

Year 8

Knowledge Organiser

April- July 2023

AMBITION, CONFIDENCE, CREATIVITY,
RESPECT, DETERMINATION

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 GREENSHAW
LEARNING TRUST



Why do we have knowledge organisers?

Knowledge organisers are a collation of the basic essential knowledge for success in each subject area that will underpin your learning for the term.

They are designed to provide the information you will need to be committing to your long term memory through recall exercises in Low Stakes Quizzing.

How do we use knowledge organisers?

You should be using these KOs to create your homework quizzes so that you are practising retrieving information.

1. You can do this by testing yourself on the definition of key terms (both recalling the key term and then swapping to recall the definition), practice labelling diagrams, retrieves reasons and justifications for the main learning points.
2. They can also be used for 'memory dumps' where you try to recall as much of the information about a topic as possible and then use the KP to fill in the gaps.
3. They can also be used in class to assist with retrieval of the core knowledge needed for each subject.

You should have these with you at all times in school and out on your desk in all lessons.

If you lose your KO or it becomes too dishevelled, please purchase a new one from the Head of Year or the School Office.

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**AMBITION, CONFIDENCE, CREATIVITY,
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Year 8 Summer Term KO To Kill A Mockingbird.

Part 1 1933-35

The reader is introduced to the narrator of the story, Scout Finch. Although the story is told by the adult Scout in the form of a flashback first person story it starts when she is six years old. With her brother Jem and her friend and sometime neighbour Dill, Scout becomes obsessed with her mysterious neighbour, Boo Radley. The children experience their first snowfall and Miss Maudie's house burns down in a fire. Scout's father, Atticus, agrees to defend a local black man, Tom Robinson, who has been accused of rape. A rabid (really sick) dog comes to the town and Atticus is forced to shoot it. Jem destroys a neighbour's (Mrs Dubose) flowers and is forced to read to her as a consequence. Not long later, Mrs Dubose dies.

Part 2 1935

The children are taken to the church of Maycomb's black community by their housekeeper, Calpurnia. Aunt Alexandra arrives in Maycomb and Dill also returns. A lynch mob from a neighbouring area try to take Tom from jail in order to kill him, but Scout manages to stop one of the men, Mr Cunningham, which stops everyone else. Tom Robinson's trial starts and the children sit in the black community's area. Heck Tate, The Ewells and Tom Robinson all tell the courtroom what happened. Despite not having enough evidence, the jury find Tom Robinson guilty. Bob Ewell says he will get revenge on Atticus for making him look like a fool. An innocent man without hope, Tom Robinson tries to escape from jail and is shot dead. Not long after, a drunk Bob Ewell attacks the Finch children. They are saved by a mysterious figure who turns out to be Boo Radley. Atticus thinks Jem is responsible for killing Bob Ewell, but the town's sheriff, Heck Tate, proves that it was in fact Boo Radley. The novel ends with Boo Radley visiting Scout and Scout taking him back home. At the end of the novel Scout is able to view the town and what has happened from Boo Radley's point of view.

Key Characters

Scout Finch	The narrator of the story, she is a thoughtful and strong minded child.
Jem Finch	Scout's older brother. He has a temper at times.
Atticus Finch	Scout's father. He is a lawyer and an fights for social justice and equality
Calpurnia	The black housekeeper to the Finch family and a mother figure to the children.
Dill	Scout's friend. Sometimes lies.
Miss Maudie	A thoughtful and kind neighbour.
Boo Radley	A mysterious neighbour.
Tom Robinson	Well respected member of the black community. He is accused of rape by Mayella Ewell and her family.
The Ewells	A poor and isolated family with a 'mean streak'. Quite racist.

Context

Racism and the Jim Crow Laws

The Jim Crow laws were created in the 19th century and encouraged racial segregation /divide in the Southern United States. The Civil Rights Act of 1964 and Voting Rights Act of 1965 got rid of the Jim Crow laws. Much of this was because of the likes of Martin Luther King Jr.

The Wall Street Crash and The Great Depression -

The Wall Street financial crash took place in 1929 causing lots of unemployment. The novel is set during the Great Depression that followed in the 1930s. This had a huge impact on the poorest members of society and meant that many families struggled with housing and food.

Key Vocabulary

Identity - Who a person is, or the qualities of a person or group that makes them similar to/different from others.
Discrimination - The unfair treatment of different types of people.
Prejudice - To have an opinion about someone or something, which is not based on actual experience.
Racism - The thinking that a person's race fully shapes their identity and you treat them in a certain way because of it.
Courage - The ability to do something that frightens you.
Innocence - The quality of not having much life experience and not knowing about the bad things in life.
Morality - A set of personal or society based rules for good or bad behaviour.
Justice - The fairness in which people are dealt with. Justice should be equal.
Colonialism - Believing that one country should be able to control another country, including its people and wealth.
Hypocrisy - A situation where someone believes and acts in a certain way when they really want to act/believe in the opposite.
Grammar
Linking paragraphs - End a paragraph with a sentence that leads to the next, or start your next paragraph in a way that links to the previous one. Alternatively, use connectives.
Introductions - Give your reader a clear idea of what your writing will cover.
Conclusions - Link to the essay question and briefly restate your main points. It could also include a final reflection.
Embedded quotations - Quotations that fit smoothly into your own sentences.

Year 8 Summer Term KO To Kill A Mockingbird.

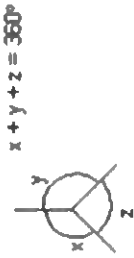
Key literary vocabulary		Key vocabulary to talk about writing
Setting	The setting sets the stage and lets the reader know where and when the story takes place. It also influences the way the characters act and the things they say and do.	Plot construction – It is significant that the trial takes place in the middle of the novel, as though everything else in the text centres around this moment.
Narrative voice	To Kill and Mockingbird is written in first person . The age of the narrator (Scout) is important because it impacts her reliability (she may misunderstand things) but it also means that she may be more trustworthy (she is less likely to intentionally shape her story).	Narrative style – The narrative is generally humorous and conversational, however it is also surprisingly sophisticated in places. The mixed narrative style reflects the complicated ideas in the novel.
Flashback	When the current plot is interrupted so that a previous scene can be shared with the reader. Scout uses flashback to provide background information on the Cunningham family, for example.	Novel – Writing the text as a novel gave Lee the scope to investigate important themes as well as including the character development of Jem and Scout.
Foreshadowing	A warning or indication of a future event. Lee uses foreshadowing to suggest that Boo Radley is not as dangerous and deranged as the children think; throughout Atticus is sympathetic and understanding.	Dialect – A particular form of language that is specific to an area or group. Lee uses dialect to give the reader a sense of the way people in Maycomb talk; it is used to denote class in the South. Many people who use the Southern dialect are stereotypically considered ignorant and uneducated.
Simile	A comparison using 'as' or 'like'. 'The tire bumped on gravel, skittered [...]' and 'popped me like a cork onto the pavement'.	Character development – As the story develops, the characters develop too. Scout becomes more mature and learns to control herself; Jem changes from being childish and defiant to empathetic and understanding.
Metaphor	Figurative (not literal) language. A word or phrase is applied to an object or action to which it is not literally applicable. Atticus tells Scout to 'climb into [someone's] skin and walk around in it'.	Structure – The novel is split into two parts and is closely linked with the maturing of Jem and Scout; in Part Two, their understanding of the trial has grown and they realise that Atticus has been trying to teach them some important lessons. In Part One the reader is introduced to the setting and characters (the community of Maycomb and the prejudices of the people who live there). Part Two shows the reader what happens as a result of these prejudices.
Personification	When human qualities are given to something inhuman. When describing the housefire, Lee writes 'The fire was well into the second floor and had eaten its way to the roof'.	Hypophora – A figure of speech where a question is raised and then immediately answered; used to take the discussion in a new direction, to stimulate interest or to suggest answers the reader may not have thought of.
Microcosm	A miniature community (world)/village etc. within the larger world. Lee describes Maycomb as a microcosm of America's society in the 1930s, meaning that this little community is a typical representation of some parts of wider America at this time.	Subject Terminology
Irony	Verbal irony – when characters say one thing but mean something else. Dramatic irony – when the reader understands something but the character does not. Situational irony – when we expect one thing to happen and the opposite happens instead.	Pathos – The power of a person, situation, piece of writing to cause a feeling of sadness or pity. Juxtaposition – Putting things close together to create a contrasting effect (showing their differences).
Derogatory language	Language that expresses a low opinion of the person being spoken to/a group of people.	Motif – Is a repeated theme, image, idea or character in a text because it stands for/symbolises something. Bildungsroman – A novel dealing with one person's early/childhood years. A novel about growing up. Microcosm – Is a small society, place or activity which has all the typical features of a much larger one.

Angles in parallel lines[M818, M163, M351, M319, M606]

Angles on a straight line



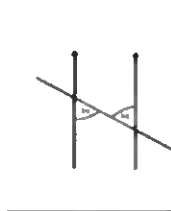
Angles at a point



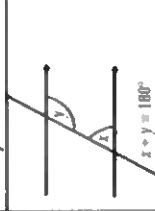
Vertically opposite angles



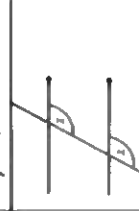
Alternate Angles are equal



Corresponding angles are equal



Co-interior (or supplementary) angles equal 180

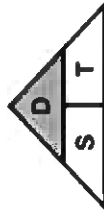


Converting units of measure [M772, M530, M761, M774, M728, M465, M515, U151, U256, U910, U527]

1km= 1000m
1m= 100cm
1cm= 10mm
1kg= 1000g
1 litre= 1000cm³

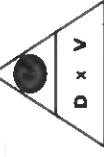
1cm	10mm	$\times 10^2$
1cm²	100mm²	$\times 10^3$
1cm³	1000mm³	
1m	100cm	
1m²	10000m²	$\times 100^2$
1m³	1,000,000m³	$\times 100^3$

Speed:



$$\text{Distance} = \text{Speed} \times \text{Time}$$

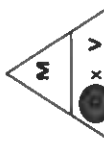
Density:



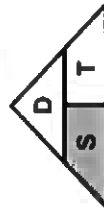
$$\text{Mass} = \text{density} \times \text{volume}$$



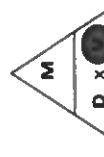
$$\text{Time} = \frac{\text{Distance}}{\text{Speed}}$$



$$\text{Density} = \frac{\text{Mass}}{\text{Volume}}$$



$$\text{Speed} = \frac{\text{Distance}}{\text{Time}}$$

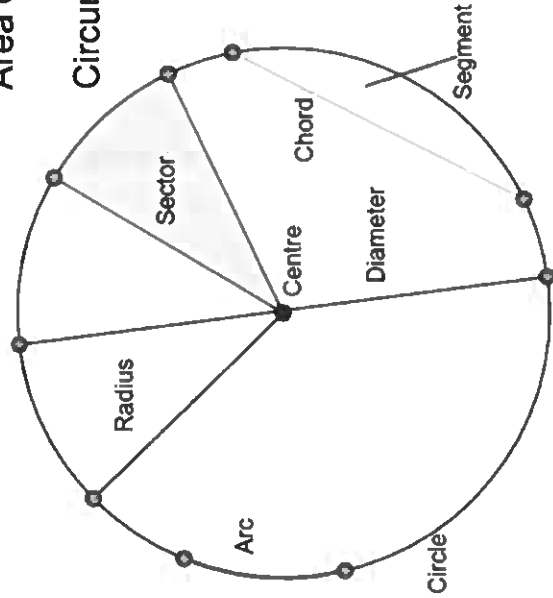


$$\text{Volume} = \frac{\text{Mass}}{\text{Density}}$$

Circles [M595, M169, M231]

$$\text{Area of a Circle} = \pi r^2$$

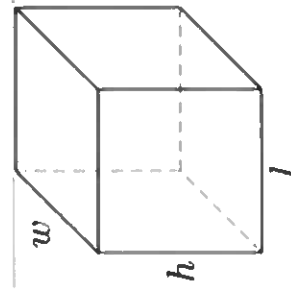
$$\text{Circumference of a Circle} = \pi d$$



Key terms:

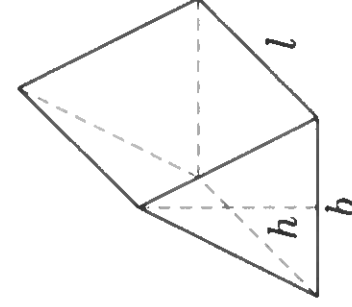
Surface Area = the total area of all the surfaces of a 3D shape

Volume = the amount of space that an object occupies



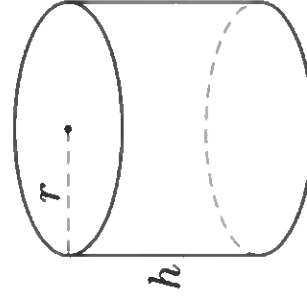
$$V = l \cdot w \cdot h$$

$$SA = 2(lw + lh + wh)$$



$$V = \frac{b \cdot h \cdot l}{2}$$

$$SA = \text{Perimeter of triangle} \times l + bh$$



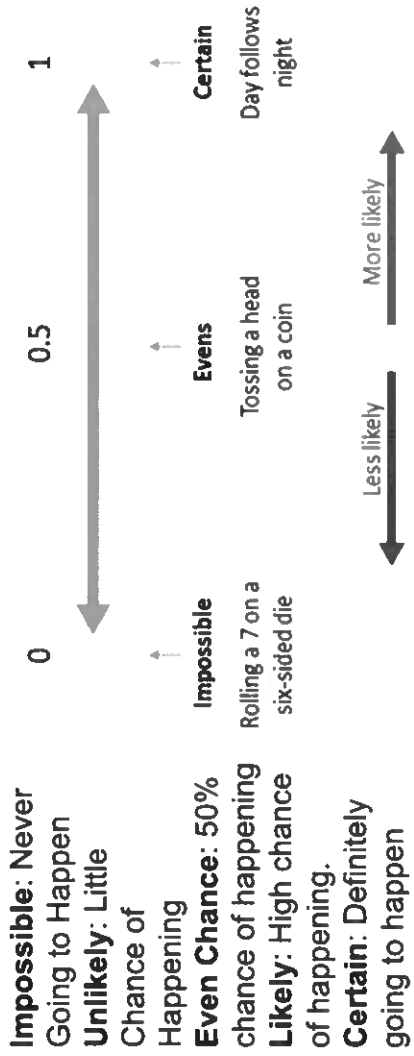
$$V = \pi r^2 h$$

$$SA = 2\pi r^2 + 2\pi rh$$

Volume and Surface Area [M276, M269, M996, M765, M722, M697]

Probability including Sample Space diagrams, Two-way Tables and Frequency Trees [M655, M941, M938, M718, M206, M899, U280]

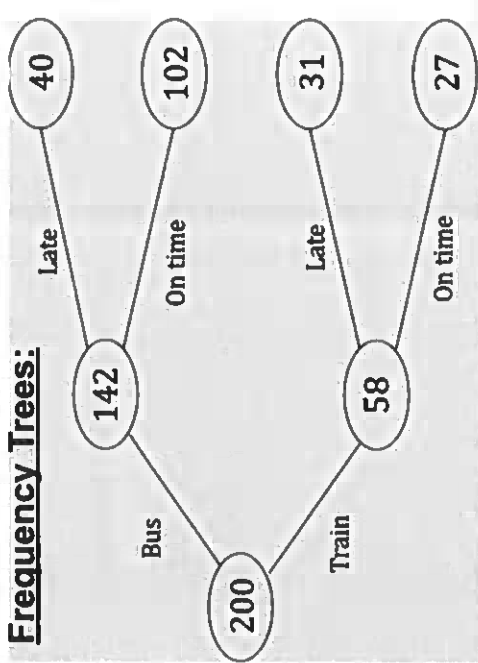
All probabilities must add up to 1.



Two-Way Tables

	Bus	Train	Total
Late	40	31	71
On Time	102	27	129
Total	142	58	200

Frequency Trees:



Probabilities from Two-Way Tables or Frequency Trees:

$P(\text{train, late}) = 31/200$

$P(\text{on time}) = \frac{102/200 + 27/200}{129/200}$

Averages from Frequency Trees [M328, M934, M841, M940, M127]

Range	Difference between the largest and smallest values
Mode	Most frequently occurring
Median	Put the data in numerical order and then choose the middle item of data.
Mean	$\frac{\text{Total of all items of data}}{\text{Number of items of data}}$

E.g.: 5, 8, 2, 7, 5
Range: $8 - 2 = 6$
Mode: 5
Median: 2, 5, 5, 7, 8
→ 5
Mean: $(5+8+2+7+5) / 5 = 5.4$

Mean from frequency table:

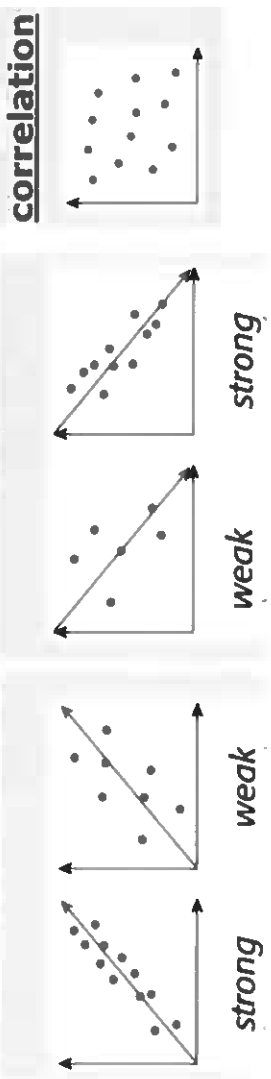
$$\text{Mean} = \frac{\text{Sum of (value} \times \text{frequency)}}{\text{Total frequency}}$$

Scatter Graphs and Pie Charts [U840, M769, M596, M574, M165]

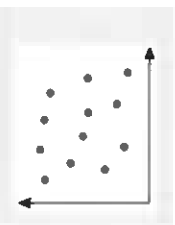
Frequency Polygon is a line graph of class frequency plotted against class midpoint.

Scatter Graphs: Correlation and line of best fit

Positive Correlation Negative Correlation



No correlation



Pie Charts

$$\text{Angle in Pie chart} = \frac{\text{frequency}}{\text{total frequency}} \times 360^\circ$$

Year 8 Chemistry Knowledge Organiser

Energy Changes and Rate of Reaction

Box 1 – Energy Changes: Exothermic and endothermic reactions

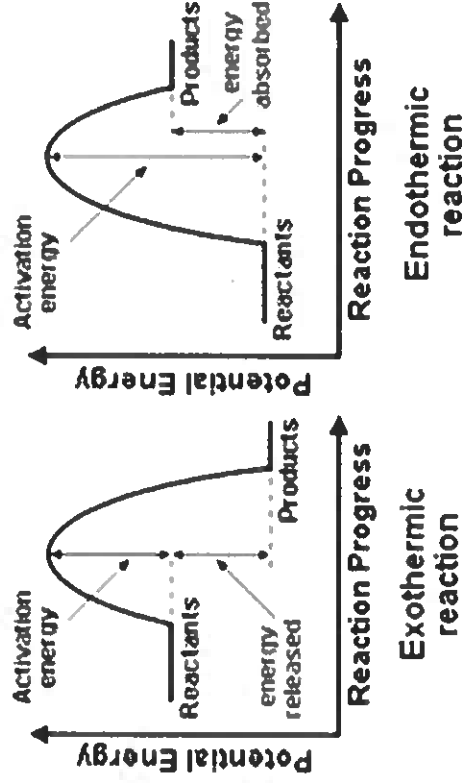
Exothermic reactions

- These are reactions that **release/give out energy** to the surroundings. This is usually in the form of heat.
- They cause the **temperature to increase**.
- **The reactants have more energy** in their energy stores **than the products**. (see reaction profile)

Endothermic reaction:

- These are reactions that **take in energy** from the surroundings.
- They cause the **temperature to decrease**.
- **The reactants have less energy** in their energy stores **than the products**. (see reaction profile)

The diagrams below are called reaction profiles.



Box 2 – Rate of reaction

The rate of a reaction is a measure of how quickly a reaction is occurring. Rate = Amount of substance ÷ time

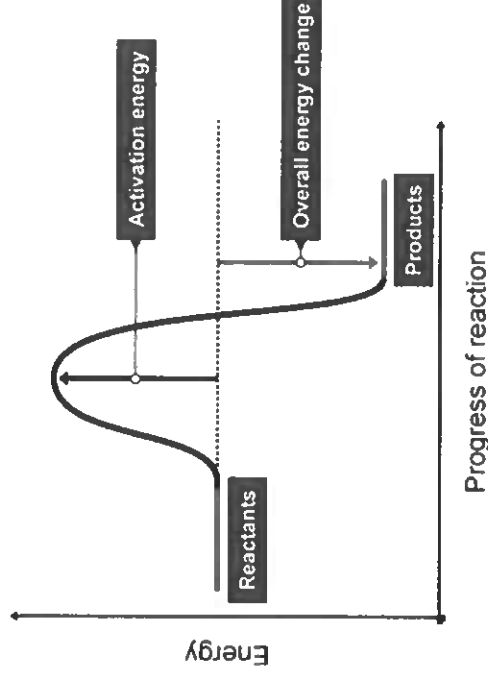
The rate of a reaction can be measured by how quickly a reactant is used up or by how quickly a product is made.

Key Terms	Definitions
Exothermic	Reaction that releases energy to the surroundings
Endothermic	Reaction that takes in energy from the surroundings
Energy profile diagram	Graph that shows energy changes in reactions
Rate of reaction	How fast a chemical reaction occurs
Collision theory	The idea that successful collisions are needed between reactant particles if a chemical reaction is to occur.
Activation energy	The minimum amount of energy needed in a collision for a reaction to occur
Catalyst	A chemical that speeds up a reaction without being used up during the reaction
Concentration	The amount of a chemical dissolved in a certain volume of water.

Box 3 – Collision theory

A chemical reaction can only occur if the reactant particles collide successfully. To collide successfully they must collide with activation energy.

Activation energy the minimum amount of energy needed in a collision for a reaction to occur



Year 8 Chemistry Knowledge Organiser

Energy Changes and Rate of Reaction

Box 4 – Factors that affect the rate of a reaction

All factors that increase the rate of reaction will increase the frequency of successful collisions between the reactants.

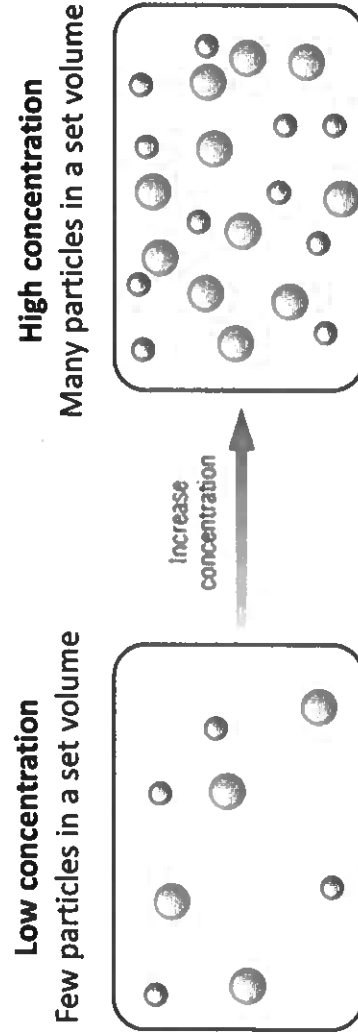
The **rate of a chemical reaction** is affected by:

- **Temperature** – The higher the temperature the faster the rate of reaction, because the particles gain energy, move faster and therefore collide more frequently and with more energy.
- **Concentration** – The higher the concentration of a reactant that is in solution, the faster the rate of reaction. When there are more particles in a set volume, there is a higher frequency of collisions.
- **The pressure of a gas** – The higher the pressure of a gas, the faster the rate of reaction.
- **The surface area of a solid** – Powdered solids react more quickly than lumps of a solid. This is because the powdered solid has a larger surface area over which collisions can occur, therefore there is a higher frequency of collisions.
- **Adding a catalyst** – See Box 5

Box 5 – Explaining concentration

The amount of a substance dissolved in a certain volume of water.

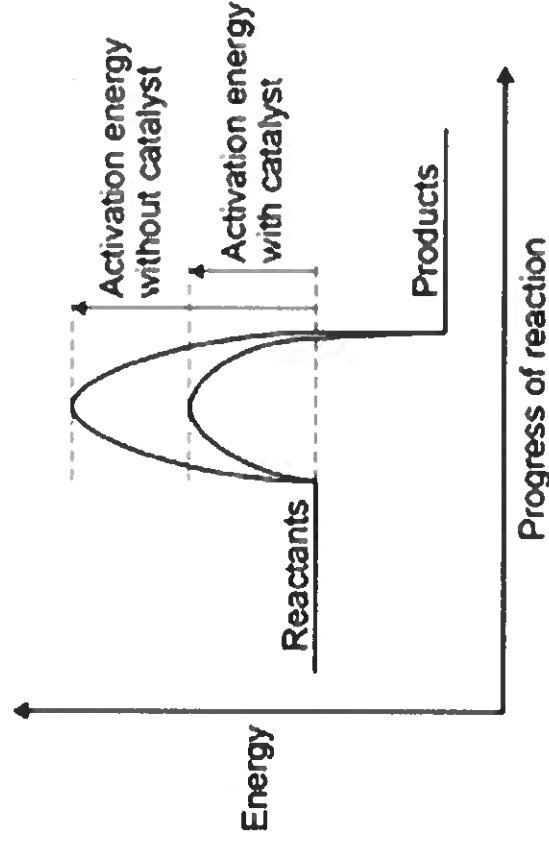
The higher the concentration, the more particles of the substance there are in a certain volume of water.



Box 6 – Catalysts

A catalyst is a chemical that speeds up a reaction without being used up during the reaction.

It does this by providing an alternative reaction pathway with a lower activation energy.



Year 8 Biology Knowledge Organiser – Biodiversity

Box 1: Ecology, Communities and Ecosystems

Ecology is the study of how organisms interact with each other and with their physical environment. The distribution and number of organisms on Earth is shaped by **biotic factors** (the effect of living things) and **abiotic factors** (the effect of non-living things). The term **biosphere** means anywhere and everywhere life is found on Earth, including in the atmosphere, on the ground, underground and in water.

Biomes are large zones such as rainforests, deserts and coral reefs. The word **ecosystem** can be used to describe the ecology of a large area e.g., a rainforest or can be used to describe the ecology of a very small area – such as underneath a rotting log in the forest.

Communities are groups of **interdependent** populations of organisms that interact with each other within an **ecosystem**, for example in a field there may be a community of mice, beetles, hawks, rabbits, dandelions, bees and frogs all interacting with each other.

A **stable community** is one where all the species' populations and the abiotic factors are in balance; as a result, population sizes don't change much in stable communities. A stable community will include a wide range and variety of organisms (it will have a high **biodiversity**). When a large stable community is lost, it cannot be easily replaced.

Box 2: Biotic and abiotic factors affecting organisms

Communities of organisms are affected by **biotic** and **abiotic** factors in their **habitat**.

Abiotic factors that are non-living features of the environment that affect the growth of living things, including light intensity; temperature; soil pH; carbon dioxide level for plants.

Biotic factors are ways that living things affect other living things, including food availability; predators; pathogens; competition between species. Competition can lead to **extinction** of a species.

Competition is a struggle between living things for resources they need to survive. It occurs when resources are scarce.

Box 3: Biodiversity

Biodiversity is the range and the variety of all the different of organisms living in an area.

An area with a high biodiversity increases the stability of ecosystems, because it reduces the dependence of one species on another, for instance for food. If a species has only one food source (e.g. pandas and bamboo shoots), it may be easily threatened by environmental changes. A rainforest has a high level of biodiversity with many plants and animals interacting. A palm tree plantation has a low level of biodiversity – with only one plant type and a limited number of organisms living there.

Many **human activities** threaten biodiversity and reduce it. **Deforestation** had damaged biodiversity by removing vast areas of natural woodland along with virtually every population of every species that used to live there. Our waste, polluting land, air and sea, has negatively affected biodiversity in many areas. Global warming is already having measurable effects on global biodiversity.

Key Terms	Definitions
Biosphere	Wherever life is found on Earth (and in the atmosphere).
Biome	A large zone of life with particular characteristics – e.g. tropical rainforest, arctic tundra.
Ecosystem	The interactions between a community of organisms, which all depend on each other, and the non-living environment.
Habitat	A specific set of conditions, usually a specific location, where an organism (or organisms) is adapted to live.
Community	A group of interdependent populations of organisms all interacting with each other.
Population	A group of organisms of the same species living in a particular habitat – for instance, the buffalo on the savannah, or the greenfly on a rose bush.
Interdependence	All organisms in a community rely on one another – for food, shelter, pollination, seed dispersal, nutrient recycling etc.
Biotic factors	How living things affect other living things in a community.
Abiotic factors	How non-living things affect the living things in a community (e.g. light intensity, temperature, soil pH).
Biodiversity	The range and variety of all the different species living in an area.

Year 8 Biology Knowledge Organiser – Biodiversity

Box 4: Deforestation

Deforestation is the **permanent loss** of natural forest ecosystems through human activity.

Deforestation on a large scale happens to provide land, with the largest areas cleared for raising cattle, to plant palm oil trees and rice fields and to grow crops that can be made into **biofuels**. Our food and fuel needs conflict with the need to preserve forests and rainforests so biodiversity is maintained.

Deforestation **reduces biodiversity** – it has caused or is threatening the **extinction** of many species. Rainforests are so rich in rare and unusual species that scientists estimate that many species are lost before they've even been discovered.

As they grow, trees and other plants absorb **CO₂** from the atmosphere through **photosynthesis** and lock it away within themselves. Deforestation releases this 'locked in' **CO₂** back into the atmosphere because the vegetation is often burned or left to decay. Deforestation is therefore a major contributor to the total **global greenhouse gas** emissions, causing **climate change** through **global warming**.

Box 5: Humans need to

maintain high Biodiversity

Humans rely on a large range of plants and animals to survive.

Plants provide the **oxygen** we need to breathe, crops produce the **food**, some plants provide **medicines**.

Animals such as cows, sheep and pigs provide **food**; animals such as bees **pollinate** plants.

The population of bees is falling due to diseases and the use of **insecticides**. Insecticides are chemicals that kill insects, bees as well as pests. If the bee population reduces it could have a significant impact on the production of food because the crop plants would not be pollinated.

Box 6: Human activities that help maintain a high

biodiversity

- Breeding programmes for endangered species help prevent species becoming extinct.
- Protection and regeneration of rare habitats such as rainforests, coral reefs and peat bogs provides a habitat for often rare organisms.
- Reintroduction of hedgerows – previously removed by farmers to increase the size of fields to grow crops, which reduced in the populations of birds, mammals, insects and plants.
- Reduction of deforestation and carbon dioxide emissions – prevent habitat loss for rare and endangered organisms. Reduce the rate of global warming and the impact of climate change.
- Recycling resources – reduces the need for landfill sites that destroy natural habitats. Recycling materials takes less energy than creating new materials, so less **CO₂** is emitted.

Box 8: The problem with plastics

Plastics cause pollution on land and in water, and are an increasing problem, because they are non-biodegradable (they cannot be broken down by microorganisms).

Micro-plastics (e.g. microbeads in cosmetics) can get into the oceans via sewage systems. Some countries have banned the use of microbeads.

Plastics can harm animals (both on land and in the sea) if they eat them (either intentionally or not) or they can become tangled in them.

Plastic pollution is being tackled by reducing single use plastic and improving recycling and disposal.

Box 7: The Greenhouse effect and Global warming

The greenhouse effect is a natural process that allows the Earth to be warm enough to support life. Human activities have dramatically increased the levels of greenhouse gases in the atmosphere.

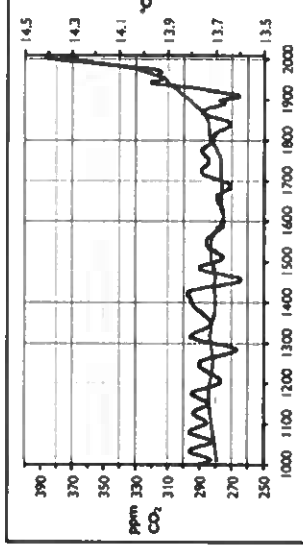
The main greenhouse gases are **carbon dioxide** and **methane**.

→ These gases absorb infrared (heat) radiation, causing gradual increases the atmosphere's and the Earth's temperature.

Human activities such as **burning fossil fuels**, **deforestation** are increasing the amount of carbon dioxide in the atmosphere and enhancing the greenhouse effect, causing an increase in the global average temperature.

The idea that global warming is caused by humans used to be controversial. Now global scientific consensus is that humans are causing climate change because of **peer-reviewed research**.

The consequences of global warming are; **melting of the polar ice caps** causing a rise in sea level and flooding; **changing weather patterns** and more severe storms and droughts; **changing migration patterns** for animals; **changes in the distribution** of plants and animals.



The data shows a direct link between the concentration of **CO₂** in our atmosphere and the global average temperature. There is a sudden, dramatic increase in both at the beginning of the 19th century (exactly the same time as the industrial revolution began, when humans started burning massive amounts of coal).

Year 8 Biology Knowledge Organiser – Biodiversity

Box 9 -Measurements of ecosystems

Biologists measure both the **distribution** and **abundance (number)** of organisms in ecosystems to help us understand them. It would be impractical to attempt to count e.g., all the seaweed on a beach, so biologists use **sampling** techniques.

If you want to measure the abundance in an area and estimate a population size, or to compare two locations for abundance of e.g. seaweed, **random sampling** would probably be used. For this, quadrats are used to count individual organisms.

The quadrat is placed many times at randomly selected positions within the area to be sampled. The equation opposite can then be used to calculate the total estimated population size. The random placement is important for ensuring there is no bias, and the samples are representative of the whole area. Randomisation can be achieved by using a system of coordinates along with a random number generator see image 1.

To assess how the distribution (spread) of an organism changes as a specific **abiotic** factor changes, you measure along a **transect**. For instance, with the seaweed example, you could set up your transect line down the beach towards the water (just using a long tape measure) and measure the coverage of seaweed at 2 metre **intervals**. Alongside this, also measure a value for the abiotic factor (eg. light intensity) at each position. Data may be summarised using means, modes or medians, and graphs can be produced to represent differences between locations, or the change in distribution along a transect.

Key Terms	Definitions
Distribution	Describes how organisms are spread/where they are found in an ecosystem.
Abundance	How many individuals of a particular species there are (population size) in a location.
Quadrat	A square frame used for sampling plants in an ecosystem. Can be used for counting plants for measuring the coverage of the ground by a particular species.
Transect	Sampling method where a quadrat is laid down at regular intervals along a line. This is used to measure the change in distribution of organisms when a particular factor changes, such as light intensity.
Interval	The spaces between measurements – e.g. on a transect, the interval might be 1m or 2m.

Equation

$$\text{Estimated population size} = \frac{\text{Total area}}{\text{Area Sampled}} \times \text{Total number of plants counted}$$

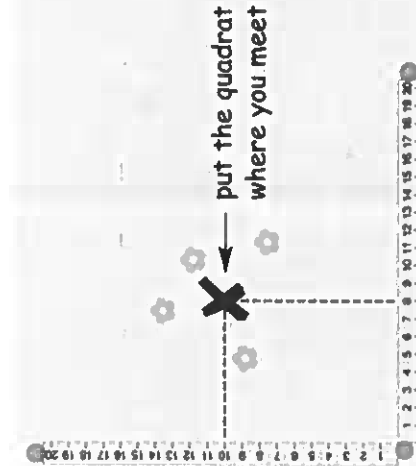


Image 1 - Use a random number generator to select coordinate positions for your quadrat placements

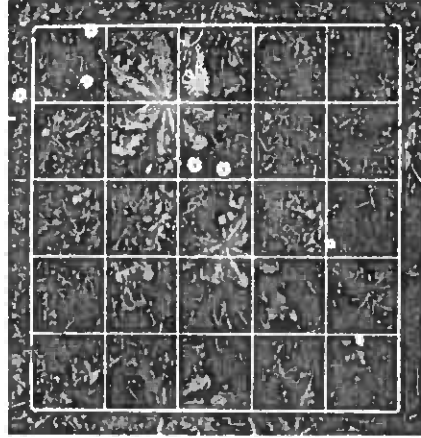


Image 2 - A quadrat: this one is a 0.5m x 0.5m square: the area is 0.25m². Quadrats are divided up into a grid (here of 25 smaller squares) within the frame, useful for estimating % coverage: each small grid square represents 4% of the area.

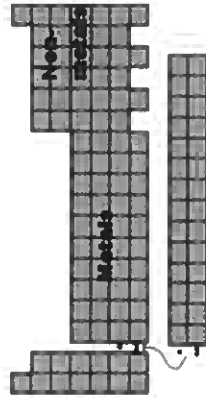


Image 3 - A Line transect: place a tape measure and use a quadrat to sample the organisms at regular intervals along its length. This shows how the distribution changes alongside an abiotic factor, as you move across an area from one region to another.

Year 8 Chemistry Knowledge Organiser – Reactivity

Box 1 - Metals and Non-Metals

- Metals are found on the left hand side of the periodic table
- When metals react, they lose electrons to form positive ions.



- Properties of metals are: high density, high melting point and good conductors of heat and electricity.
- Only three metals are magnetic (iron, cobalt and nickel).
- Metals react with oxygen to make metal oxides e.g.

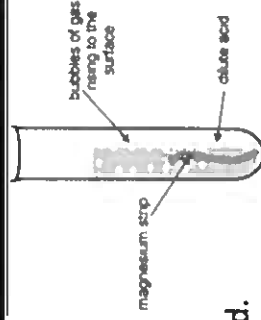
$$\text{Magnesium} + \text{Oxygen} \rightarrow \text{Magnesium Oxide}$$

Box 2 - Metals and Acids

- Acids react with most metals, producing a salt and hydrogen gas. This is the general word equation for the reaction is:

$$\text{metal} + \text{acid} \rightarrow \text{salt} + \text{hydrogen}$$
- The salt produced depends upon the metal and the acid.

$$\text{zinc} + \text{sulfuric acid} \rightarrow \text{zinc sulfate} + \text{hydrogen}$$
- To test for hydrogen gas we use the 'squeaky pop' test. This means that hydrogen burns and makes a squeaky pop sound when a lit splint is added.



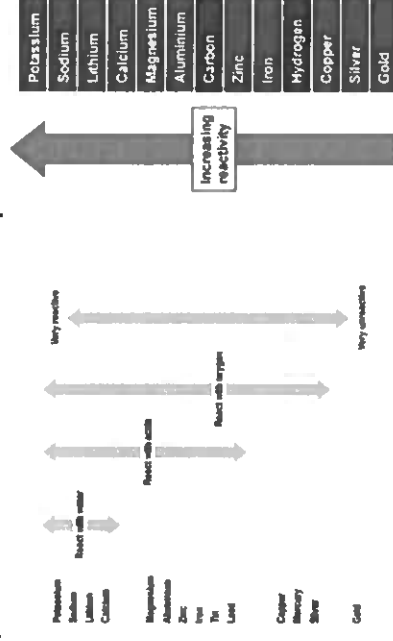
Box 3 - Corrosion and Rusting

- Corrosion** is where a metal reacts with substances in its environment.
- When iron corrodes we say that it **rusts**. Water and oxygen are required for rusting.
- The equation for rusting is:

$$\text{Iron} + \text{Oxygen} + \text{Water} \rightarrow \text{Hydrated iron oxide}$$
- Corrosion can be prevented by coating the metal with paint or oil. Sacrificial protection can also be used. This is where the metal is coated with a more reactive metal (e.g. coating iron with zinc).

Box 4 - The Reactivity Series

- Elements are ordered by their reactivity in a series called the **reactivity series**.
- Observations of the way that these elements react with water, acids and steam enable us to put them into this series.



Box 5 - Displacement reactions

- In a displacement reaction a more reactive metal replaces a less reactive metal in a compound.
- Displacement reactions are **exothermic**.
- The larger the difference in reactivity the greater the temperature rise.
- The example below shows the following reaction

$$\text{Copper sulfate} + \text{Magnesium} \rightarrow \text{Magnesium sulfate} + \text{Copper}$$

Box 6 - Extraction of Metals

- Most metals need to be extracted from their ore so that we can use them.
- A metal ore is a metal compound found in rock, that contains enough metal that it is **economical** to extract it.
- Metals which are less reactive than carbon are extracted from their ore using **reduction**. This is an example of a displacement reaction
Example: Iron Oxide + Carbon $\rightarrow$ Iron + Carbon Dioxide
- Metals more reactive than carbon are extracted from their ore using **electrolysis**.
- Electrolysis is expensive as it requires a lot of energy.

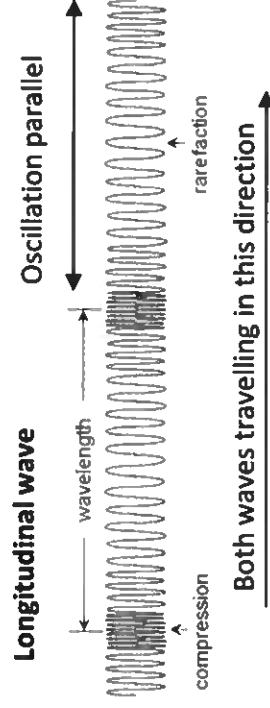
Year 8 Physics Knowledge Organiser – Waves

Box 1 – Types of waves

Waves are oscillations (e.g. vibrations) that transfer energy without transferring matter.

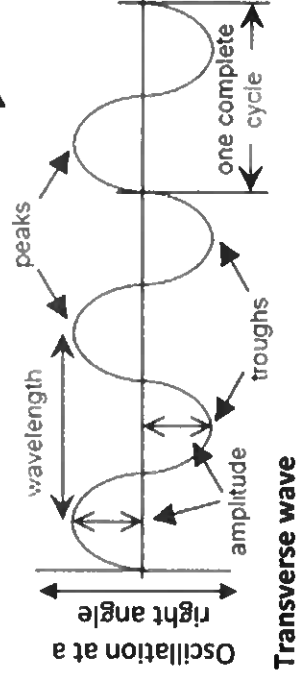
Longitudinal Waves

The oscillations of the wave are **parallel** to the direction of energy transfer of the wave (see diagram). e.g. sound



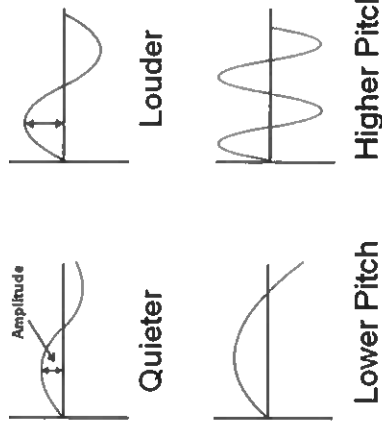
Transverse Waves

The oscillations of the wave are at **right angles** to the direction of the energy transfer of the wave. e.g. light, water waves



Box 2 - Sound Waves

- Sounds travel as longitudinal waves.
- Sound waves can travel through any **medium** that contains particles – solid, liquid or gas. Sound waves cannot travel in a vacuum.
- **Louder** sounds have larger **amplitudes**.
- Sounds with a **higher pitch** have a **shorter wavelength** and **higher frequency**.
- A **reflected sound** is called an echo.



Box 3 - Auditory Range

- Humans can hear sounds with frequencies between **20Hz** and about **20,000Hz**. This is called the auditory range.
- Sound waves that have a frequency **above 20,000 Hz** is known as **ultrasound**. Humans cannot hear ultrasound.

Key Terms	Definitions
oscillation	A rhythmic, back and forth or up and down movement (e.g., vibration).
wave	A whole series of oscillations that allows transfer of energy without transferring matter.
medium	The substance a wave is passing through
longitudinal wave	A wave made from oscillations parallel to the direction of the wave.
compression	A part of a wave where matter is made denser by the oscillations of the wave.
rarefaction	A part of a wave where matter is made less dense by the oscillations of the wave.
pitch	The highness/lowness of a sound.
Volume	Loudness of a sound
frequency	The number of waves passing a point per second.
transverse wave	A wave made from oscillations at right angles to the direction of the wave.
amplitude	Height of a wave – maximum displacement of the oscillation from the resting position.
wavelength	The length of one complete wave – from one point on one wave to the equivalent point on the next wave.
Ultrasound	A sound with a frequency above 20,000 Hz

Box 4 - Uses of Ultrasound Waves

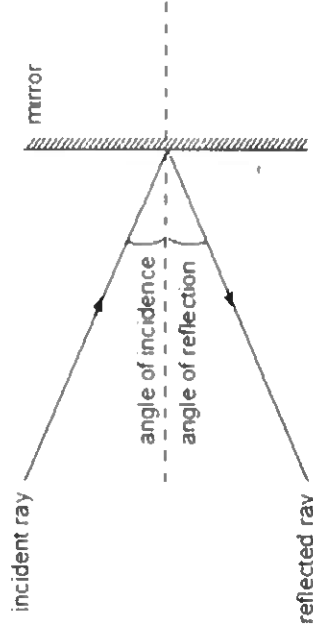
Ultrasound can be used for:

- Scanning during pregnancy to check the health of the foetus
- Checking objects for cracks for example concrete
- Cleaning objects for example jewellery

Year 8 Physics Knowledge Organiser – Waves

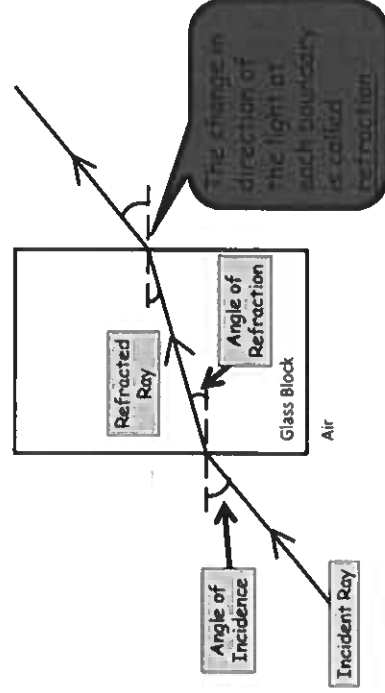
Box 5 - Reflection of Light

When light is reflected from a mirror, the angle of incidence is equal to the angle of reflection. This is the law of reflection.



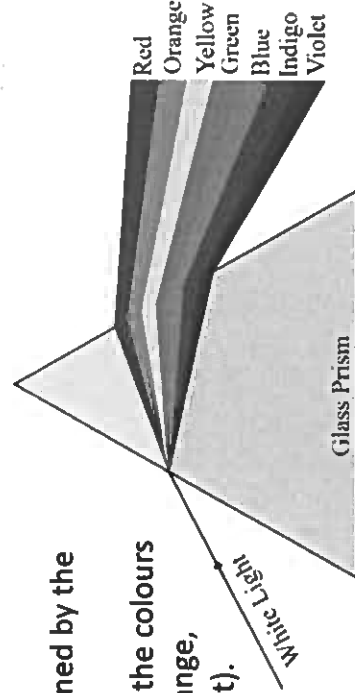
Box 6 - Refraction

As light waves pass across a boundary into a medium of different density it will cause the light waves to change speed and direction. This process is known as **refraction**.



Box 7 – Colours of light

- The **colour** of light is determined by the **wavelength** of the light waves.
- White light is a mixture of all the colours in the visible spectrum (Red, orange, yellow, green, blue, indigo, violet).
- White light can be split into the visible spectrum using a **prism**.
- White objects reflect all the colours of the visible spectrum.
- Black objects absorb (take in) all the colours of the visible spectrum.
- A red object will reflect red light and absorb all of the other colours.

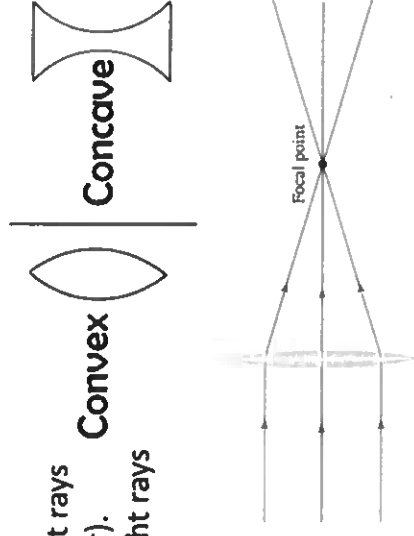


Key Terms

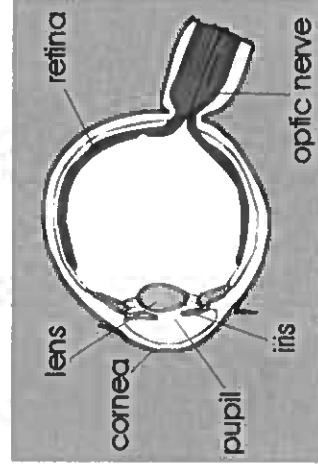
Key Terms	Definitions
Convex Lens	A lens which refracts the light rays to a focal point behind the lens
Focal Point	The point where the refracted light rays meet after passing through a lens
Cornea	The transparent layer at the front of the eye.
Retina	The part of the eye that the light is focussed onto. It has special cells which detect light.
Refraction	Change in direction of a wave as it passes from one medium into another.
Prism	Triangular block used to split white light using refraction.

Box 8 – Lens and the eye

- Convex lenses** cause light rays to converge (come together).
- Concave lenses** cause light rays to diverge (spread apart).
- Light is refracted as it enters and leaves a lens.
- In convex lenses, the point where the light rays converge (meet) is called the **focal point**.



- The **human eye** contains a **convex lens** to refract light.
- The cornea also refracts the light that passes through it.
- For the image to be in focus the focal point should be on the **Retina**.
- The retina is the part of the eye which detects light. It contains light sensitive cells.



Year 8 Biology Knowledge Organiser – Photosynthesis

Box 1 – Photosynthesis

Photosynthesis is a chemical reaction that occurs in the chloroplasts in plants cells. It is a reaction that uses light to produce biomass and transfer energy from the Sun to a chemical store in the plant.

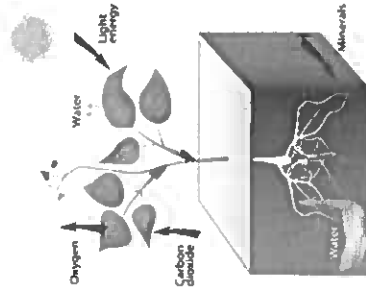
The word equation which represents photosynthesis is:



The balanced symbol equation which represents photosynthesis is:



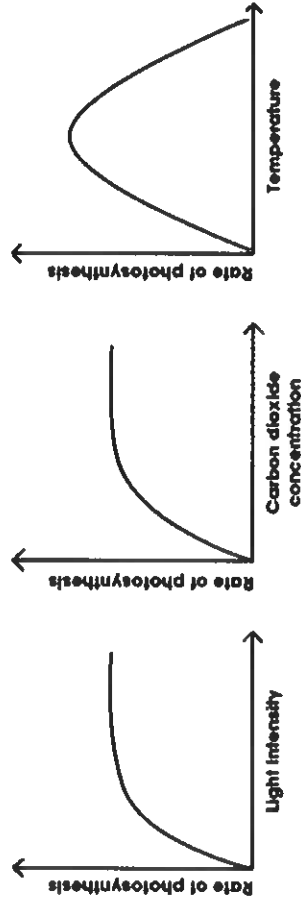
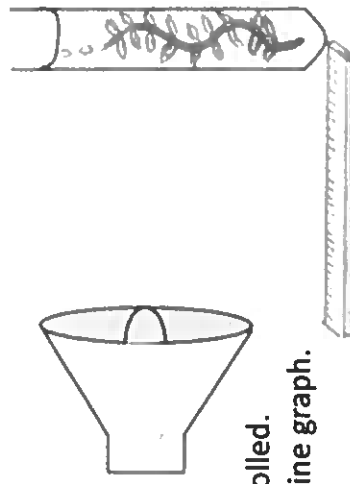
Glucose is converted into starch and stored in the leaf. Iodine solution will turn from orange to blue/black in the presence of starch; this test is used to show that photosynthesis has occurred in a plant. It will give a negative result (stay orange) if the plant has been kept in the dark.



Box 2 – Investigating Rate of Photosynthesis

The rate of photosynthesis can be affected by temperature, carbon dioxide level and light intensity.

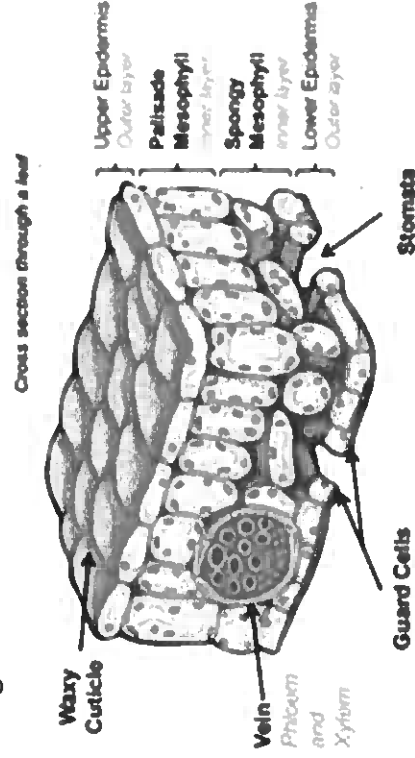
The rate can be measured by counting bubbles of oxygen given off by pond weed. In this investigation, variables need to be controlled. The rate of photosynthesis can be shown on a line graph.



Key Terms	Definitions
Chlorophyll	Green chemical in chloroplasts that absorbs light, essential for photosynthesis
Glucose	A type of sugar produced in photosynthesis and a chemical store of energy
Limiting Factor	A factor (thing) (light intensity, temperature, carbon dioxide) that prevents photosynthesis from going faster.

Box 3 – Plant tissues

Specialised cells/tissues in plants include palisade cells (for photosynthesis), guard cells (to open and close stomata for movement of water and gases) and veins containing xylem which transports water and minerals, and phloem which transports dissolved sugars.



Box 4 – How plants use the glucose they produce

1. For respiration – to transfer energy to all cells so they can function.
2. To make cellulose – the material which strengthens plant cell walls.
3. To make starch – the insoluble storage product that is stored inside cells, especially in roots (like potatoes) or bulbs (like daffodils).
4. To make proteins – glucose is converted to amino acids and combined with nitrate minerals that the plant absorbs through the root hair cells to make proteins.
5. To make fats and oils – these are chemicals that are stores of energy and are found in seeds and nuts which provide an energy source for a young plant before it has leaves so it can photosynthesise.

Y8 History Knowledge Organiser: The First World War



1.1 Nationalism

The early 20th Century saw the rise of intense nationalism across Europe.

Germany

Germany was a new country. Unification had only taken place in 1871. Rapidly, Germany had become the most powerful country on **mainland Europe**. It had a powerful **industrial economy** and looked after it's workers with a **welfare state**.

Germany was not a true democracy. Kaiser Wilhelm II controlled the most important decisions. Although he was Queen Victoria's grandson, Kaiser Wilhelm was envious of British power. He wanted to turn Germany into a great world power to rival - and maybe replace - Britain.

Wilhelm's plans were under threat however. He worried that the rise of **socialism** and **democracy** in Germany would soon mean that he would not be able to take the decisions he needed to make Germany great.

Britain

British nationalism was based on 200 years of **imperial** and **naval dominance**. The 'penny press' celebrated British superiority in novels such as **The Battle of Dorking**.

1.2 Imperialism

During the 19th Century, European countries developed overseas empires for several reasons:

Prestige - Having a large empire was a sign of a country's superiority. Germany, in particular, wanted to gain **colonies** to gain equality with Britain.

Trade - European economies needed to find **raw materials** to produce **manufactured goods**. They also needed colonies to provide **markets** for these goods.

Strategy - In some cases, European empires **colonised** territory just to stop a rival empire expanding further. This was especially true in **Africa**.

As European empires expanded, tensions grew between them, creating flashpoints:

In **AFRICA**, Kaiser Wilhelm tried to gain a 'place in the sun' for Germany, leading to **flashpoints** in Morocco in 1905 and 1911.

In **THE BALKANS**, Austria-Hungary and Russia wrestled for control of countries created by the collapse of the Ottoman Empire, leading to **flashpoints** such as the **1908 Bosnian Crisis**.

Y8 History Knowledge Organiser: The First World War

2.1 Militarism

Nationalism and imperialism led to aggressive militarism in all European nations.

The military had more influence over government than ever before

Many army generals followed the ideas of Social Darwinism and so believed that war was good for the world because it allowed the strong to triumph over the weak.

In Germany and Russia, generals pressured governments into following a more aggressive policy. For example, German generals persuaded the Kaiser to agree to the Schlieffen Plan: a plan to defeat France before Russia could mobilise soldiers.

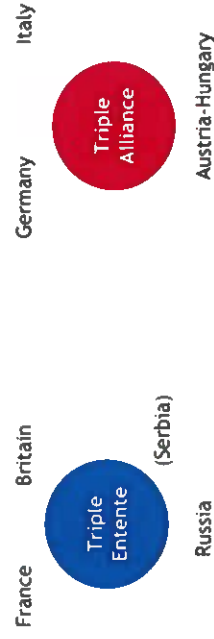
An arms race developed between Britain and Germany

As the risk of war increased, countries began to expand their armed forces. Every country apart from Britain introduced conscription in the 1900s. Between 1900 and 1914, Germany increased military spending by 73%.

A naval arms race developed between Germany and Britain with both sides competing to build new Dreadnoughts. Between 1909 and 1911, Germany built 9 Dreadnoughts whilst Britain built 18.

2.2 Alliances

In order to protect themselves, countries negotiated alliances with other countries.



Each member of the alliance promised to declare war if another member of the alliance was attacked.

2.3 The Assassination of Archduke Franz Ferdinand

In June 1914, an assassination triggered a European war.

Archduke Franz Ferdinand was the heir to the throne of the Austro-Hungarian Empire.

On 28th June 1914, Franz Ferdinand visited Sarajevo, the capital of Bosnia, part of Austria-Hungary. Many Bosnians did not want to be part of Austria-Hungary but be united with Serbia.

The Archduke and his wife were assassinated by a gang of Bosnians led by Gavrilo Princip. The assassins had been given weapons by members of the Serbian government.

In response, Austria-Hungary prepared to retaliate against Serbia.
They secured the agreement of Germany to support them - no matter what. This was known as the German 'blank cheque'.

On 31 July, Russia mobilized its army to protect Serbia from Austria-Hungary and Germany.

Following the Schlieffen Plan, Germany attacked France.

Britain, as part of the Triple Entente, declared war on Germany and her allies on 3rd August.

VOCABULARY

Alliance	An agreement between two countries to support each other in war
Arms race	Competition to build the largest military / most weapons
Assassinated	Shot dead
Conscription	Forcing all men of a certain age to join the army
Dreadnought	Fast modern battleship equipped with large guns
Escalate	Become more serious
Flashpoints	An event where tension could potentially lead to violence
Kaiser Wilhelm	German king
Markets	Places where goods could be sold
Militarism	The army having power / expanding the army and navy
Mobilise	To get an army ready for battle
Nationalism	Believing that your country is superior to others
Over the top	Attacking out of a trench
Overriding	Most important
Penny Press	Cheap books and newspapers
Prestige	Respect and admiration from others
Raw materials	Coal, wood, minerals etc used to manufacture goods
Recklessness	Not being careful
Restore	Bring back
Retaliate	Attack somebody in return for them attacking you
Revanche	French word for revenge (on Germany)
Squabble	An unimportant disagreement
Strategy	Long term plan
Tsar	The king of Russia
Unification	When different places are brought together to form one country

Y8 History Knowledge Organiser: Interpretations of Medieval Africa

TIMELINE	
c.1075	Kingdom of Mapungubwe begins to develop
1200s	Golden Rhino created
1700	European settlers arrive in Southern Africa
1884	Pear's Soap advert produced
1893	Cecil Rhodes takes control of Rhodesia
1932	Golden Rhino discovered
1948	Apartheid begins in South Africa
1956	Ghana wins independence from British Empire
1980	Rhodesia (Zimbabwe) wins independence
1994	Apartheid ends

KPI 1 Mapungubwe

The Kingdom of Mapungubwe was a Medieval kingdom of the Bantu people located in southern Africa.

It was most powerful between 1075 and 1220.

The centre of the kingdom was on Mapungubwe Hill, where the leaders of the kingdom lived and were buried.

KPI 2 Archaeological Evidence from Mapungubwe

1. The Golden Rhino of Mapungubwe was created in the 13th Century. It is about 20 cm long and it made of thin gold sheet held together by gold pins. It was discovered in the grave of a leader of the kingdom.

The Golden Rhino shows that the Bantu people:

- Were skilled craftsmen
- Were wealthy

Had time to spend creating decorative items

2. Glass beads from places as far away as India, China, and Egypt have been discovered. This shows that the Bantu people:

- Had trading links with other peoples
- Had valuable items to trade for the beads

3. Board games have been discovered. Animal herders dug hollows in the rock that could be filled with pebbles.

This shows that the Bantu people:

- Had free time to spend on entertainment
- Herded animals

4. Rock art is visible in caves all around Mapungubwe. These paintings show that the Bantu people:

- Saw animals as very important
- Had different roles for men and women

5. Other gold items, such as a necklace and sceptre, were also discovered in the graves on top of Mapungubwe Hill. This shows that the Bantu people:

- Were very wealthy
- Were skilled craftsmen

KPI 4 Apartheid in South Africa

In 1910, South Africa gained independence, although the country was still controlled by white settlers who made up just 15% of the population.

In 1948, the white government introduced the policy of Apartheid, which was based on the idea that Europeans were naturally superior to black Africans.

Apartheid Laws

removed black rights. Black people couldn't vote or marry white people.

Segregation

Black Africans lived in separate homelands and could not attend white schools.

Opposition

Nelson Mandela, an anti-apartheid leader, was in put prison for 27 years for resisting

KPI 3 European views of Africa in the 19th Century

Europeans had begun to settle in parts of Africa from 1700. However, during the late nineteenth-century, the whole continent was divided up between the European empires who wanted to get their hands on natural resources like gold and diamonds.

Cecil Rhodes was a British imperialist. He wrote that "we are the first race in the world...and the more of the world we inhabit, the better it shall be for the world."

In 1893 Rhodes took over an area of southern Africa called Matabeleland because he heard there was gold there. His soldiers killed thousands of Matabele warriors with machine guns.

He named the territory he had conquered after himself: Rhodesia.

Europeans justified taking over Africa by explaining that Africans were uncivilised and backwards. Europeans argued that European rule was good for Africans because they could be civilised by the European master race.

This view is clear in this Pears' Soap advert from 1884.

The advert shows African soldiers in Sudan dressed in a backwards and uncivilised way.

They are praying to the Europeans' soap, suggesting that they need the Europeans to make them civilised.

Ideas like this helped justify imperialism.

Y8 History Knowledge Organiser: Interpretations of Medieval Africa

KPI 6 Change in the 20th Century

Decolonisation

In 1956, Ghana became the first African colony to claim independence from the British Empire.

One by one, the colonies became independent. Rhodesia won independence in 1980. This process was known as decolonisation.

The End of Apartheid

Following protests and pressure from other European countries, Nelson Mandela was released from prison in 1993 and voting rights were granted to black Africans. In 1994, Mandela was elected President of South Africa and apartheid ended.

Changing Ideas about Race

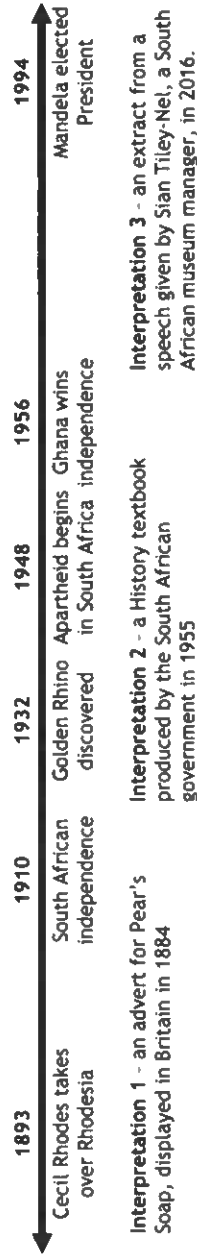
After World War II, European ideas about race began to change.

American anthropologists such as Margaret Mead showed that there are very few relevant differences between people from different races.

VOCABULARY

Anthropologist	Someone who studies people
Apartheid	South African government policy to separate white and black
Archaeology	The study of historical objects
Backwards	Not modern, not having technology, not intelligent
Bantu people	A southern African black ethnic group
Cecil Rhodes	A British imperialist
Craftsmen	People who make things
Curfew	A time when everyone has to be in their home in the evening
Decolonisation	When countries become independent from an empire
Empire	When a powerful country takes over other areas of land
Funding	Money
Ghana	A former British colony in West Africa
Granite	Hard, heavy stone
Homelands	Areas where black Africans were forced to live under apartheid
Imperialism	The belief that expanding European empires is a good thing
Imperialist	Someone who expands European empires
Independence	When a colony becomes free from an Empire
Independent	Free from an empire
Inhabit	Live in
Interracial	Between white and black people
Interpretation	One person's view of history
Justify	To explain something and make it seem fair
Kingdom	A people ruled by a King
Mapungubwe	A medieval African kingdom
Master race	The view that one race (white) was superior to all others
Matabeleland	An area of southern Africa
Nelson Mandela	Anti-apartheid leader in South Africa
Rhodesia	British colony, named after Cecil Rhodes
Rock art	Paintings drawn on rock
Segregation	Separation
Settlers	White Europeans who made their homes in other areas
Superior	Better than
Territory	Land
Uncivilised	Not modern, backwards

KPI 7 Interpretations of Medieval Africa



Interpretation 1 - an advert for Pear's Soap, displayed in Britain in 1884

Interpretation 2 - a History textbook produced by the South African government in 1955

Interpretation 3 - an extract from a speech given by Sian Tiley-Nel, a South African museum manager, in 2016.

"Southern Africa began to be settled by White Europeans at the same time as Black Africans. Around 1700, as Europeans were travelling north, tribes of Black Africans began to migrate South. The two groups struggled to dominate this empty land."

"the Golden Rhino...gives us evidence of a powerful and sophisticated kingdom that existed in Africa hundreds of years before white settlement"

Yr 8 History knowledge organiser – The Jim Crow South

1.1 Slavery and American Civil War

Slavery was abolished in the United States following the American Civil War. By 1860 around 4 million slaves worked on tobacco and cotton plantations in the South.

The American Civil War In 1860, Abraham Lincoln was elected president. He opposed slavery. In response, the southern states broke away from the US. Between 1861 and 1865, the North fought a civil war against the South to decide whether slavery would continue spreading.

In 1863, President Lincoln signed the Emancipation Proclamation which made all slaves free. The northern states won the Civil War in 1865 and slavery ended.

Reconstruction

After the Civil War, the South was ruled by the North during the period of Reconstruction.

African Americans won the right to vote. African Americans were granted the right to vote and over 1500 black politicians won elections. However, in 1877, white southerners regained control of governments in the South.

1.2 Peter Daniel and Jim Crow South In the years after Reconstruction, a system of racial oppression emerged that meant African Americans remained second-class citizens. This system was called Jim Crow. **Peter Daniel** In 1979 the historian Pete Daniel used a metaphor to describe the Jim Crow system of laws that came after slavery: In other words: *African Americans faced lots of little problems *Each problem made the other problems worse *The problems were linked together

1.3 Segregation

Segregation meant the separation of black and white people

Jim Crow laws which forced African Americans to use separate...Train carriages, Schools Restaurants Swimming Pools, Toilets and water fountains.

In 1896 the Plessy vs. Ferguson Supreme Court decision ruled that segregation was legal, as long as facilities were equal.

1.4 Sharecropping

When slavery ended, many former slaves continued to work as sharecroppers on the plantations of former slave owners.

What was sharecropping?

Sharecroppers were not paid for the work they did but received a share of the profit when the crops were sold at harvest time. Sharecroppers were forced to loan money from the plantation owner during the year. The share of the profit they received was not enough to repay the debt. Sharecroppers often misunderstood the complex contracts they signed with plantation owners. This led to them receiving a lesser share of the profit.

The Thibodaux Sugar Massacre

In Thibodaux, Louisiana in 1887, 10,000 sugar workers went on strike after their bosses refused to pay them every two weeks. The white plantation owners responded with violence and 35 sugar workers were killed.

1.5 Divided Resistance

African Americans resisted Jim Crow but disenfranchisement and division made it very difficult to overturn.

Disenfranchisement: white southerners employed a variety of different methods to prevent African Americans from voting including

Intimidation: African Americans who tried to vote were threatened with lynching

Literacy Tests: voters had to take a literacy test, which many black Americans failed because they were illiterate

Poll Tax: voters had to pay a tax to vote. In Texas, everyone had to pay \$1.50 each year to be able to vote.

Division: African Americans disagreed about the best way to fight Jim Crow, which made resistance less effective

The National Association of Coloured Women (NACW) urged African Americans to proving themselves equal to whites by 'living cleanly' and rejecting drinking and gambling.

VOCABULARY

Aesthetically

Congress

Disenfranchisement

Emancipation

Facilities

Harvard

Ideology

Illiterate

Inferior

Intimidation

Jim Crow

Literacy tests

Louisiana

Lynching

Poll tax

Pseudoscience

Reconstruction

Second-class citizens

Segregation

Sharecropping

The South

Stereotypes

Supreme Court

Transcended

Vagrancy

Went on strike

White supremacy

Pretty

American parliament

Not being able to vote

Freedom from being a slave

Schools, transport, shops, etc

The most respected US university

A group of ideas

Not able to read or write

Worse

Scaring someone with violence

Racial system in the South

Spelling tests before you vote

A southern state

Violent murder, often hanging

A tax voters have to pay

Incorrect scientific ideas

When North controlled South

People who are not treated equally in their country

Separating the races

Working for a share of the crop

Part of the US with slavery

False ideas about somebody

The most powerful law court in America

Was more than

Homelessness

Stopped working to protest

Ideology stating that whites were naturally superior

Year 8 – Topic 4 - Year 8 Geography – Where do people live?

KPI1: Key words:

Population distribution: The pattern of where people live.

CBD: Central business district where shops, offices and historic buildings are located at the centre of the city.

Migration: movement of people from one place to another

Natural increase: the difference between the number of births and the number of deaths recorded over a period

Deindustrialisation: the reduction of industrial activity or capacity in a region or economy.

Urban Sprawl: the rapid expansion of the geographic extent of cities and towns

Counter urbanisation: when large numbers of people move from urban areas into surrounding countryside or rural areas

Favela: a Brazilian shack or shanty town; a slum.

Push Factor: force people to move from a place e.g., famine

Pull Factor: encourage people to move to a place e.g., jobs

Rural Urban Fringe: the area at the very edge of the city beside the countryside

Mega City: an urban area with a total population of over 10 million

Sustainable: the practice of using natural resources responsibly, so they can support both present and future generations

Urban Greening: means to increase the amount and proportion of green spaces within a city.

Regeneration: Is the attempt to reverse that decline by both improving the physical structure, and, more importantly and elusively, the economy of those areas.

Brownfield sites previously developed land, which is or was occupied by a permanent structure.

Greenfield site - a site located in a rural area which has not previously been built on.

Green belt - land is heavily protected land circling an urban area, aiming to protect the surrounding countryside from development

Suburbanisation - The movement of people from inner cities to the suburbs

KPI1 – What influences population distribution?

Rural: A rural area is an open swath of land that has few homes or other buildings, and not very many people. A rural area's population density is very low.

Urban: An urban area is the region surrounding a city with many homes. An urban area's population density is very high.

Working out population density:

$$\frac{\text{The number of individuals}}{\text{size of the area}}$$

When an area has a low population density, we say it is **sparsely populated**. When an area has a high population density, we say it is **densely populated**

Factors that influence population density?

- Availability of freshwater.
- Communications (roads, railways, airports).
- Proximity to the coastline.
- Cities and their opportunities.
- The shape (relief) of the land.

KPI 3 What are the opportunities associated with living in urban areas?

Example: Gloucester - Located in the west of England lies on the River Severn. Near the Cotswold Hills and the Forest of Dean.

Why did Gloucester develop?

- Gloucester has access to a major transport network – including motorways, trains and a quay.
- Gloucester has access to the River Severn which allows it to trade with cities in the Midlands and access the ocean.
- Gloucester is close to other important cities such as Bristol and Cheltenham.

Positives of living in Gloucester

- Road network - The M5 sits to the east of the city and provides good links to Birmingham and the Midlands north and Bristol, Devon and Cornwall to the south.
- Access to the River Severn - Developed due to the dock, it has the most inland port in the UK with a strong industrial past.

KPI 2 Do cities in the UK have a common structure?

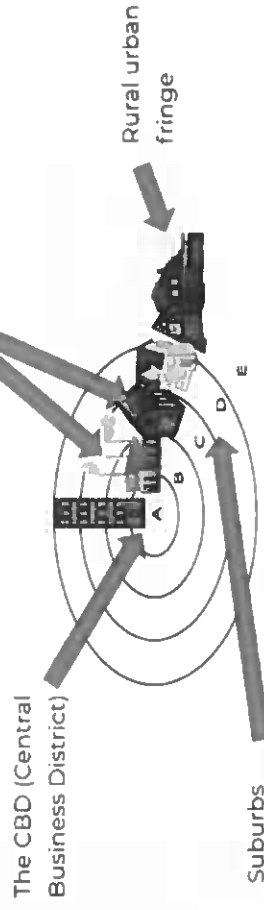
Geographers create models to show how land is 'typically' used.

The Burgess Model shows that in cities the most expensive land is in the centre and then as land use changes to the outskirts of the city it becomes less dense.

Location of cities in the past has been impacted by; natural resources, dry point sites, defensive sites, bridging points

UK cities have a variety of land uses geographers can use RICEPOTS to investigate land use. (Residential, Industrial, Commercial, Entertainment, Public Buildings, Open Space, Transport, Services).

The Burgess Model



Negatives of Living in Gloucester

- Overcrowding - Gloucestershire is a small piece of land with a relatively higher population.
- Getting a good job in the region of Gloucestershire can be a little difficult. The information that there are very few good companies and factories in the region has reduced the possibility of getting a good job.

Year 8 – Topic 4 - Year 8 Geography – Where do people live?

PI 4 - What is deindustrialisation and how has it had an impact on cities in the UK? here are 4 employment sectors primary, secondary, tertiary and quaternary. The secondary sector involves manufacturing and was traditionally located in the inner city. Key definitions: Primary: involves the production or extraction of raw materials and includes forestry, farming, fishing and mining. Secondary: is the manufacturing of goods. Tertiary: involves providing services to people, for example a cleaner or a doctor. Quaternary: the newest sector and focuses on knowledge-based industries or high-tech industries such as ICT (information and communication technologies) and research and development. deindustrialisation is the reduction of manufacturing within an economy. It can lead to parts of cities becoming run down as factories and warehouses close leading to dereliction, known as brownfield sites. Gloucester Docks is an example of an area that was a brownfield site following de-industrialisation. Many brownfield sites have undergone regeneration Gloucester Quays is an example of this, buildings have been restored, new businesses have developed including new shops and restaurants. The benefits of this regeneration project include: A combination of new build and the repair/refurbishment of many historic warehouses, typically for apartments with active commercial uses on the ground floor, have given new life to the docks. Peel Outlets will invest £100 million in the Gloucester Quays over the next three years. Full or canal barges, tall ships and pleasure craft, the docks have been excellently developed. Plenty of shops, cafes and restaurants. The Gloucester Quays scheme also covers around 25 hectares of brownfield land, where Gloucestershire College, Sainsbury's, Travelodge, a cinema and several restaurants are now located.	KPI 5 What is urban sprawl and what are the impacts of it? Urban sprawl is the uncontrolled growth of towns and cities, encroaching on rural surroundings. Land is cheaper in rural areas therefore the city expands allowing more space for population growth. However, once the land is built on, it is unlikely to be turned back to the countryside. Valuable farmland may be lost. Natural habitats may be destroyed. Houses can be built on two areas – greenfield and brownfield sites. KPI 6 Why is counter-urbanization taking place in the UK? Reasons for increasing urban population can be sorted into two categories: 1. Push Factor is something which is negative about the place you are in that would force you to move away 2. Pull Factor is something positive about a place that may make you want to move there Examples of push and pull factors include: • Location • Crime rates • House prices • Traffic • Pollution levels Counter Urbanisation is taking place in HICs because: 1. Developed communication network (IT, telephones) 2. Established transport links 3. A range of amenities (coffee shops, gyms, retail) Counter-urbanisation can lead to impacts such as: - Improvements are made to key services such as water and gas pipes - Loss of character - Potential increase in investment for local businesses - Rising house prices force locals out of the area	KPI 7 How can we make cities more sustainable? Gloucester is aiming to become a more sustainable city by: • Increasing the amount of trees • Creating new habitats • Encouraging use of cycle paths and public transport KPI 8 – How are cities different in NEE countries? Mega cities are those that have populations over 10 million people. Most megacities are located in Asia. Urban growth in these cities is due to natural increase more births than deaths and migration where people are leaving rural areas to move to urban areas. Rio de Janeiro is a large city of 13.5 million people situated on the south east coast of Brazil in South America. KPI 8 – What are the challenges in favelas? - Many homes use illegal connections to get electricity - High unemployment rates of 20% - Average income is £75 a week - There is a lack of healthcare and public spaces - its difficult to dispose of waste and it builds up on the streets - The army have been called in to crack down on crime. KPI 9 – How are favelas being improved? - A pacifying police unit is set up to reduce crime - Cable cars help people get jobs in the city - Loans to allow people to improve their homes - Training to help people learn new skills - Services to help people affected by drug addiction, alcohol, addiction and domestic violence - Adult education centres to improve adult literacy - Widening and paving streets to allow for easier access - Residents can apply to legally own properties
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Year 8 – Topic 5 – What is the challenge of resource management?

Key words

- HIC- High Income Country
- LIC- Low Income Country
- NEE- Newly Emerging Economies
- Malnutrition- not having the right balance of nutrients
- Undernourished- having insufficient food to survive
- Water deficit- water demand is greater than supply
- Water surplus- water demand is lower than supply
- Water transfers can help to maintain supplies e.g. dams, aqueducts.
- Resource -resource is a stock or supply of something that has a value or purpose. Adequate supplies of these resources are essential for a countries development.
- Surplus - When there is a surplus of these resources humans benefit from them socially and economically so quality of life improves.
- Deficit - When there is less availability (scarcity) of resources is reduced the quality of life is also reduced.
- Economic wellbeing- linked to jobs and money
- Social wellbeing- linked to family, friends, community, happiness etc..

KPI1- Why are resources important?

Access to food, water and energy affects the economic and social well-being of people and countries.

	Food	Water	Energy
Why is it needed?	A balanced diet keeps us healthy, active and productive.	• Essential for drinking • Vital for crops • Used to produce energy	Countries need energy or industry and transport as well as homes. HIC depend on a large stable supply of energy.
What problems are caused by a scarcity of this resource?	• Without access to safe, nutritious food people become malnourished which affects development; Malnourishment increases the likelihood of getting diseases e.g. 1/3 of under 5's die • People who aren't getting enough to eat may not perform well at school meaning they lack skills to help a country's economic development.	Without proper sanitation water resources get polluted. Water borne diseases (e.g. cholera) kill millions each year.	It would be impossible to develop as a country without this resource as industry would not function
How does the distribution and use of this resource vary?	Over one billion people on the globe do not eat enough calories	Many LICs have a shortage of water mainly because of the extreme climates and lack of technology	HICs consume more energy than LICs. As LICs develop their use of energy will increase rapidly

KPI2 – Why are there global inequalities of resources?

1. **Access** – some countries have more natural resources than others, and if the resource is evenly shared all can benefit. This is not always the case however.
2. **Quantity** – how much of a natural resource does a country or population have? If it is in short supply do they have the means to overcome that. For example, water is in short supply in the Dubai but it is building desalination plants to help it cope.
3. **Level of wealth** – how much money does a place have? The wealthier a place the more options the country has to combat any shortages in key resources.
4. **Level of technology and infrastructure** – here we need to consider if the country has the technology to deliver energy, water and food to its people. The UK has a tiny percentage of its population producing food (about 1%) yet can produce nearly 60% of the nations needs. Some countries do not have water purification plants or enough power station capacity.
5. **Standard of living of population**, the higher this is the more the population expects to get in terms of clean water, energy use and food consumption.
6. **Diet** – this can influence how many calories and taken in and what foods are eaten. A meat rich diet would be harder for a country to provide for.

KPI3 – What problems are caused by a lack of a resource?

- Use of fossil fuels and depleted reserves puts pressure on countries to find alternative sources and for humans to adapt their lives.
- A lack of food can cause a famine- this is a serious lack of food across a large area. It can lead to starvation and death.
- Social unrest - when there is a lack of resources this can lead to riots and may cause civil wars.
- When water supplies are low this has an impact of farming in areas which rely on irrigation
- Water that is polluted can be more dangerous than when water is scarce as it may lead to people contracting water borne diseases e.g. cholera.

KPI4 – What happened to Easter Island?

Easter Island is 63 square miles and lies 2000 miles off the coast of Chile. The island was settled by an ocean travelling tribe by around 1200AD.

- What caused the depopulation of Easter Island?
- Moai (statues) were built and moved using the trunks of trees.
 - Deforestation (cutting down trees) led to a lack of wood to build ships and caused the soil to become infertile so very few crops could be grown.
 - A civil war killed off many individuals
 - rats were accidentally introduced to the island by the Europeans and explorers carried disease (such as smallpox) which the native people had no immunity to. This reduced the population to only 111 people by 1877.

KPI 5 – What crisis is Las Vegas facing?

Location – Las Vegas is located in the state of Nevada, USA

Causes:

1. **Unsustainable water demand:** The Colorado River supplies 7 states with water! The demand for water now outstrips the supply of water by a factor of 2. This is called a water stress.
2. **Increasing population:** Population in Colorado Basin States will increase from 40 million in 2015 to 76.5 million by 2060. This has the potential to significantly increase water demand and consumption.
3. **Disappearing Groundwater:** Lack of groundwater in aquifers (stores of water underground) is causing the land to subside (sink) in some areas. In agricultural areas, where farmers rely on pumping out groundwater, groundwater levels are dropping rapidly.
4. **Worst drought:** 14 years of drought from the Rocky Mountains to Arizona has been the worst in 1250 years. Reservoirs have shrunk to less than half of their capacities.
5. **Less river flow:** Dust storms are becoming increasingly fierce. Dust is being deposited on the snowy peaks of the Sierra Nevada. This is making them darker and causing more snow melt. This could reduce river flows in the summer as all the snow has melted.

Impacts:

1. Lake Mead has been drained of 18 trillion litres of water and is now only half full
2. Nevada and California are just two of the states that depend on the 2,300-km Colorado River, which rises in the Rocky Mountains and once emptied into the Gulf of California in Mexico. It now runs dry before it reaches the sea.
3. The Colorado is a dying river with seven US states taking water from it: California, Nevada, Arizona, Utah, Wyoming, Colorado and New Mexico.

Solutions –

- **Xeriscaping:** In Las Vegas a lot of the water is used to water golf courses, parks and gardens. A concerted effort is now being made to remove grass from home gardens.
- **Desalination Plants:** Desalination converts salty water into drinkable water by removing salt and other solids from seawater. Depending on their location, building a plant can cost from \$300 million to \$2.9 billion. Once operational, plants require huge amounts of energy. Additionally, the wastewater is very salty and can be difficult to dispose of in a sustainable way which does not harm marine ecosystems.
- **Water conservation:** Water conservation means to save water. Within households this can be done in a variety of ways including: having a shower instead of a bath; collecting rainwater to use on the garden rather than tap water; recycling bath water to flush toilets with; installing more efficient versions of appliances such as washing machines.
- **Raising the price of water:** Raising the price of water is one strategy being considered to encourage individuals to conserve the water that they are using.
- **Limiting population growth:** Some countries have historically introduced policies to encourage individuals to have more children (France) or to discourage individuals from having children (China). The direction of policies is directly linked to the needs of the country.
- **Strict planning controls:** Strict planning controls might be a solution to solve water stress. If governments or councils placed greater controls over what could be built in a certain region this might influence how much water is being used.

KPI6- What crisis is Ghana facing?

Location - Ghana is a LIC located in western Africa. The country has lots of fertile land, but in spite of this it suffers from food insecurity.

Impacts:

- About 5% of Ghana's population (1.5 million people) suffer from food insecurity, and another 2 million people are vulnerable to food insecurity.
- Ghana has a food deficit - in 2007 it was 59 kilocalories per person per day, but by 2012 it was down to 22 kilocalories per person per day.
- The number of people who are undernourished went down from 2.8 million in 2007, to 1.2 million by 2012.

Solutions:

- **Aeroponics:** the process of growing plants in an air or mist environment without the use of soil. The basic principle of aeroponics growing is to grow plants suspended in a closed or semi-closed environment by spraying the plant's dangling roots and lower stem with a spray that is a nutrient-rich water solution.
- **Hydroponics:** The method of growing plants without soil, using mineral nutrient solutions in water. Only the roots are exposed to the solution.
- **Biotechnology:** the DNA of the plants are modified using genetic engineering methods. The aim is to introduce a new trait to the plant which does not occur naturally in the species. Examples in food crops include resistance to certain pests, diseases, or environmental conditions.
- **Green revolution:** Introducing modern management techniques, fertilisers and pesticides to farmers in LICs.

KPI7- Blood diamonds

Blood diamonds come from war-torn countries, usually in Africa. They have been used to pay for weapons to continue the fighting. It's illegal to buy or sell conflict diamonds.

How big is the problem?

It's impossible to say exactly how many conflict diamonds are out there. But, for example, we do know that recently, stones worth over £11m have been smuggled out of Cote D'Ivoire every year.

What's being done to stop the trade?

In 2000, the diamond industry set up something called the Kimberley Process. This is a scheme which aims to track every diamond from the place it was mined to the place it is sold, meaning illegal diamonds can't slip through. But human rights groups say it's not being enforced well enough, meaning blood diamonds could be in our shops.

What does the diamond industry say?

It says conflict diamonds are a very small part of the world trade. They also say legal mining is very important for the countries which do it, so avoiding diamonds would do more harm than good. They have also started paying money to charities in Africa to try to fight problems like poverty and disease there. Human rights groups say this is just masking the bigger problems.

Year 8 French - En bonne santé (Healthy Living)

1	(In order) to stay healthy	Pour rester en bonne santé
2	I have been playing basketball since (for) 5 years	je joue au basket depuis cinq ans
3	and also I go to the gym 3 times per week.	et aussi je vais à la gym trois fois par semaine.
4	Also I do (go) swimming every Wednesday.	Également je fais de la natation chaque mercredi.
5	Furthermore, I eat lots of fruit and vegetables	En plus, je mange beaucoup de fruits et légumes
6	and I try to avoid sugary things.	et j'essaie d'éviter les sucreries.
7	But unfortunately, I eat too much fastfood.	Mais malheureusement je mange trop de fastfood.

8	Last week I ate at McDonald's with my friends.	La semaine dernière j'ai mangé au McDo avec mes copains.
9	It was delicious but it isn't good for the health.	C'était délicieux mais ce n'est pas bon pour la santé.
10	Next week I'm going to do weightlifting (workout)	La semaine prochaine je vais faire de la musculation
11	and I'm going to try to sleep well (in order) to decrease stress.	et je vais essayer de bien dormir pour diminuer le stress.
12	Sometimes I do not sleep well	Parfois je ne dors pas bien
13	because I have to share a room with my sister.	car je dois partager une chambre avec ma sœur.
14	Furthermore, sometimes I argue with her	En outre, parfois je me dispute avec elle

15	and I have a headache, because she annoys me!	et j'ai mal à la tête, car elle m'énerve!
16	I would that she is annoying	Je dirais qu'elle est agaçante
17	but sometimes I get on well with her.	mais parfois je m'entends bien avec elle.
18	If I could, I would live with my friends.	Si je pouvais, j'habiterais avec mes copains.
19	Tomorrow I'm going to go to the doctor's	Demain, je vais aller chez le médecin
20	because I am ill.	parce que je suis malade.
21	I have a sore throat, I have heat (I'm hot) and I have a fever.	J'ai mal à la gorge, j'ai chaud et j'ai de la fièvre.

Example of what LSQs for MFL should look like:

Questions	Answers - Test yourself
1. Live in a town which calls itself (in English) York	J'habite dans une ville qui s'appelle York
2.	J'habite dans une ville qui s'appelle York
3.	J'habite dans une ville qui s'appelle York
4. and which finds itself (in English) in the South-west of England	et qui se trouve dans le sud-ouest de l'Angleterre
5.	et qui se trouve dans le sud-ouest de l'Angleterre
6.	et qui se trouve dans le sud-ouest de l'Angleterre
7.	et qui se trouve dans le sud-ouest de l'Angleterre
8. It's a small town near the Bristol	C'est une petite ville près de Bristol
9.	C'est une petite ville près de Bristol
10.	C'est une petite ville près de Bristol
Additional Homework	
Book / unit / test / number	
Pages Read 100 25	
Signed	

Year 8 Spanish Module 3 - Una vida sana

1	In order to maintain a healthy lifestyle	Para mantener una vida sana
2	I have played basketball for 5 years	juego al baloncesto desde hace cinco años
3	and I go to the gym 3 times per week.	y voy al gimnasio tres veces por semana.
4	Also I do swimming every Wednesday.	También hago natación cada miércoles.
5	Furthermore, I eat vegetables every day	Además, como verduras cada día
6	and I try to avoid sweets.	e intento evitar dulces.
7	But unfortunately I eat fast food.	Pero desafortunadamente como comida rápida
8	and I no longer eat fruit.	y ya no como fruta.
9	Next week I'm going to try to sleep well	La semana próxima voy a intentar dormir bien
10	in order to reduce stress.	para reducir el estrés.
11	When I was younger	Cuando era más joven
12	I used to try to drink 8 glasses of water each day	intentaba beber ocho vasos de agua cada día
13	in order to lead a healthier lifestyle.	para llevar un estilo de vida más saludable.
14	Now I am hungry	Ahora tengo hambre

15	so I am going to eat a banana.	así que voy a comer un plátano.
16	For breakfast I eat yoghurt,	Para el desayuno como yogur,
17	and for dinner I eat potatoes and eggs.	y para la cena como patatas y huevos.
18	I think that I am ill	Pienso que estoy enfermo
19	because I have a sore throat,	porque tengo dolor de garganta,
20	I'm hot and I have a fever.	tengo calor y tengo fiebre.

Example of what LSQs should look like for MFL:

Questions	Answers - Test yourself
1 I live in a town which calls itself (La ville) York	J'habite dans une ville qui s'appelle York
2	J'habite dans une ville qui s'appelle York
3	J'habite dans une ville qui s'appelle York
4 and which finds itself (Les habitants) in the South-west of England	et qui se trouve dans le sud-ouest de l'Angleterre
5	et qui se trouve dans le sud-ouest de l'Angleterre
6	et qui se trouve dans le sud-ouest de l'Angleterre
7	et qui se trouve dans le sud-ouest de l'Angleterre
8 it's a small town near the Bristol	C'est une petite ville près de Bristol
9	C'est une petite ville près de Bristol
10	C'est une petite ville près de Bristol

Year 8- Was God at Auschwitz?

Key terms:

Evil	profoundly immoral and wicked. The opposite of good
Suffering	the state of undergoing pain, distress, or hardship
Moral Evil	Human actions that are seen as morally wrong
Original Sin	Theodicy that all humans sin is inherited from Adam
Dukkha	The first noble truth- the truth on suffering

- **KPI: Evil and Suffering**
- Evil is a cause of human suffering. There are two types of evil:
- **moral evil** - the acts of humans which are considered to be morally wrong
- **natural evil** - natural disasters, such as earthquakes or tsunamis

KPI2: Problems of evil and suffering –

If God is both omnibenevolent and omnipotent

Then he should want to stop evil and suffering

But Evil and suffering do exist in the world

So, Epicurus concluded that a God who is both omnibenevolent and omnipotence cannot exist.

KPI3- Religious responses to evil and suffering Story of Job

- The Bible tells the story of a man called Job who is described as a good man who loves God.
- God allows Satan to put Job's faith to the test by causing him to suffer.
- First, Job loses his livestock, his servants and all his children. He is devastated, but he remains faithful and praises God. Then he suffers horrible weeping sores all over his body.
- Eventually, God appears to Job. He asks impossible questions that show Job how little he can understand about God's ultimate plan. Job is humbled by this encounter, and at last appreciates that God's unlimited power cannot be fully understood by human beings.

KPI3- Religious responses to evil and suffering Freewill

- Jews and Christians believe that God gave human beings **free will**
- Therefore, humans are free to make their own moral choices
- Human beings can choose whether or not to obey God's commandments

Original Sin

- Many Christians believe that evil is the result of Adam and Eve's disobedience to God.
- In the Garden of Eden, Adam and Eve ate the forbidden fruit. This is known as '**the fall**'.

Buddhism

- The immediate root of all suffering is desire **Tanha**
- The three ultimate causes of suffering are the three poisons; greed, ignorance, hatred.
- Buddhists also believe in **karma** or 'intentional action'

Year 8- Was God at Auschwitz?

Key terms:

Torah	which is the first five books of the Hebrew Bible.	Persecution	hostility and ill-treatment,
Tanakh	Jewish holy book	Anti- Semitism	Prejudice against Jewish people
Mitzvah	Commandments	Pesach	Jewish festival of Passover
Covenant	The covenant between God and the Jewish people	Holocaust	Was the World War II genocide of the European Jews.
Kashrut	laws surrounding food	Shoah	The mass murder of Jewish people under the German Nazi regime
Kosher	describes all the things that Jews are allowed		

KPI4 : Jewish life

Tenakh

- The main sacred Jewish text and governs all aspects of Jewish life.
- Often the Tenakh is written TeNaKh.
- The capital letters are the initials of the different sets of books that make it up:

T for Torah, N for Nevi'im and K for Ketuvim.

- There are 613 **mitzvot**, which are Jewish rules or commandments.
- The word **kashrut** -meaning fit, proper or correct.
- **Kashrut** refers to the set of Jewish food and dietary laws contained in the Torah, mainly in Leviticus 11:1-23.
- The term **kosher** refers to foods which Jews are allowed to eat. Kosher foods include: fruit, vegetables, animals with split hooves that also chew the cud.

KPI5: History of Persecution

Through history, Jews have suffered for their beliefs.

Prejudice against Jewish people is called **anti-Semitism**.

One of the most widely documented examples of this was the **Holocaust** or **Shoah** during the 1930s and 1940s in Nazi Germany. Six million Jewish men, women and children were killed simply because they were Jews.

Early persecution

- Jewish people were once slaves in Egypt until their rescue by Moses, known as the **Exodus**.
- In 167 BCE all Jewish worship, festivals and sacrifice were banned by rulers of the Greek empire and forced Jews to worship Greek Gods.
- Through the Middle Ages in particular, Jews were the victims of many false accusations

KPI6- Jewish responses to the Holocaust

Holocaust Theology consists of philosophical and theological debates concerning the role of God during the Holocaust.

- Eliezer Berkowits, an Auschwitz survivor. He said that it is possible to believe in God after the Holocaust because despite all the sufferings that people endured there were still great testimonies of faith.
- Richard Rubenstein- He completely denied the idea that the Jews were a chosen people and denied the existence of God after the holocaust.
- Emil Fackenheim was born in 1916. He was a survivor of several death camps. He stated that Jews must believe in God so as "not to hand Hitler a delayed victory"



Design & Technology

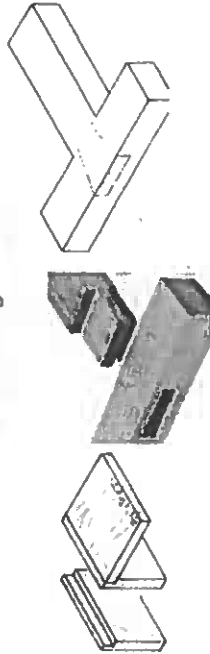
Year 8

1: Joining Methods

Wood joints can be either permanent or temporary depending on the type and if glue is used.

Permanent:	Temporary:
When we do not want to take the pieces apart again	When we will, or might need to take pieces apart again
Glues, welding, rivets	Screws, bolts, nails

1.1 Wood Joints



Lap Joint Mortise + Tenon Joint Dovetail Joint

2. Scales of Production

One off: when you make a unique item

Batch: when you make a few/set amount

Mass: when you make thousands

Continuous: open ended production

3. Adhesives

P.V.A. – Poly Vinyl Acetate – best for joining 2 pieces of wood together

Epoxy – a *thermosetting* resin that can be used to bond most types of material

Contact Adhesive – a glue type that creates a tacky bond on both surfaces to be joined. It can be used with most materials.

4: Materials

4.1 Woods:	
Hardwoods:	Softwoods:
Beech Oak Ash	Scots Pine Cedar Spruce

4.2 Engineered Boards
Engineered boards are manmade materials usually made by mixing wood chips and glues to make wooden sheets.
Examples: Medium Density Fibreboard (MDF) Chipboard, Plywood and Hardboard

4.3 Plastics
Plastics are made of polymers, and are mostly refined from oil. There are 2 main categories:
Thermoplastics Thermosetting plastics
Acrylic Urea Formaldehyde
Polypropylene (PP) Melamine Formaldehyde
High Impact Polystyrene (HIPS) Epoxy Resin

4.4 Metals	
Metals are hard and usually shiny, containing one or more elements dug and refined from the ground	
Ferrous metals are any metal that contains iron and will rust	Non-Ferrous metals do not contain iron and will not rust
Alloys are metals made from a mix of 2 metals – brass is made of copper and zinc.	

Composite materials are a mix of 2 different types of material to get the best qualities from each – eg: GRP (Glass Reinforced Plastic)

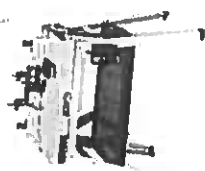
Try square



Bench Hook



5: TOOLS



Router Table



Mallet



Laser Cutter

Chisel



Tenon Saw

Vice



PVA Glue



6: Surface Finishes

Finishing is usually one of the last stages of making a project. It will usually involve sanding and applying a surface coating to protect your material and improve its visual appearance.

Some examples:

Paint, Stain, Varnish, Oil, Danish Oil, Wax, Polish & Dip Coating.

7: KEY WORD FOCUS

You should be able to explain the meaning of each of these words by the end of this rotation.

CAD	Computer Aided Design
CAM	Computer Aided Manufacture
CNC	Computer Numerical Control

Year 8 - Food Technology

Prevention of Bacteria Growth and Cross Contamination

4 C's	Chill – foods to be kept in the fridge: dairy, protein, high risk foods / Cook – cook foods properly / Cross Contamination / Clean
Food Temperature Control:	Temperature control is especially important when you buy, store, prepare and cook food. Food correctly stored will minimise the risk of food spoilage and food poisoning. Food poisoning can be caused by high-risk foods when they are stored in warm conditions for too long. Controlling the temperature of food will help keep your food safe until it is ready to be eaten. Bacteria growth danger zone 5-63 degrees C. Most bacteria dead at 75 degrees C. All dead at 100 degrees C. Fridge temperature 0-5 degrees C
Sources of Cross Contamination:	Human: Hair, nose, cuts, wounds, ears, throat, clothing, jewellery, dirty hands (bacteria) after touching raw meat/going to the bathroom.
Bacteria needs:	Other: Pets, Dirt, Birds, Vermin (mice/rats), Insects, bacteria from raw meat and seafood.
Chopping Boards	Heat, Moisture, Time and Food to grow/survive.
	Chopping boards: Red = raw meat, Blue = raw fish, Brown/Green = fruit and vegetables, Yellow = Cooked meat/fish, White = Dairy

Eatwell Guide Key Messages

Eatwell Guide / Use the Eatwell Guide to help you get a balance of healthier and more sustainable food.	Carbohydrates: Starchy foods such as, rice, pasta, potatoes, bread, porridge, couscous – Choose wholegrain or higher fibre versions with less added fat, salt, and sugar. Fruits and Vegetables: Fresh, frozen, dried, canned – Eat at least 5 portions of a variety of fruit and vegetables every day. Fruits and vegetables contain vitamins and minerals Protein: Chicken/poultry, fish – fresh and canned (tuna), meat, eggs, chickpeas, lentils, beans. Eat more beans and pulses, 2 portions of sustainably sourced fish per week, one of which is oily. Eat less red and processed meat. The body uses protein to build and repair muscles. Protein contains amino acids. Dairy and Alternatives: Milk, yoghurt, cream, cheese, alternative milks: almond, rice, coconut, hazelnut, soya. Choose lower fat and lower sugar options. These foods contain calcium which is needed in the body for strong bone growth. Fats: Choose unsaturated oils not saturated oils and use in small amounts – sunflower, olive, rapeseed. Saturated oils come from animal meat and animal products such as butter. Too much of this type of oil can clog the body's arteries and lead to weight gain, high blood pressure and heart disease. Fats are higher in calories than protein and carbohydrates. Sugary foods/crisps/ketchup – eat less free sugars often and in small amounts. 6-8 cups of water: lower fat milk, sugar-free drinks including tea and coffee all count.
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Macronutrients and Micronutrients

Macronutrients are: Carbohydrates, Protein and Fats	Food is eaten and digested in the body to allow the absorption of energy and nutrients. Macronutrients are: proteins, carbohydrates and fats and are measured in grams. Carbohydrates are the primary source of energy. 1gram = 4 calories Protein is the secondary source of energy. They are also needed for the growth of the skeleton, strong bones, teeth and hair. 1gram = 4 calories. Fats are the third source of energy. They are also needed in small quantities to keep the body warm and protect the organs. 1 gram = 9 calories. There are two types of fats: saturated and unsaturated. Saturated fats mainly come from animal products, for example, bacon fat, chicken skin and crispy crackling. Unsaturated fats mainly come from plant foods, for example, sunflower oil, olive oil, nuts and seeds.
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Micronutrients are: Vitamins and Minerals	Micronutrients are: vitamins and minerals. Vitamins: Vitamins ADEK are water soluble. Vitamins B and C are fat soluble. Vitamin A: helps us with our night vision, healthy skin and eyes, helps us with resistance to infection. Found in carrots, cheese, eggs, milk products. Vitamin B1 (Thiamin) is needed for a healthy nervous system and to release energy from carbohydrates. Found in wholegrains, nuts, pork, fortified cereal, fruit and vegetables. Vitamin B2 (Riboflavin) is needed to release energy from protein, carbohydrate and fat. It also helps transport iron around the body. Found in milk, eggs, rice, fortified cereals, green vegetables. Vitamin B3 (Niacin) needed for the release of energy from foods, normal function of the skin and the nervous system. Found in meat, eggs, dairy, yeast, wheat and maize flour. Vitamin C: needed to make collagen for healthy structure of skin and cartilage. Also helps the body absorb iron and helps wounds heal. Found in citrus fruits and berries, green vegetables, peppers, tomatoes, new potatoes. Vitamin D is needed for the body to absorb calcium to keep our bones healthy. We take most of our vitamin D from the sun but can also be from mushrooms, oily fish, meat and eggs. Minerals Calcium: Required for bone structure, blood clotting, normal muscle function, healthy teeth. Found in dairy products, fortified nut milks, eggs. Iron: Iron is essential for the formation of haemoglobin in red blood cells. Red blood cells carry oxygen and transport it around the body. Iron is also required for normal metabolism and removing waste substances from the body.
Glossary of Key Terms:	Food spoilage – when food deteriorates to the point that its quality is reduced or it can no longer be safe to eat. High Risk Foods – Ready to eat moist foods - pasta, rice, seafood, poultry, protein, dairy, sauces/gravy. Cross Contamination – the process by which bacteria or other microorganisms are unintentionally transferred from one substance or object to another, with harmful effects. Hob – top of the oven used to boil, simmer and fry. Grilling – to cook with heat that does not directly touch the food. Rubbing In – to combine fat with flour to make a breadcrumb-like consistency. Creaming – to combine sugar and soft fat (butter). Coating - to cover (for example, breadcrumbs around fish for fish fingers). Boiling – to bring water to 100 degrees C. Simmering – to heat liquids to just below the boiling point. Dietary fibre - a type of carbohydrate which is not digested to provide energy. Free sugars - include all sugars added to foods plus sugars naturally present in honey, syrups, and unsweetened fruit juice. Starch is found in a variety of foods. It is made up of many sugar molecules. Amino Acids - Protein is made up of building blocks called amino acids. Different foods contain different amounts and different combinations of amino acids. Haemoglobin - a red protein responsible for transporting oxygen in the blood. Metabolism - chemical reactions within the body that help maintain the living state of cells.

Art - Skill Life Project

<u>Formal Elements</u>	<u>Colour Theory</u>	<u>Tips, Tools & Techniques</u>	<u>Keywords & Concepts</u>
Line A mark that connects two or more points. These can be straight, curved, short or long. Tone The lightness or darkness or something. For darker tones use a higher grade B pencil. Colour Colour is what you see when light reflects of something. Texture How something looks or feel e.g. fluffy, rough, smooth etc. Pattern A symbol, shape or colour that repeats. Man-made patterns are designed by humans, natural patterns are formed by nature. Shape/Form Shape is 2D e.g. rectangles. Form is 3D e.g. cubes, spheres etc.	Primary Colours Colours that can't be mixed/ made from other colours e.g. red, yellow and blue. Secondary Colours Colours that can be made by mixing two primary colours. Red + Blue = Purple Yellow + Blue = Green Yellow + Red = Orange Tertiary Colours Colours that can be made by mixing a primary and secondary colour together e.g. Blue + Green = Turquoise. Complementary Colours Colours that are opposite each other on the colour wheel. Blue & Orange Red & Green Purple & Yellow Analogue/ Harmonious Colours Colours that are next to each other on the colour wheel e.g. Red, red-orange and orange. Tints/ Shades Tint - Adding white to a colour to make it lighter. Shades - Adding black to a colour to make it darker.	Blender Stick A paper stump that allows you to blend tones. Blending The smooth transition between tones. Graded Pencils On the side of your pencil you will find letters e.g. H, B or HB. H = Hard led and B = Black which means it has a softer led to give you darker tones, therefore a HB is a good standard drawing pencil. Shading Techniques Hatching, Cross-Hatching, Stippling and Scumbling. Continuous Line Drawing an entire piece of work without taking your pen/pencil off the page until it is completely finished. This often makes the artwork look more gestural/ abstract. Poly-Tile Printing Carving/cutting into the surface. Carved/cut areas remain untouched by ink, only recessed area transfers colour.	Observational Drawing Drawing something from real life in front of you. Primary & Secondary Sources Primary = real objects or your own photos that you have taken yourself Secondary = an image from the internet or books Proportion The size and relation of objects to one another. Using the grid-method is one way of helping you draw using accurate proportions. Grid-Method Using a grid to ensure you draw in proportion. Still Life A piece that depicts objects or something that is generally static (does not move). Perspective representing three-dimensional objects on a two-dimensional surface e.g. One-Point Perspective, Two-Point Perspective etc. Mixed Media Artwork in which more than one material has been used.



The System' (or 'The Method' in the US) is a systematic approach to training actors that the Russian theatre practitioner Konstantin Stanislavski developed in the first half of the 20th century. Stanislavski was the first in the West to propose that actor training should involve something more than merely physical and vocal training.

Drama Term 3 Stanislavski/ Naturalism

He believed that actors should research their scripts and relate to motivations by delving into their own emotions.

Co-founder of the Moscow Arts Theatre, Stanislavski created the first acting training programme called 'The System'.

It is a set of techniques used by actors to portray emotions on stage by putting themselves in the place of the character.

Firstly, the actor would have to enter the rehearsal or performance space with an open frame of mind and leave their personal issues at the door. They would then have to warm up and ensure that they are fully relaxed, ready to work. Only then would they begin to follow 'The System'.

Skills	Aspects of skills
Facial Expressions	Eye contact, eye brows, straight, emotions, gritting teeth, tense, relaxed, wrinkled, creased, staring, twitching.
Voice	Tone, pitch, pace, emotion, volume, projection, dialogue, dialect, accent, intonation, whistling, SFX, interjection.
Body language	Posture, blocking, positioning, front on, side on, emotions, age, open or closed.
Gestures	Hands, arms, speed, clicking, rubbing, waving, mannerisms
Movement	Speed, pace, acceleration, gait, mannerisms, special awareness, stage presence.

Stanislavski's System
<i>The following is a non-exhaustive list of steps used by Stanislavski when training actors.</i>
Physical actions - putting gestures to lines/words.
Subtext - understanding hidden meanings in text.
Magic IF - imagining circumstances.
Objectives - what does the character want to achieve in the scene?
Super objective - what does the character want to achieve by the end of the play?
Through line - identifying the actions of each character on and off stage.
Given circumstances - identifying facts/information from directly from the text.
Emotional memory - highly dangerous psychological method of demonstrating emotions.

Terminology	Definition
Interpretation	Finding the meaning/action within a script
Stage directions	Guidelines/hints for actors within a script
Blocking	Where actors are positioned on stage
Proxemics	How close actors are on stage
Semiotics	Study of words and symbols
Characterisation	Skills used to create a character
Given circumstances	Stanislavski technique - looking at the script, what do we definitely know to be fact?
Status	The amount of power/dominance each character has over others
Levels	How high or low your body is positioned
Long term targets	What do you want to achieve by the end of this unit?
Short term targets	What do you want to achieve within the next few rehearsals?
Physical skills	Everything you can do with your face, hands, movement and body.
Vocal skills	Everything you can do with your voice — be specific with terms.
Interpretive skills	How well you interpret a script or a character. How do you become the character?

Five Key Acting Skills

Facial Expressions - How can we show emotions through our faces?
Eye contact, eye brows, straight, emotions, gritting teeth, tense, relaxed, wrinkled, creased, staring, twitching.

Voice - How can we use our voice in performance? Tone, pitch, pace, emotion, volume, projection, dialogue, dialect, accent, intonation, whistling, SFX, interjection.

Body language - How can we use our bodies to help us create performance? Posture, blocking, positioning, front on, side on, emotions, age, open or closed.

Gestures - These are movements with meaning, how can we use them in performance? Hands, arms, speed, clicking, rubbing, waving, mannerisms.

Movement - How can movement be used to create performance? Speed, pace, acceleration, gait, mannerisms, special awareness, stage presence.

Key Terminology

Script - The written words and stage direction which are spoken and performed in a play. A script will be written by a writer and then given to a director to create a performance.

Director - This is the person who is in charge of the actors and performers. The director will tell the actors how they want them to perform and move in each scene. They will block the performance.

Blocking - When creating a performance you must first plan where all the actors are going to be standing and moving to on the stage. You must also plan what set and props are going to be used in your performance. This is called Blocking.

Stage Direction - Text in a script which tells you what you need to be doing while performing. Some scripts may have more stage directions than others. Some directors may also decide not to use all of the stage directions because they have their own ideas for what the performers should be doing.

Characterisation - Using a variety of skills, improvisation techniques and background information to become your character. These skills are your 5 key acting skills. It is important you fully understand the character you are performing. You MUST remember, you are no longer yourself when acting. You become someone else.

Performance Discipline - Maintaining extremely high and professional levels of focus and concentration throughout rehearsals and performance. This involves being on task at all times, not laughing or giggling when you are acting. It is crucial to stay focused when performing.

Ensemble - A group of performers all working together in a performance.

Freeze Frame - When a scene 'freezes' for a moment to allow the audience to really explore the moment. It is like pressing pause on live action.

Tableaux - A collection of still images which create a performance. It is like looking through a photo album.

Immersive theatre - Audience are included in the performance but don't know what is going to happen. Actors may talk to or ask the audience questions about what is happening in the performance.

Example Self-evaluation

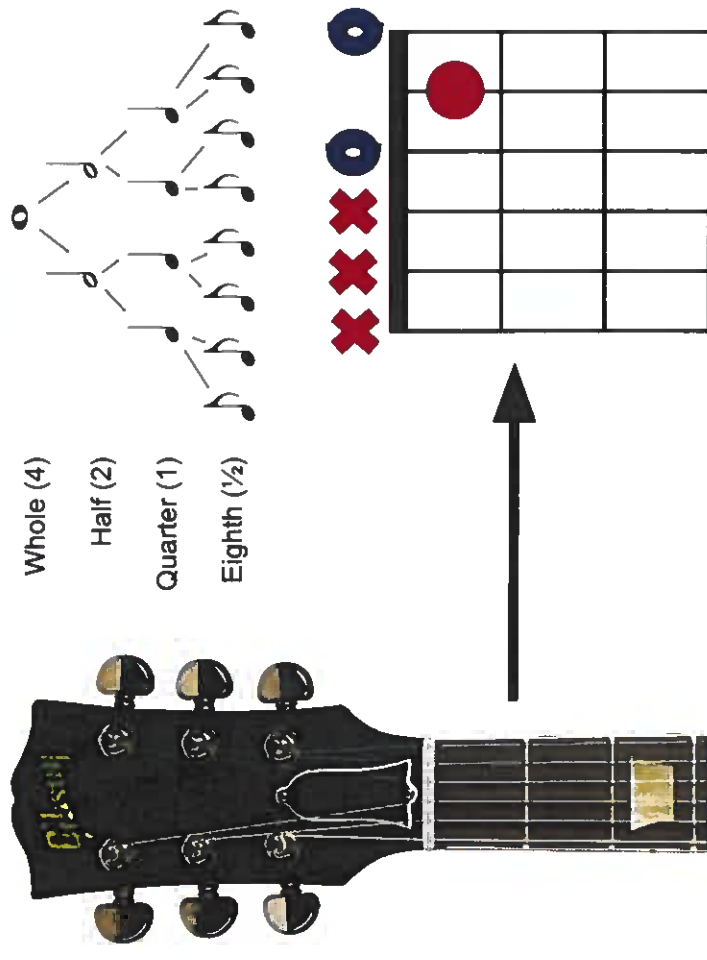
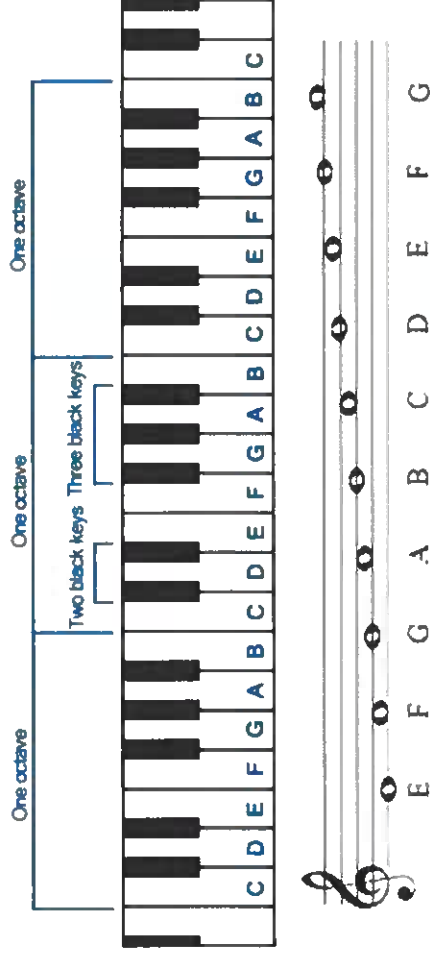
STRENGTH During my performance, I wanted to show how my character was really angry with another character. To do this, I scrunched my eyebrows together and tilted my head slightly forward, using facial expression to show my annoyance. I also had a very big frown and narrowed whilst making a low pitched noise to display my frustration. This was successful because the audience could clearly see how angry my character was when seeing their friend after having an argument.

AREA FOR IMPROVEMENT During my performance, I wanted to show how my character was really happy to see someone. To do this, I slowly waved my hand and had a slight smile on my face whilst quietly saying 'Hello' in a soft tone. My intention was to show how I was happy but wanted to show it in a subtle way. However, the audience were confused by this and thought that my reaction was too small. If given the chance to perform this moment again, I would make my gestures much bigger, my movements quicker and my facial expressions much more exaggerated so that the audience can see my excitement much more clearly.

MUSIC - The Elements of Music

Key Terminology

- Conductor** - A person who directs the performance.
- Note** - A singular sound.
- Chord** - A group of three or more notes played at the same time.
- Harmony** - Different notes played or sung together.
- Melody** - A small arrangement of notes that make a tune.
- Scale** - A series of eight notes starting somewhere between A-G.
- Arpeggio** - When you play the 1st, 3rd, 5th, and 8th note of a scale one after each other.
- Rhythm** - The pattern of how notes are played.
- Beat** - The pulse or heartbeat of the music.
- Tempo** - The speed of the music.
- Dynamics** - The volume of the music.
- Octaves** - The jump between the same note going higher or lower on the piano (e.g. lower C to higher C).
- Pitch** - How high or low the notes are played.
- Guitar** - 6-stringed instrument. Can be electric or acoustic.
- Bass Guitar** - Low sounding 4-stringed instrument. Usually electric.
- Piano/Keyboard** - Percussion instrument made up of white keys and black keys.
- Drum Kit** - Percussion instrument made up of drums and cymbals.



Feedback Starters

Positives: *What I thought went well was...*
 Points for improvement: *It would be even better if...*

Year 8 Unit 6 -Data Representation		
Lesson 1	List examples of representations. • Semaphore • Brail • Bar code • QR code • Spotify code Why do we use representations? Representations are used to store, communicate, and process information. Depending on the situation a different type of representation might be more appropriate. Provide examples of how different representations are appropriate for different tasks Brail - help blind people read. Bar code - Can easily be scanned in a supermarket to increase the speed people can be served. QR Code - This code can easily be scanned by any smart phone and will link the user to a website.	Keywords Algorithm An algorithm is a list of instructions, used to solve problems or perform tasks. Encode - Use a coding scheme to encode a message. JS is a code that represents John Smith's initials. Decode - Use a coding scheme to turn a code back into a message. Binary - A number system where there are only 2 numbers. (1 and 0)
Lesson 2	How to use coding scheme to code and decode messages A coding scheme is a set of rules that determine how text can be coded and decoded. An example of this is a bar code.	
Lesson 3	Explain what binary digits (bits) are, in terms of familiar symbols such as digits or letters. Binary digits are any systems where only two options are available. (1 or 0, Yes or No, True or False) How does the binary system work? The binary system is a base-2 number system. That means it only uses two numbers: 0 and 1. When you add one to one, you move the 1 one spot to the left into the twos place and put a 0 in the ones place: 10. So, in a base-10 system, 10 equals ten. In a base-2 system, 10 equals two.	

Lesson 4	Describe how natural numbers are represented as sequences of binary digits Every sequence of bits can be seen as a natural number in binary notation : the number is the sum of the powers of 2 that correspond to the 1 bits. For example, the sequence 1101 represents the number $2^3 + 2^2 + 2^1 + 2^0$, which is equal to 13. The sequence 1111 represents $2^3 + 2^2 + 2^1 + 2^0$, which is equal to 15.	
Lesson 5	What is a bit? A bit (binary digit) is the smallest unit of data that a computer can process and store. A bit is always in one of two physical states, similar to an on/off light switch. The state is represented by a single binary value, usually a 0 or 1. What is a byte? In most computer systems, a byte is a unit of data that is eight binary digits long. A byte is the unit most computers use to represent a character such as a letter, number or typographic symbol. Each byte can hold a string of bits that need to be used in a larger unit for application purposes. What is a kilobyte? What is a kilobyte? A kilobyte is a collection of about 1,000 bytes. In the metric system, kilo is 1,000, and in some cases a kilobyte is defined as 1,000 bytes. This definition is commonly used by storage medium companies and to measure data transfer speeds. What is a megabyte? Megabyte (MB) is a data measurement unit applied to digital computer or media storage. One MB equals one million bytes or 100 kilobytes. What is a gigabyte? A gigabyte (GB) is a data measurement unit for digital computer or media storage equal to one billion (1,000,000,000) bytes or one thousand (1,000) megabytes (MB). What is a terabyte? A relatively large unit of digital data, one Terabyte (TB) equals 1,000 Gigabytes. It has been estimated that 10 Terabytes could hold the entire printed collection of the U.S.	

Lesson 6	Who was Alan Turing? Alan Turing was an English mathematician, computer scientist, logician, cryptanalyst, philosopher, and theoretical biologist. Turing was highly influential in the development of theoretical computer science, providing a formalisation of the concepts of algorithm and computation. He is widely considered to be the father of theoretical computer science and artificial intelligence.[10] Why was he an important figure in the development of computers? Turing's most notable work today is as a computer scientist. In 1936, he developed the idea for the Universal Turing Machine, the basis for the first computer.	
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KPI 1 - Key terms:

- Body image: The perception that a person has of their physical self and the thoughts and feelings that result from that perception.
- Social Media: Websites and applications that enable users to create and share content or to participate in social networking.
- Mental wellbeing: Mental wellbeing describes your mental state - how you are feeling and how well you can cope with day-to-day life. Our mental wellbeing is dynamic. It can change from moment to moment, day to day, month to month or year to year.
- Emotional literacy: The ability to understand and express feelings. It involves having self-awareness and recognition of one's own feelings and knowing how to manage them.
- Digital resilience: Involves having the ability to understand when you are at risk online, knowing what to do if anything goes wrong, learning from your experiences of being online, and being able to recover from any difficulties or upsets.

KPI 2- Things that can affect our mental wellbeing:

Everyone is different and what affects someone's mental wellbeing won't necessarily affect others in the same way. Everyone will have times when they have low mental wellbeing, where they feel stressed, upset or find it difficult to cope. Common life events that can affect your mental wellbeing include:

- loss or bereavement
- loneliness
- relationship problems
- issues at work
- worry about money

However, there are times when there is no discernable reason for the way a person feels which can be extremely frustrating.

There are some factors that may make people more vulnerable to experiencing a period of poor mental wellbeing. These may have happened in the past or might still be happening now:

- Childhood abuse, trauma, violence or neglect
- Social isolation or discrimination
- Homelessness or poor housing
- A long-term physical health condition
- Social disadvantage, poverty or debt
- Unemployment
- Caring for a family member or friend
- Significant trauma as an adult, such as military combat, being involved in a serious accident or violent crime

PCSHE Year 8 Topic 3 – Mental Health

KPI 3 – Digital Resilience

How does going online affect young people?

Like all aspects of our lives, going online conjures up a huge range of emotions and responses that can impact our mood and well-being. Someone could be pleased to see photos of their friend having a great time on holiday but at the same time they may feel envious because they are not there or have never been to such a place.

Why is digital resilience important?

Digital resilience gives everyone the ability to recognise when going online is having a negative impact and the strategies to bounce back and recover. If a someone realises that the balance has shifted and going online is not making them feel supported, empowered and happy we want them to have a variety of people and techniques that they can turn to.

Digital Resilience Tips

- Build a support network – reach out to someone and support others too. A problems shared is a problem halved.
- Find useful sites/organisations who can help give yourself a break.
- Give yourself a break – you are not perfect and will make mistakes. Be kind and fair to yourself. Take some time offline if you want to.
- Sort out disagreements quickly.
- Lifestyle changes – make time for things and people that make you happy.
- Look out for new challenges – life can be hectic. Find ways to help you relax
- Physical health – get some exercise, be active.
- Put your devices away at night to get a good night's sleep.
- Eat regularly and healthily.
- Protect your online reputation - Use the services provided to manage your digital footprints and 'think before you post.' Content posted online can last forever and could be shared publicly by anyone.
- Know where to find help - Understand how to report to service providers and use blocking and deleting tools. If something happens that upsets you online, it's never too late to tell someone.
- Don't give in to pressure - Keep calm and keep in control; once you've pressed send you can't take it back.

For further support...

Home/school support:

A friend; A teacher; Your tutor;
Parents/carers; Mr Ogden Mrs Jones;
Mrs Loveridge; Mr Hayward

Self-help apps

- Calm Harm – Managing Self-Harm
- MindShift – to manage anxiety and urges to self-harm
- Cove – express your mood with music
- Stress and Anxiety Companion – helps you to manage stress and anxiety
- Chill Panda – relaxation and breathing exercises.

Reputable organisations:

- - Child Bereavement UK – call 0800 028 8840 Monday to Friday, 9am to 5pm, or email support@childbereavement.org
- Cruse Bereavement Care – call 0800 808 1677 Monday and Friday, 9.30am to 5pm, and Tuesday, Wednesday and Thursday 9.30am to 8pm, or email info@cruse.org.uk
- Grief Encounter – call 0800 802 0111 Monday to Friday, 9am to 9pm, or email contact@griefencounter.org.uk
- Hope Again – call 0800 808 1677 Monday to Friday, 9.30am to 5pm, or email hopeagain@cruse.org.uk
- Winston's Wish – call 0800 802 0021 Monday to Friday, 9am to 5pm, or email info@winstonswish.org
- Young Minds – www.youngminds.org.uk
- Young Minds Crisis Messenger: Text YM to 85258
- Childline – www.childline.org.uk Phone: 0800 1111
- Samaritans – www.samaritans.org Phone: 116 123
- Young Minds Matters – Text 07480635723
- Kooth – Kooth.com
- TIC+ - online text chat – 07977334433
- Self-harm Helpline Rethink Gloucestershire – webchat: www.gloucestershireselfharm.org Text: 07537410022 Phone: 0800 801060

PCSH Year 8 PCSHE Topic 4

Key Terms:

- **Bullying:** Usually defined as repeated behaviour that is intended to hurt someone either physically or emotionally. Bullying can take many forms including physical assault, teasing, making threats, name-calling, spreading rumours, or writing offensive graffiti.
- **Cyber bullying:** Bullying that is conducted online via email, social networks, or messaging services or via mobile devices.
- **Discrimination:** Unfair treatment of a person or group because of negative ideas about that individual or group.
- **Gay:** An emotional, sexual and physical attraction to the same sex. This word can apply to either gender.
- **Heterosexism:** The assumption that everyone is heterosexual unless someone is 'obviously' gay or lesbian because they are 'out'.
- **Homophobia:** The resentment or fear of gay, lesbian or bisexual people.
- **Prejudice:** A judgment made about a person or group without knowing them. This is generally applied when the judgement is negative.
- **Stereotype:** The combination of emotional, sexual and physical attraction to someone of the opposite, same or either sex depending on that individual's sexual orientation.
- **Transphobia:** Resentment or fear of transgender people.
- **Sexism:** prejudice, stereotyping, or discrimination, typically against women, on the basis of sex.
- **Racism:** prejudice, discrimination, or antagonism by an individual, community, or institution against a person or people on the basis of their membership of a particular racial or ethnic group, typically one that is a minority or marginalized.

What is the Equality Act and why is it important?

The **Equality Act 2010** aims to prevent discrimination against workers based on nine protected characteristics:

- Age
- Disability
- Gender reassignment
- Marriage and civil partnership
- Pregnancy and maternity
- Race
- Religion
- Sex
- Sexual orientation

- **Equality:** the state of being equal, especially in rights, status or opportunities.
- **Race** – race includes skin colour, ethnicity and ethnic or national origins.
- **Disability:** a person has a disability if they have a mental or physical impairment, and this has a substantial and long-term adverse effect on the person's ability to carry out normal day-to-day activities.
- **Religion or belief** – any religion or philosophical belief, which includes a lack of religion or belief
- **Sexual orientation** – a person's sexual preference towards persons of the same sex, the opposite sex or either sex
- **Gender:** whether a person considers themselves male or female. It can also refer to a range of identities that do not correspond to male or female.

Impacts of the Equality Act

- Policies and procedures – organisations need to have policies and procedures in place to ensure that there are equal job opportunities for all.
- Employee training – staff must be trained on the requirements of equal opportunity legislation
- Recruitment processes – organisations may have to revise their recruitment processes
- organisations may have to revise Accessibility – the business needs to ensure it is accessible to all.
- Prosecution – the organisation may be prosecuted if they fail to comply with regulations resulting in a fine.

How to end discrimination?

- Education: Educating students about the problems raises awareness
- Rallies: Public displays of support to show how many people are trying to fight discrimination
- Law: Anti-discrimination laws have been passed to help those at risk
- Charities: They do excellent work all over the world to help those effected.
- Religion: They teach us that everyone is equal, made in God's image. They need to work together to continue spreading the message
- Defend: If you see someone discriminating against someone else, speak up, explain how their actions are wrong.

Further Support:

- Action line – Expert and confidential support to young people suffering homophobic or transphobic bullying. Monday to Friday. 9am to 5pm. 0808 1000 143. <https://eachaction.org.uk/support>
- Anti-bullying alliance – <https://anti-bullyingalliance.org.uk>
- Bullying intervention group – <https://bullyinginterventiongroup.co.uk>
- Child Exploitation and Online Protection Centre – <https://ceop.police.uk>
- Equality of Human Rights Commission - equalityhumanrights.com
- Young Stonewall: <https://www.youngstonewall.org.uk/>
- The Proud Trust – Local Support groups: <https://www.theproudsttrust.org>
- Friends and Family of Lesbians and Gays: <https://www.flag.org.uk/>
- Anti-bullying alliance: a coalition of organisations working together to stop bullying (including that of people with learning disabilities and autism), and create safer environments in which young people can live, grow, play & learn. <http://www.anti-bullyingalliance.org.uk/>
- #ImWithSam campaign: Dimensions' campaign to end autism and learning disability hate crime. <https://www.dimensions-uk.org/campaign/imwithsam/>
- **True vision** – website for reporting hate crime and hate incidents to the police www.report-it.org.uk/your_police_force
- **Childline** – Childline is a free and confidential 24-hour helpline for children and young people in the UK. Calls do not show up on mobile phone or landline bills. 0800 1111
- www.childline.org.uk
- **Stop LGBT Hate Crime** – Helpline offering advice and support to victims of LGBTQ+ hate crimes 0808 801 0661
- **Tell Mama** – record Hate Crimes against Muslims, or motivated by hostility or prejudice directed at Islam. <https://tellmamauk.org>