do tomorrow - Qu'est-ce que tu vas faire demain ?

Time marker	Future tense verb	connective	Future tense verb 2	future tense	adjective
Demain (Tomorrow) Demain soir (tomorrow evening) Demain matin (tomorrow morning) Demain après-midi (tomorrow afternoon) **Ce** weekend (**this** weekend) 	**je vais** regarder **la** télé/**un** film (**I'm going to** watch TV/**a** film) **je vais** écouter **de la** musique (I'm going **to** listen **to** music) **je vais** surfer **sur** internet (**I'm going to** surf **on the** internet) **je vais** jouer **aux** jeux **en** ligne (**I'm going to** play games online) **je vais** poster **des** photos (**I'm going to** post photos) **je vais** télécharger **des** chansons (**I'm going to** download songs) **je vais** tchatter **en** ligne (**I'm going to** chat online) **je vais** envoyer **des** textos (**I'm going to** send texts) **je vais** lire **mon** livre (**I'm going to** read **my** book) **je vais** dîner **en** famille (**I'm going to** eat **with my** family) **je vais faire mes** devoirs (**I'm going to do my** homework)	**plus tard (later)** **puis (then)** **ensuite (next)** **après (after)** **finalement (finally)**	**je vais** regarder **la** télé/**un** film (**I'm going to** watch TV/**a** film) **je vais** écouter **de la** musique (I'm going **to** listen **to** music) **je vais** surfer **sur** internet (**I'm going to** surf **on the** internet) **je vais** jouer **aux** jeux **en** ligne (**I'm going to** play games online) **je vais** poster **des** photos (**I'm going to** post photos) **je vais** télécharger **des** chansons (**I'm going to** download songs) **je vais** tchatter **en** ligne (**I'm going to** chat online) **je vais** envoyer **des** textos (**I'm going to** send texts) **je vais** lire **mon** livre (**I'm going to** read **my** book) **je vais** dîner **en** famille (**I'm going to** eat **with my** family) **je vais faire mes** devoirs (**I'm going to do my** homework)	**ce sera (it will be)** **ce ne sera pas (it will not be)**	amusant (funny) **assez bien (quite good)** barbant (boring) chouette (great) pratique (practical) génial (great) intéressant (interesting) passionnant (exciting) stupide/idiot (stupid)

Year 8 Learning Cycle 1 Sentence Builder 1:

¿En qué trabajas? – In what do you work?

Subject	Verb	Preposition	Noun	Connective	Verb	Adjective
(Yo) = I	trabajo = I work	**como = as**	camarer@ = waiter/waitress canguro = babysitter cajer@= cashier repartidor de periódicos = paper deliverer	**porque = because** **pero = but**	**es = it is** **no es = it is not**	divertido = fun interesante = interesting emocionante = exciting útil = useful **bien** pagado = **well** paid **mal** pagado = **badly** paid
(Tú) = You (sing)	trabajas = you (sing) work					
(Él) = He **(Ella) = She** **Mi** padre **= my** dad **Mi** madre **= my** mum	trabaja = he/she/it works					
Nosotros = we	trabajamos = we work					
Vosotros = you (pl)	trabajáis = you (pl) work					
Ellos/Ellas = they	trabajan = they work					

Year 8 Learning Cycle 1 Sentence Builder 2:

Spanish

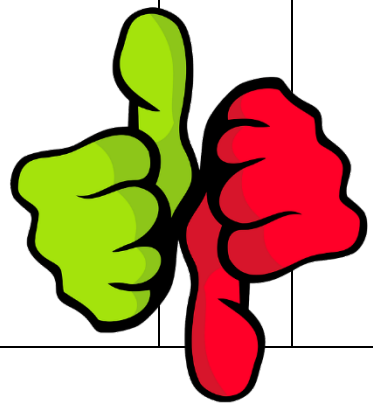
¿Qué vas a ser en el futuro? – What are you going to be in the future?

Verb	Noun	Connective	Verb	Noun
Voy a ser = I am going to be **Quisiera ser = I would like to be**	médic@ = doctor ingenier@ = engineer arquitect@ = architect abogad@ = lawyer carpinter@ = carpenter secretari@ = secretary mecánic@ = mechanic músic@ = musician enfermer@ = nurse político@ = politician cociner@ = cook/chef granjer@ = farmer policía = police officer cantante = singer estrella = star futbolista = footballer detective = detective florista = florist contable = accountant guía túristica = tour guide azafata = air host(ess) actor/actriz = actor/actress profesor(a) (de…) = (…) teacher	**porque = because**	**me encanta = I love** **me gusta = I like** me interesa = I'm interested in se me da bien = I'm good at	el inglés = English el español = Spanish el francés = French la química = chemistry la física = physics la biología = biology psicología = psychology la historia = history la geografía = geography la religión = RE/BVC el derecho = law la tecnología = technology la informática = IT la cocina = cookery el deporte = sport la educación física = PE la música = music el teatro = drama el dibujo = art
			me encantan = I love **me gustan = I like** me interesan = I'm interested in se me dan bien = I'm good at	las matemáticas = maths las ciencias = sciences los idiomas = languages los negocios = business studies

Year 8 Learning Cycle 1 Sentence Builder 3:

¿Cuáles son las ventajas y desventajas de ser profesor? What are the advantages and disadvantages of being a teacher?

Noun	Prep	Infinitive	Noun	Verb	Connective	Verb	Noun	Adjective
Una ventaja = **an** advantage **Una** desventaja = **a** disadvantage	**de = of**	**ser = to be**	médic@ = doctor ingenier@ = engineer arquitect@ = architect abogad@ = lawyer carpinter@ = carpenter secretari@ = secretary mecánic@ = mechanic músic@ = musician enfermer@ = nurse polític@ = politician cociner@ = cook/chef granjer@ = farmer policía = police officer cantante = singer estrella = star futbolista = footballer detective = detective florista = florist actor/actriz = actor/actress profesor = teacher	**es = is**	**que = that**	**es = is**	**un** trabajo = **a** job	artístico = artisitic emocionante = exciting exigente = demanding importante = important fácil = easy difícil = difficult duro = hard variado = varied repetitivo = repetitive responsable = responsable útil = useful cómodo = comfy/convenient **bien** pagado = well paid **mal** pagado = badly paid



Year 8 Learning Cycle 1 Sentence Builder 4:

¿Qué debes hacer para ser policía? = What do you need to do to be a policeman?

Connective	Verb	Noun	Auxiliary verb	Verb	Quantifier
Para = (in order) to	**ser = to be**	médic@ = doctor ingenier@ = engineer arquitect@ = architect abogad@ = lawyer carpinter@ = carpenter secretari@ = secretary mecánic@ = mechanic músic@ = musician enfermer@ = nurse político@ = politician cociner@ = cook/chef granjer@ = farmer policía = police officer cantante = singer estrella = star futbolista = footballer detective = detective florista = florist contable = accountant guía túristica = tour guide azafata = air host(ess) actor/actriz = actor/actress profesor(a) = (…) teacher	**necesito = I need** **necesitas = you (s) need** **necesita = he/she/it needs** **necesitamos = we need** **necesitáis = you (pl) need** **necesitan = they need** **voy a necesitar = I am going to need** **vas a necesitar = you (s) are going to need** **va a necesitar he/she/it is going to need** **vamos a necesitar = we are going to need** **vais a necesitar = you (pl) are going to need** **van a necesitar = they are going to need** **debo = I must/have to** **debes = you(s) must/have to** **debe = he/she/it must/have to** **debemos = we must/have to** **debéis = you (pl) must/have to** **deben = they must/have to** **voy a deber = I am going to have to** **vas a deber = you (s) are going to have to** **va deber = he/she/it is going to have to** **vamos a deber = we are going to have to** **vais a deber = you (pl) are going to have to** **van a deber = they are going to have to**	estudiar = to study trabajar = to work repasar = to revise construir = to construct escribir = to write reparar = to repair curar = to heal hablar = to talk cocinar = to cook practicar = to practice diseñar = to design **pensar = to think** **saber = to know**	**mucho = a lot** **poco= not at all**

Year 8 Learning Cycle 1 Sentence Builder 5:

Spanish

¿Qué es el trabajo ideal para ti? – What is the ideal job for you?

Verb	Noun	Verb	Adjective	Prep	Pronoun	Connective	Auxiliary Verb	Verb	Adverb
Ser = to be	médic@ = doctor ingenier@ = engineer arquitect@ = architect abogad@ = lawyer carpinter@ = carpenter secretari@ = secretary mecánic@ = mechanic músic@ = musician enfermer@ = nurse político@ = politician cociner@ = cook/chef granjer@ = farmer policía = police officer cantante = singer estrella = star futbolista = footballer detective = detective florista = florist contable = accountant guía túristica = tour guide azafata = air host(ess) actor/actriz = actor/actress profesor(a) = (…) teacher	**es = is**	ideal = ideal perfecto = perfect	**para = for**	**mí = me** **tí= you** **él = him** **ella = her** nosotros = us vosotros = you ellos/ellas = them	**porque = because**	**puedo = I can** **puedes = you (s) can** **puede = he/she/it can** **podemos = we can** **podéis = you (pl) can** **pueden = they can**	reparar = to repair trabajar = to work cuidar = to care for construir = to construct escribir = to write cultivar = to grow entrentar = to entertain curar = to heal hablar = to talk cocinar = to cook practicar = to practice diseñar = to design **pensar = to think** **saber = to know**	**bien = well** **mal = badly** facilmente = easily rapidamente = quickly perfectamente = perfectly

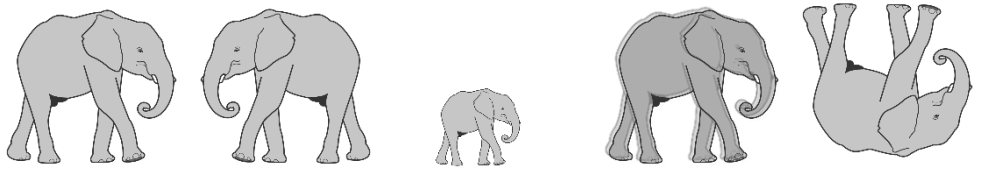
Y8 C1 KO - VARIATIONS *Exploring ways to develop musical ideas*

Music

Theme and Variations Key Words

MELODY – A tune or succession of notes, varying in pitch, that have an organised and recognizable shape. Often called the main **TUNE** or **THEME** of a piece of music or song and easily remembered.

VARIATION – Where a **THEME** is altered or changed musically, while retaining some of the primary elements, notes and structure of the original. **VARIATION FORM:**



A (Theme) A1 (Variation) A2 (Variation) A3 (Variation) A4 (Variation)

Bass Clef Notation

BASS CLEF is a symbol used to show **low**-pitched notes on the stave

It is often used by low instruments that play the **BASS LINE**

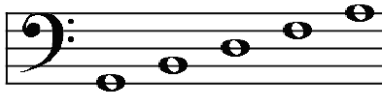
STAVE - five lines where musical notes are written.

The position of notes on the stave or staff shows their **PITCH** (how high or low a note is).

The stave or staff is made up of 5 **LINES** and 4 **SPACES**.

Notes on the **LINES** of the **BASS CLEF**

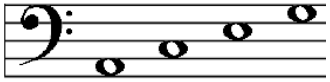
Green **B**uses **D**rive **F**ast **A**lways



G B D F A

Notes in the **SPACES** of the **BASS CLEF:**

All **C**ows **E**at **G**rass



A C E G

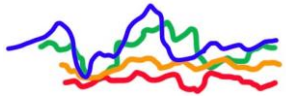
Variation Techniques – How to Vary a Melody

PITCH – Change the highness or lowness of the theme – play the same notes, but at different pitches *e.g. in different **OCTAVES**.*

TEMPO – Change the speed of the theme – play it faster or slower.

DYNAMICS – Change the volume of the theme – play it louder or softer.

TEXTURE– Change the amount of sound we hear – play as a **SOLO**, add an **ACCOMPANIMENT** or **CHORDS**, add a **COUNTER-MELODY** (an 'extra' melody that is played or sung at the same time as the main melody, often higher in pitch and sometimes called a **DESCANT**).



TIMBRE AND SONORITY– Change the **SOUND** of the theme – play it on a different instrument.

ARTICULATION – Change the way the theme is played – smoothly (**LEGATO** - shown by a **SLUR**) or short, detached and spiky (**STACCATO** – shown by a dot).

PEDAL – A long (often very long!) note in the bass line of the music over which other parts, including the theme or a variation of the theme can be played. Also called a **PEDAL NOTE** or **PEDAL POINT** and often the **TONIC** note (but can be the **DOMINANT** or other notes).

DRONE – A long or series of repeated (often long) notes using the **TONIC** and **DOMINANT** notes together (a **FIFTH**).

MELODIC DECORATION – Adding extra notes or embellishments to the theme such as trills, turns, mordents (**ORNAMENTS**) or **PASSING NOTES** (extra notes between the main melody notes).

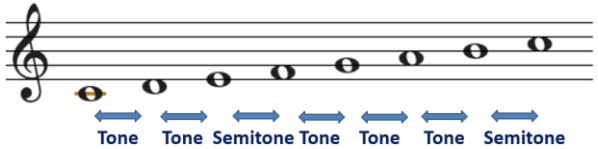
OSTINATO – Adding a repeated musical pattern (rhythmic or melodic) to the main theme as a form of variation.

CANON/ROUND - A song or piece of music in which different performers sing or perform the same THEME starting one after the other.

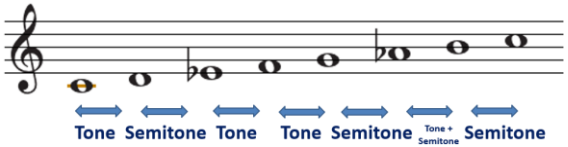
GROUND BASS – A repeated musical pattern in the bass part upon which chords, and melodies can be performed and varied "over the top" of.

Tonality – Major and Minor

TONALITY refers to whether a **THEME** or **MELODY** is in a **MAJOR** or **MINOR** key. Changing the tonality from major to minor or minor to major is one way of providing a variation on the theme of melody. Major and minor scales follow a certain pattern of tones and semitones:



MAJOR SCALE



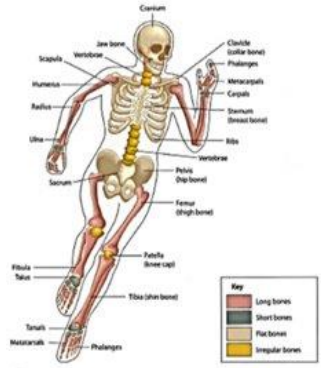
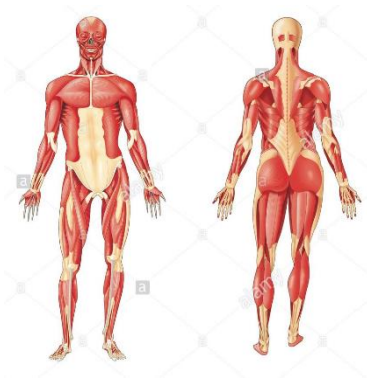
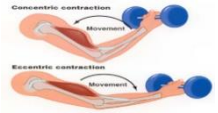
MINOR SCALE

Inversion and Retrograde

INVERSION – Changing the **INTERVALS** between the notes of a theme so that they are upside down from the original.

RETROGRADE – A variation technique created by arranging the main theme backwards.

Year 8 Cycle 1 Sport and PE Knowledge Organiser https://www.youtube.com/watch?v=eyXrHZv-n2Y (video voice over)

Week 1 and 2	Week 3 and 4	Week 5 and 6	Week 7 and 8	Week 9 and 10	Week 11 & 12
Major Bones	**Major Bones**	**Major Muscles**	**Types of Muscle Contraction**	**Muscles working in pairs**	**Types of movement**
 **Can you label the major bones?** • Cranium • Vertebrae • Scapula • Humerus • Radius • Ulna • Pelvis • Femur • Tibia • Fibula • Patella	**The functions of the Skeleton** **Remember the acronym:** Scary Skeletons Make Many People Petrified **Support** Bones keep us upright and support muscles and organs. **Shape** Skeleton gives us our height and build. **Mineral Storage** Bones store minerals such as calcium and phosphorus. **Movement** Muscles attach to and pull on bones to produce movement. Bones act as levers. **Protection** Bones protect vital organs – e.g. Cranium protects brain, ribs protect heart and lungs. **Production of red blood cells** Inner marrow of bones produces red and white blood cells. Red cells carry oxygen, white cells fight infections.	 **Can you label the major Muscles?** • latissimus dorsi • deltoid • pectorals • biceps • triceps • abdominals • hip flexors • gluteus maximus • hamstring quadriceps group • gastrocnemius • tibialis anterior	**Isotonic Contraction** *Muscle changes shape and creates movement. There are 2 types; concentric & eccentric*  **Concentric Contraction** *Muscle contracts and shortens* **Eccentric Contraction** *Muscle contracts and lengthens – only used in the downwards phase of a movement.*  **Isometric Contraction** *Muscle contracts but the length of the muscle does not change. There is no movement e.g. holding a balance* 	**Antagonist & Agonist** Muscle are arranged in antagonistic pairs. One muscle contracts & shortens **(Agonist)** and a partner muscle relaxes and lengthens **(Antagonist)** to create a movement.   **Examples in the body** • *Biceps & Triceps* • *Quadriceps & Hamstrings* • *Hip flexors & Gluteus Maximus* • *Tibialis Anterior & Gastrocnemius*	**Flexion** **Decreasing the angle at a joint (bending)** **Extension** **Increasing the angle at a joint (straightening)**  **Abduction** **Taking a limb away from the body (abduct)** **Adduction** **Bringing a limb back towards the body (Add)**  **Rotation** **Turning a limb along its axis (circular)**  **Plantar flexion** **Pointing toes (P for Point)** **Dorsi flexion** **Toes towards the nose** 

RPE - Politics

The UK's Main Political Parties

Conservative – The oldest political party in the UK. The party currently in power, led by Rishi Sunak, the Prime Minister.
Labour – Set up at the beginning of the 20th century to represent workers. In power from 1997-2010. Currently led by Keir Starmer.
Liberal Democrats – Believe in individual freedom and spending more money on public services. Currently led by Ed Davey.

Types of Government

Anarchy – a situation where there is no government.
Communism - the government owns the wealth of the country e.g. businesses, factories, transport and farms.
Democracy - the government is elected by the people.
Dictatorship - a country ruled by a single leader who has not been elected and may use force and fear to keep control.
Republic - A **republic** is a country that has no **monarch** (King or Queen). The head of the country is usually an elected president.
Federal - a central government shares power with a number of small local governments.

MP's

MP = Member of Parliament.
There are **650** MP's in the House of Commons.
To be an MP you must be:
- Over 18.
- A British or Irish citizen.
- A commonwealth citizen who resides in the UK.
- Not a member of the House of Lords.
- Not Bankrupt.
- Not already working for the government or 'Crown' (e.g. police force, armed forces, civil servant, judge).

An MP needs the following skills:
- be able to speak in public,
- be a good listener,
- have good judgement,
- be responsible and reliable.

Examples of an MP's work:
- Meeting constituents
- Attending debates and voting.
- Hold committee meetings.

Protest and Pressure Groups

Pressure Groups - People who have strong opinions on a particular issue who try to influence what happens by putting pressure on MP's and people who make decisions. E.g. NSPCC/Greenpeace

Parliament & the Cabinet

Parliament - An assembly of representatives that makes the laws in the UK.
Parliament has 3 sections:
- The House of Commons
- The House of Lords
- The Monarch (Queen)

The Cabinet - made up of 20 of the most important ministers who are each in charge of a particular area.

" the governance of a country or area, especially the debate between parties having power."

Biology - Lesson 1
Nutrients

Diet – What you eat.

Food is needed for:

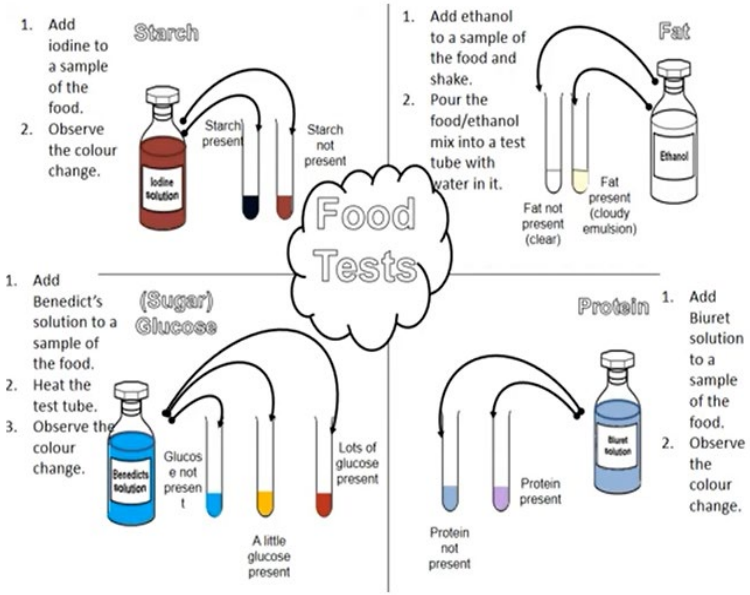
1) Energy
2) Growth & Repair
3) Health

There are 7 different food nutrients

Name of nutrient	Function
Carbohydrate	Energy
Vitamins	Health
Fats (lipids)	Energy & warmth
Fibre	Helps food move through digestive system
Protein	Growth & repair
Water	Helps keep cells hydrated
Minerals	Health

Biology - Lesson 2
Food Tests

Foods can be tested to identify which nutrients they contain



Biology - Lesson 3
Energy Requirements

On average, women should have around 2,000 calories a day and men should have around 2,500 calories a day.

We all need different amounts of energy (or calories) from food to be a healthy weight.

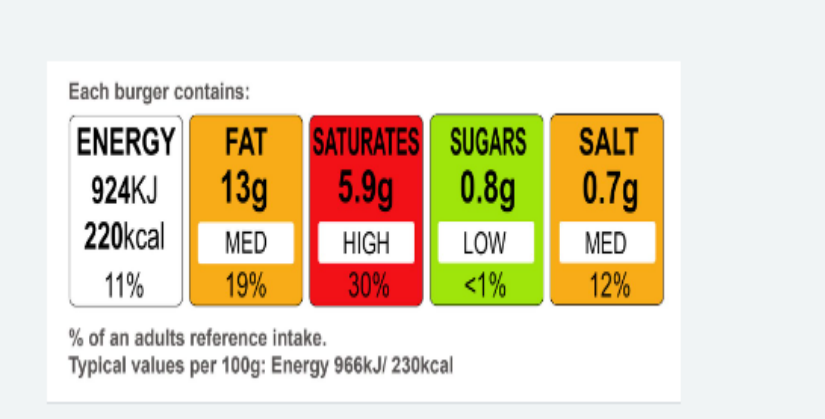
How much you need depends on lots of things, including how active you are.

Recommended Daily Nutritional Requirements for Different Age Groups

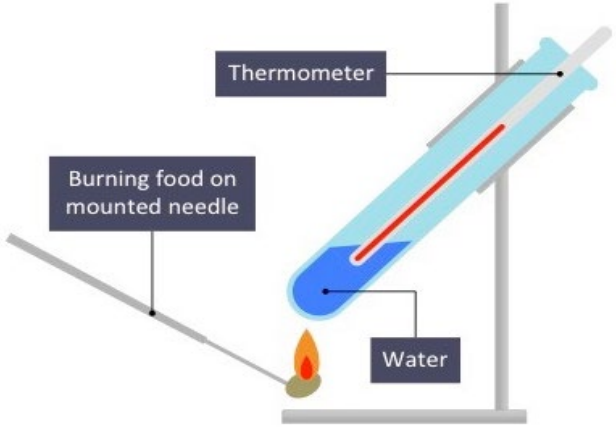
Category	Age (years)	Protein (g)	Fat (g)	Calories (kcal)	Calcium (mg)	Iron (mg)
Children	2–3	16.7	27	1060	600	9
Children	4–6	20.1	25	1350	600	13
Children	7–9	29.5	30	1690	600	16
Boys	10–12	39.9	35	2190	800	21
Boys	13–15	54.3	45	2750	800	32
Boys	16–17	61.5	50	3020	800	28
Adult (males)	Above 18	25	60	2320	600	17

Biology - Lesson 4
Comparing Energy in Foods

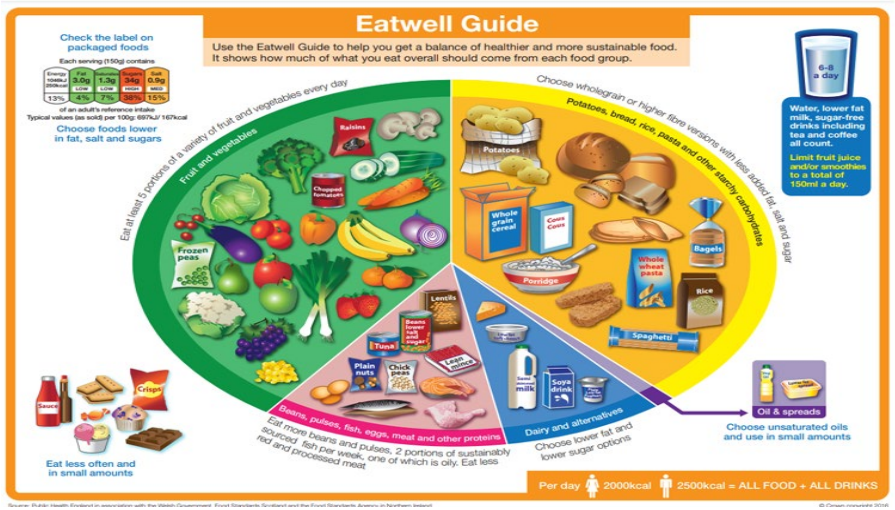
Food packaging gives us useful information about the food we are going to eat



We can compare energy content of a food by measuring how much heat energy is released when we burn it



Biology - Lesson 5
Unhealthy Diets



We need to eat a healthy balanced diet which contains the correct amounts of each of the food nutrients

Not eating enough of a nutrient means you have an unbalanced diet, and this can lead to a **deficiency.**

Obesity – if you take in more energy than you use, the excess energy is stored as fat.

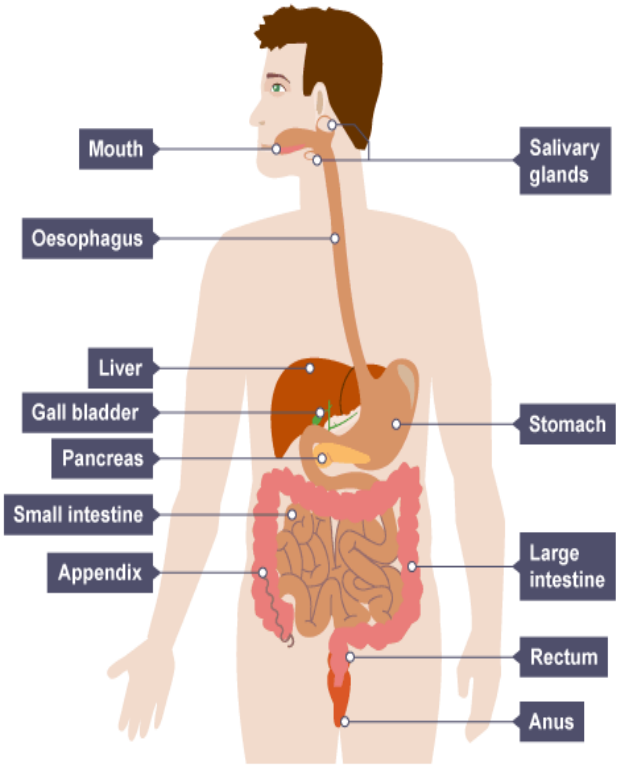
Overtime, this can lead to a person being overweight or obese.

Anorexia - An eating disorder where energy output and energy input are imbalanced, energy input is lower than energy output. Symptoms – extreme weight loss, thin appearance, fatigue, insomnia, dehydration

Biology - Lessons 6 & 7
Digestion

The digestive system breaks down food into tiny particles which are absorbed into the blood.

- These particles provide energy for the body to grow, repair itself and remain healthy.
- Food that cannot be broken down is released from the body as faeces (poo).



Organ	Function
Mouth	Chew food, break into smaller bits, start digestion off using enzymes in saliva.
Oesophagus	Tube connecting the mouth to stomach
Stomach	Sac where food is mixed with acidic juices to start digestion of proteins and kill microorganisms
Small intestine	Upper part is where digestion is completed. Lower part where nutrients are absorbed into the blood.
Large intestine	Water from food is removed here, and faeces made.

Biology - Lessons 8 & 9
Digestive Enzymes and Bacteria

Enzymes are biological **catalysts**, they speed up the digestion of **nutrients**

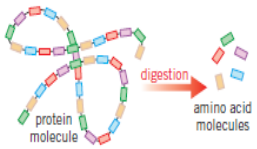
• Each enzyme is specific to each nutrient

• The way the enzyme and nutrient bind with each other is called a lock and key model

Carbohydrase's break down **carbohydrates** into **sugars**

Proteases break down **proteins** into **amino acids**

Lipases breakdown fats into **fatty acids** and **glycerol**



Gut Flora – the "good bacteria" that live in your digestive system, useful for digestion, helpful for immunity and boosts vitamin levels.

Chemistry - Lesson 1
Combustion

Combustion is a chemical reaction where a fuel reacts with oxygen.

Fuel: A chemical energy store that releases energy when burned in oxygen

fuel + oxygen → carbon dioxide + water

We can test for the products of combustion using chemical tests:

TEST	Observation
limewater	Turns cloudy in the presence of carbon dioxide
cobalt chloride paper	Turns from blue to pink in the presence of water vapour

Complete combustion occurs in excess oxygen.

Incomplete combustion occurs in a limited supply of oxygen.

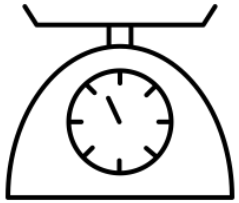
Chemistry - Lesson 2
Fuels Investigation

Independent Variable:
The one thing you **change** in an experiment.

Dependent Variable:
The thing you **measure** in an experiment.

Control Variable:
All of the things you **keep the same** in an experiment.

Mass is measured with a top pan balance and its units are grams (g) or kilograms (kg)



Temperature is measured with a thermometer and its units are degrees Celsius (°C)

Chemistry - Lesson 3
Fuel Pollutants

When fuels are burned, a number of atmospheric pollutants are produced.

Pollutant	Source
Carbon dioxide, CO_2	Complete combustion of any fuel containing carbon atoms
Carbon monoxide, CO	Incomplete combustion of any fuel containing carbon atoms
Particulate carbon, C (soot)	Incomplete combustion of any fuel containing carbon atoms
Unburned hydrocarbons	Hydrocarbon fuel molecules which have not been oxidised at all
Sulfur dioxide, SO_2	Combustion of a fossil fuel which contains sulfur impurities
Nitrogen oxides, NO_x	Oxidation of atmospheric nitrogen inside the engine of a car, lorry, etc

CO is toxic as it prevents oxygen binding with red blood cells

C (soot) irritates the lings and causes global dimming

SO_2 & NO_x produce acid rain: Acid rain harms and kills plants and animals, especially those that live in aquatic environments. It can also damage man-made objects like statues and buildings.

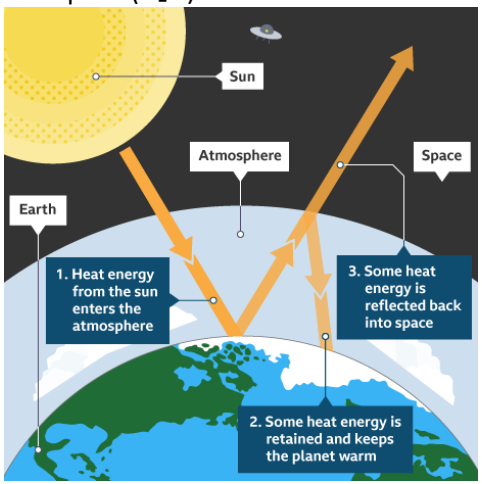
Chemistry - Lesson 4
Atmosphere & Greenhouse Effect

Greenhouse gases are gases in the atmosphere that act like a blanket around the Earth, trapping the heat that radiates from the surface of the Earth and preventing it from escaping back out into space.

This is called the greenhouse effect, and it's what keeps the Earth warm enough to sustain life. Without greenhouse gases, the Earth would be too cold at night for plants to grow or for animals to survive.

There are three main greenhouse gases:

- carbon dioxide (CO_2)
- methane (CH_4)
- water vapour (H_2O)



Chemistry - Lesson 5
Global Warming

As a result of human activities, the levels of greenhouse gases in the upper atmosphere are rising rapidly. These greenhouse gases are causing a lot more heat energy to be trapped in the atmosphere. As a result, the overall average temperature of the Earth is increasing. This is known as global warming.

How are greenhouse gases produced by humans:

- Burning Fossil Fuels
- Farming
- Deforestation

Global warming is leading to **climate change**, which is already having many serious impacts on our planet.

- More extreme weather events:
  - Heatwaves
  - Forest fires
  - Storms
  - Droughts
  - Floods
- More unpredictable weather
- Sea level rise

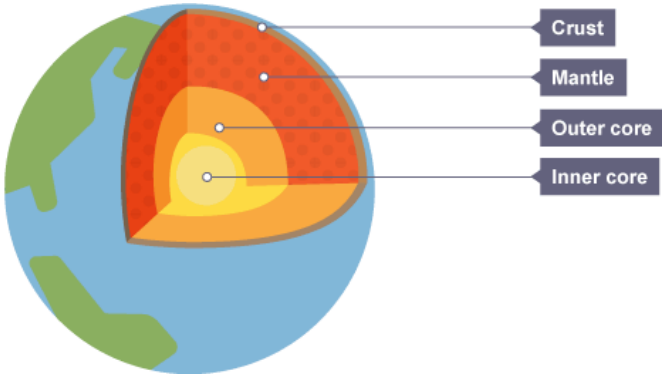
All of these factors are having an impact on habitats around the planet leading to the potential extinction of some plants and animals.

Chemistry - Lesson 6
Structure of the Earth

The Earth is a planet and is roughly the shape of a sphere. There are three layers that make up the Earth's structure.

The three layers, starting from the outside, are:

- the crust – the rocky outer layer
- the mantle – the semi-solid middle layer
- the core - the innermost layer which is divided into an inner core and outer core



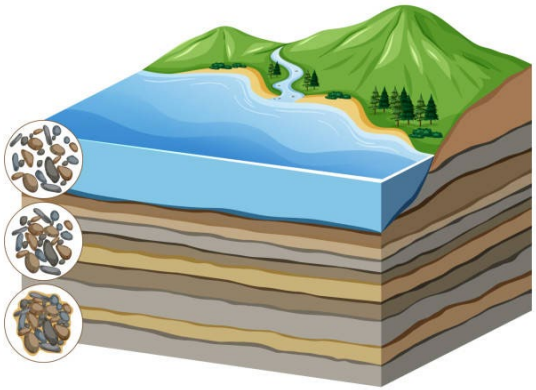
The crust is made of huge pieces of land called tectonic plates which fit together like a huge jigsaw. These plates move around very slowly. The tectonic plates only move a few centimetres each year.

Chemistry - Lesson 7
Sedimentary Rocks

The grains in sedimentary rocks are arranged in layers. The oldest layers are at the bottom and the youngest layers are at the top.

Chalk, limestone, shale, and sandstone are all examples of sedimentary rocks.

All these different sedimentary rocks are formed from the broken remains of other rocks that become joined together.



There are five processes that make a sedimentary rock:

- transport
- deposition
- sedimentation
- compaction
- cementation

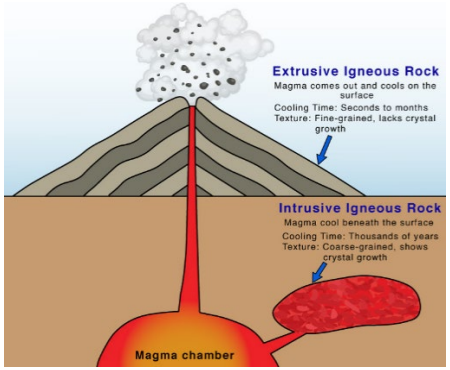
Chemistry - Lesson 8
Igneous Rocks

The inside of the Earth is so hot that rocks deep underground are often liquid.

Molten (liquid) rock underground is called **magma**.

Volcanoes can bring molten rock to the surface, which we call **lava**.

When the molten rock cools, it turns into a solid and igneous rock forms.



Extrusive igneous rocks are formed by magma that has erupted onto the surface as lava and then cooled quickly.

Intrusive igneous rocks are formed by magma that has cooled slowly, deep underground.

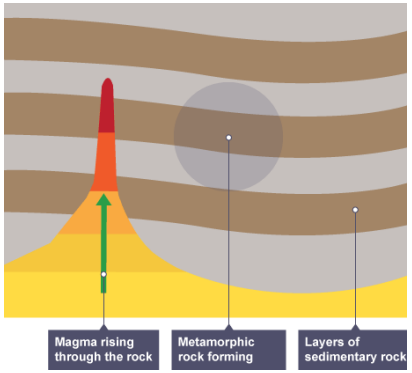
Chemistry - Lesson 9
Metamorphic Rocks

Metamorphic rocks are formed from other rocks which change due to heat or pressure.

The original rocks are usually sedimentary rocks or igneous rocks. Sometimes one metamorphic rock can be turned into a different metamorphic rock.

There are three stages involved in the formation of metamorphic rocks:

1. Earth movements cause rocks to be deeply buried or compressed.
2. This causes the rocks to be heated and puts them under great pressure.
3. They do not melt, but the minerals they contain are changed chemically, and form metamorphic rocks.



Chemistry - Lesson 10
Rock Cycle

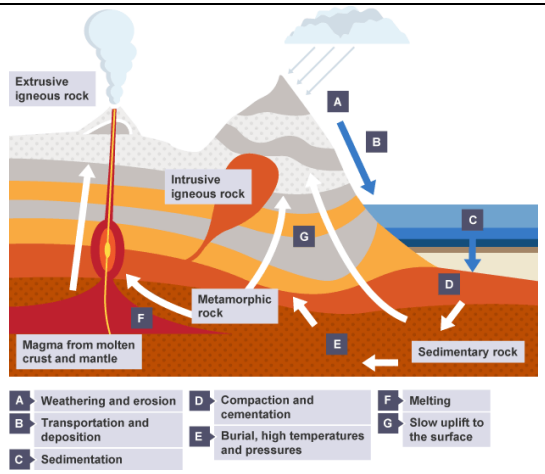
Rocks on Earth do not always stay the same.

Rocks are continually changing due to processes such as weathering, erosion and large earth movements. The rocks are gradually recycled over millions of years, changing between the different rock types.

This recycling of rocks is a process called the rock cycle.

Weathering is one of the many processes that occur in the rock cycle

Weathering breaks down rocks on the surface of the Earth.



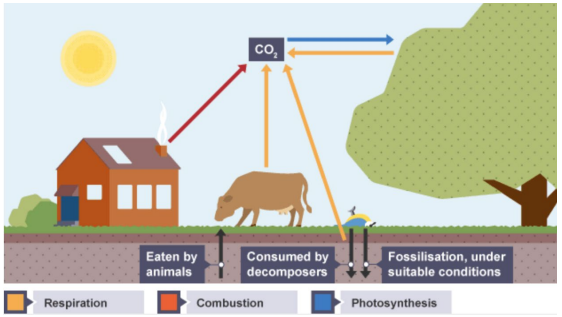
- Biological weathering
  This describes rocks being broken up by the roots of plants, or animals burrowing into them.
- Chemical weathering
  This describes rocks being broken up because substances in rainwater, rivers and seawater or the air, react with the minerals in the rocks.
- Physical weathering
  This describes rocks being broken up by changes in temperature, freezing and thawing of trapped water or the action of waves and rivers.

Another process of the rock cycle is **Erosion**.

Erosion is the process of moving the small pieces of rock formed by weathering. Erosion occurs from the action of water or wind.

Chemistry - Lesson 11
Carbon Cycle

The carbon cycle shows how atoms of carbon can exist within different compounds at different times and be recycled between living organisms and the environment.



Carbon dioxide is absorbed by producers to make carbohydrates in photosynthesis.

Animals feed on plants, passing the carbon compounds along the food chain. Most carbon they consume is exhaled as carbon dioxide during respiration. The animals and plants eventually die.

Dead organisms are eaten by decomposers and carbon in their bodies is returned to the atmosphere as carbon dioxide. In some conditions decomposition is blocked. The plant and animal material may then be available as fossil fuel in the future for combustion.

Physics - Lesson 1
Static Electricity

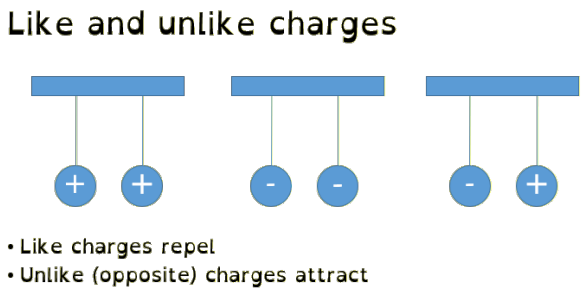
Static Electricity is when two objects are rubbed together, electrons are transferred from one object to the other. One object becomes positive and the other negative.

Charge is a property of matter and can be positive or negative.

Charged atoms are called **ions**.

Charge of materials

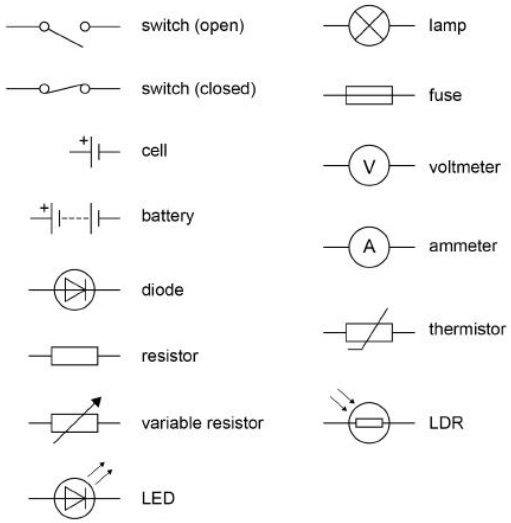
- A material which **loses electrons** will become **positively charged**.
- A material which **gains electrons** will become **negatively charged**.



Van der Graaf generator is an electrostatic generator which uses a moving belt to accumulate electric charge.

Physics - Lesson 2
Circuit Symbols

Standard circuit diagram symbols



Rules for drawing simple circuits

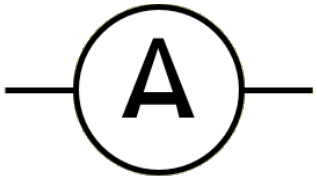
- All the wires in your circuit are straight lines.
- That the circuit is closed.

Physics - Lesson 3
Electric Current and pd

Current is the flow of charge – the movement of electrons. The electrons just keep going!

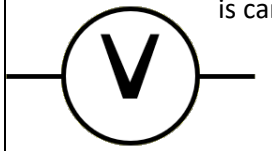
The **units** for current are **Amperes (A)** – sometimes just called **Amps**.

Current is **measured** with an **ammeter and the diagram symbol is below.**



Potential difference (p.d.) – sometimes called **voltage** is a measure of the energy carried around a circuit.

The higher the potential difference, the more energy that is carried by the electrons.

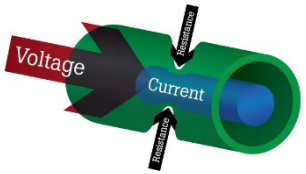


p.d. is **measured** with a **voltmeter.**

The **units** for **potential difference** are **volts (V)**

Physics - Lesson 4
Resistance

Resistance is a measure of how hard or easy it is for a current to flow.



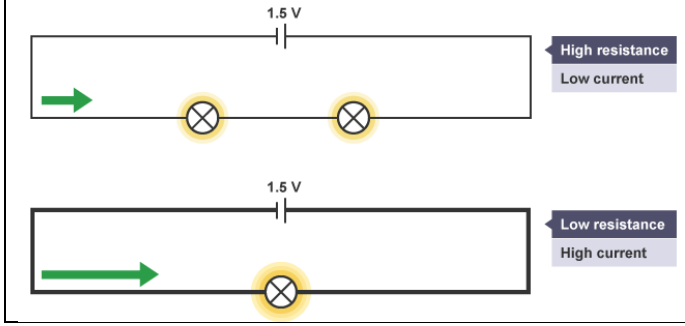
Resistance is measured in Ohms (Ω)

Resistance happens because the ions that make up a metal are constantly vibrating.

The more the electrons are slowed down the higher the resistance

The following factors effect resistance.

- As the length of the wire increases resistance increases
- As the thickness of the wire increases resistance decreases



Physics - Lesson 5
Circuit Models

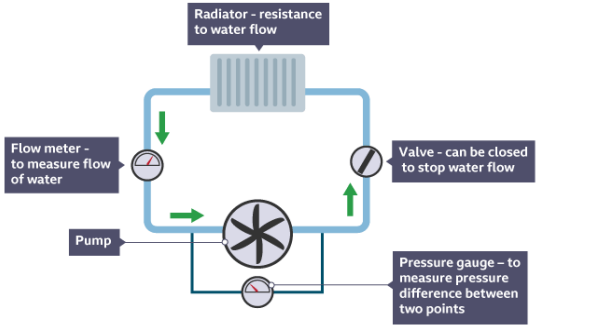
Models can be used to help us understand electrical circuits.

One example is the water model of electricity, using a central heating system:

the pump acts like the cell or battery
the pipes are like the wires
the radiator is like a component, for example a lamp, transferring energy to the room
the water flow is like the electrical current

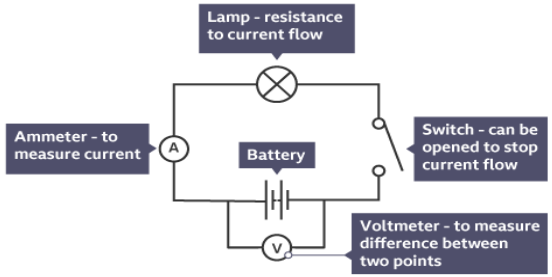
In many ways, electrical current behaves like water flowing through a closed ring of piping. The movement of the water through the pipe is like the movement of electrons through a circuit.

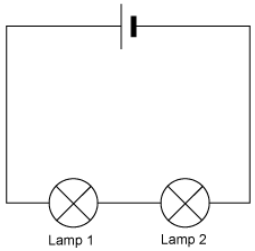
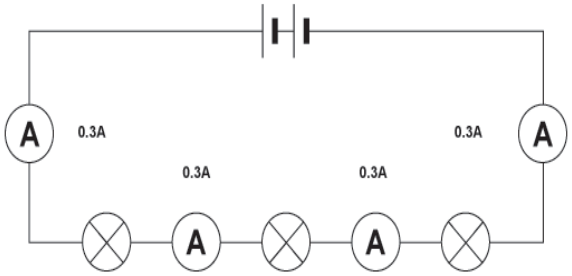
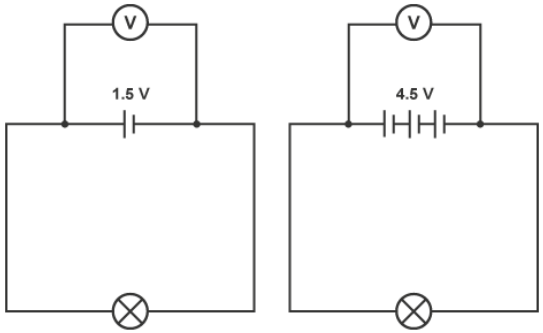
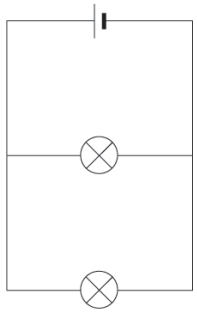
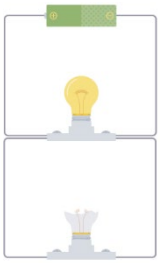
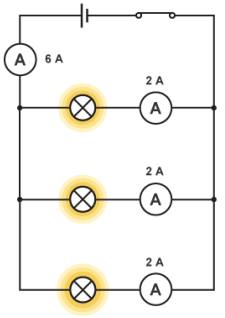
The diagram shows a central heating system.

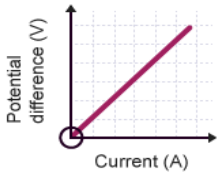
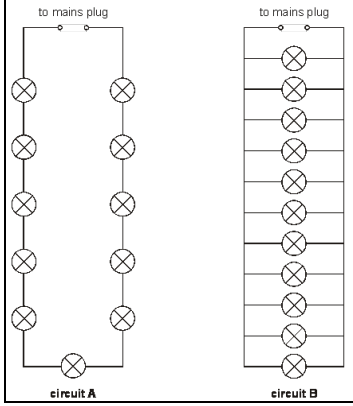
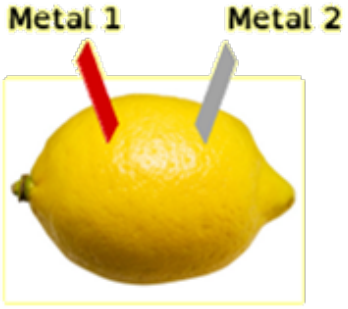


Water flowing through a closed ring of piping behaves like electrical current in a circuit

This circuit diagram represents the water model



Physics - Lesson 6 Current in Series Circuits	Physics - Lesson 7 Potential Difference in Series Circuits	Physics - Lesson 8 Current in Parallel Circuits
You will Investigate how current changes in a series circuit and how increasing the **number of bulbs** in a **series circuit** decreases the brightness of the **bulbs**.  **Current is the same everywhere in a series circuit**  	You can measure the potential difference across a cell or battery. If the two or more cells point in the same direction, the more cells, the bigger the potential difference.  Each cell has a potential difference of 1.5 V, so three cells give 4.5 V	 A parallel circuit has more than one loop – there is more than one way for current to flow.  If one part of the circuit breaks – for example, a bulb blows – the rest of the circuit is still complete and a current will flow through that part.  **The total current in a parallel circuit is equal to the sum of the currents in each branch**. 6 Amps 3 Parallel circuits 2 Amps in each branch

Physics - Lesson 9 Potential Difference in Parallel Circuits	Physics - Lesson 10 Fruit Batteries
Potential difference (p.d.) – sometimes called voltage is a measure of the energy carried around a circuit. Potential difference changes at different places in a parallel circuit. If you plot a graph of current against potential difference for a wire, you get a straight line.  The gradient of the line is equal to the resistance of the wire Possible ways to set up fairy lights.  Circuit A – if one bulb breaks all go out, but needs fewer wires/less wire Circuit B – needs more wires/more wire, but if one bulb breaks the others stay on	If two metals are inserted into a fruit, a potential difference will flow.  Chemical energy within the fruit is transferred by an electric current to the voltmeter. Any citrus fruit such as lemons, limes, oranges and grapefruit will work because they all contain citric acid for the electrolyte. You can investigate which metal makes the best fruit battery out of Copper, Aluminium, Iron and Zinc.