Year 8

Knowledge Organiser

January - March 2026

AMBITION, CONFIDENCE, CREATIVITY,
RESPECT, DETERMINATION

Proud to be part of the GREENSHAW LEARNING TRUST

FIVE ACRES HIGH SCHOOL

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.

Contents

Year 8 Term 2 English The Fragile Mind Knowledge Organiser

Hamlet

The plot: The ghost of the King of Denmark tells his son Hamlet to avenge his murder by killing the new king, Hamlet's uncle. Hamlet feigns madness, contemplates life and death, and seeks revenge. His uncle, fearing for his life, also devises plots to kill Hamlet.

Key vocabulary:

Betrayal
The act of deceiving someone or letting them down

Power
Control or authority

Parenthesis
The addition of extra information in the middle of a main clause. This is surrounded by commas, brackets or dashes.

Grief
Extreme mental suffering caused by death or a loss

Sanity
The ability to be able to think or behave normally and reasonably (Insanity is the reverse)

Distress
Anxiety, sorrow or pain

Disempower
To take away someone's power

Regicide
To kill an ordained king or queen

Revenge
inflict hurt or harm on someone for an injury or wrong done to oneself

King Lear

The plot: King Lear divides his kingdom among the two daughters who flatter him and banishes the third one who loves him. His eldest daughters both then reject him at their homes, so Lear goes mad and wanders through a storm. His favourite daughter is killed for treason and he is heartbroken at her death.

Key vocabulary:

Hubris
excessive pride or self-confidence

Hamartia
Fatal flaw in a character which leads to it's downfall

Semi-colon
Used to join two main clauses that are linked in meaning to create a compound sentence

Diacope
When a writer repeats a word or phrase with one or more words in between

Rejection
The act of pushing someone or something away

Turmoil
A state of confusion, disturbance or anxiety

Epizeuxis
A rhetorical device in which the words or phrases are repeated in quick succession, one after another, for emphasis.

Anaphora
Repetition at the beginning a phrase or clause

Epistrophe
Repetition at the end of a phrase or clause

Frankenstein:

The Plot: Frankenstein looks at what happens when one man decides to play God. His actions ultimately lead to his own downfall. Gifted scientist Victor Frankenstein succeeds in giving life to a being of his own creation. However, this is not the perfect specimen he imagines that it will be, but rather a hideous creature who is rejected by Victor and mankind in general. The Monster seeks its revenge through murder and terror.

Key Vocabulary:

Metaphor
Comparing two things by saying one thing is another

Foreshadowing
Hints given by a writer towards a future event.

Epigraph
A short quotation, phrase or saying given at the beginning of a book or chapter

Classical allusion
A reference to another story, in this case the myth of Prometheus. Shelley referred to her novel as 'The Modern Prometheus'

Galvanism
Early 19th century science which attempted to return life through the use of electrical current.

Prejudice
An unwarranted negative view due not based on reason or experience.

Year 8 Term 2 English The Fragile Mind Knowledge Organiser

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Significant figures

Topics

- Rounding integers using significant figures (M994)
- Rounding decimals using significant figures (M131)
- Estimating calculations (M878)

Keywords

Rounding - making a number simpler but keeping its value close to what it was.

Significant figures - the digits that are meaningful (e.g. the digits 3 and 4 in 3400 and 0.00034).

Estimate - working out an answer using rounded numbers to make the calculation easier.

Coordinates and midpoints

Topics

- Calculating midpoints (M622)
- Mixed problems: Coordinates and midpoints (M311)

Building Blocks

- Reading and plotting coordinates (M618)

Keywords

Midpoint - the middle point between two points.

Vertical - up and down ↕.

Horizontal - left and right ↔.

Line segment - a part of a line.

Coordinate - a point on the coordinate system written as (x , y).

Vertices - corners of a shape, where two or more edges meet.

Area and units

Topics

- Finding the area of parallelograms (M291)
- Finding the area of trapeziums (M705)
- Converting units of area (M728)

Building Blocks

- Finding the area of rectangles (M390)
- Finding the area of compound shapes (M269)
- Finding the area of triangles (M610)
- Finding the area of compound shapes containing triangles (M996)
- Converting units of length (M772)

Keywords

Parallelogram - b x h where b is the base and h is the perpendicular height.

Trapezium - ½ x (a + b) x h where a and b are parallel sides and h is the perpendicular height.

Parallel - lines in the same direction that never meet.

Area and circumference

Topics

- Identifying parts of circles (M595)
- Finding the circumference of circles (M169)
- Finding the area of circles (M231)

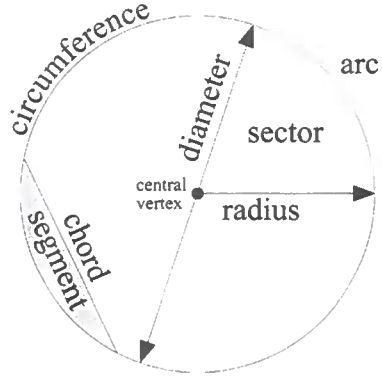
Building Blocks

- Calculating with roots and powers (M135)
- Substituting into algebraic formulae (M208)
- Rounding decimals (M431)

Keywords

Circumference = $\pi \times$ diameter

Area = $\pi \times$ radius^2



Standard form and ordinary numbers

Topics

- Using standard form with positive indices (M719)
- Using standard form with negative indices (M678)

Building Blocks

- Multiplying and dividing by 10, 100 and 1000 (M113)

Keywords

Ordinary form - number in whole number or decimal form.

Standard form - number between 1 and 10 multiplied by a power of 10 with index form.

Ascending - increasing in size.

Descending - decreasing in size.

Venn diagrams

Topics

- Venn diagrams (M829)
- Probabilities from Venn diagrams (M419)

Building Blocks

- Writing probabilities as fractions (M941)
- Writing probabilities as fractions, decimals and percentages (M938)
- Probabilities of mutually exclusive events (M755)

Keywords

Region - a section of the venn diagram.

Probability - likelihood of an event happening, given as fractions or decimals.

Frequency - the number of times something is happening. This is an integer.

Factors, multiples and primes

Topics

- Finding the HCF and LCM using prime factor decomposition (M365)

Building Blocks

- Venn diagrams (M829)
- Finding the lowest common multiple (M227)
- Finding factors and using divisibility tests (M323)
- Finding the highest common factor (M398)
- Finding prime numbers (M322)
- Prime factor decomposition (M108)

Keywords

HCF - Highest Common Factor.

LCM - Lowest Common Multiple.

Prime number- number that is only divisible by 1 and itself (2, 3, 5, 7, 11, 13 ...).

Product of prime factors (prime decomposition) - write a number as its prime factors multiplied together (e.g. $12 = 2^2 \times 3$).

Index form - collecting together numbers that are multiplied together (e.g. $4 \times 4 \times 4 = 4^3$).

Nets and Surface Area

Topics

- Properties of 3D shapes (M767)
- Nets of 3D shapes (M518)
- Finding the surface area from a net (M884)
- Finding the surface area of cubes and cuboids (M534)
- Finding the surface area of prisms (M661)

Building Blocks

- Shape properties (M276)
- Nets of 3D shapes (M518)
- Finding the area of compound shapes (M269)
- Finding the area of compound shapes containing triangles (M996)
- Converting units of length (M772)

Keywords

Face - the individual flat surfaces of a 3D shape.

Vertices - the corners of a shape.

Edge - a line joining the corners of a shape.

Prism - A 3D shape with two identical ends and flat sides.

Surface area - the total area of the surface of a 3D shape.

Volume

Topics

- Finding the volume of cubes and cuboids (M765)
- Finding the volume of prisms (M722)
- Converting units of volume (M465)

Building Blocks

- Finding the area of compound shapes (M269)
- Finding the area of compound shapes containing triangles (M996)
- Converting units of length (M772)

Keywords

Volume of a cuboid - length x width x height.

Cross-sectional area - area of a two-dimensional shape that is obtained when a three-dimensional object is sliced perpendicular (in a right angle).

Year 8 Biology Knowledge Organiser
Bioenergetics - Respiration page 1

Box 1 - Respiration

- Cellular respiration is a **life process** that takes place **all the time (continuously)** in **every cell** of **all living organisms** (animals, plants, fungi, bacteria).
- It is necessary to **transfer/release energy** from **glucose** so that the cell can perform all other functions and processes.
- **Organisms need energy** so that they can:

1. **Synthesise (build) larger molecules from smaller ones**
   a. Amino acids are built into proteins in plants and animals
   b. Glucose is built into cellulose which is for new plant cell walls
2. **Move** – Energy is required for muscles to contract in order for animals to move. Energy is also needed for individual cells to move (e.g. sperm cell swimming)
3. **Transport certain materials.**
   a. Energy is needed to transport essential minerals from the soil into plant roots.
   b. Energy is needed to transport glucose from the small intestine into the blood in animals
4. **Keep warm –** Some energy is transferred from glucose to the thermal energy store of animals and birds therefore maintaining an ideal body temperature.

Box 2 - Aerobic Respiration

- This type of cellular respiration takes place when oxygen is present.
- Glucose is oxidised by oxygen and forms carbon dioxide and water as waste products.
- Glucose is a store of chemical energy. Energy is stored in the bonds joining together the atoms that make up glucose.
- During the reaction when those bonds are broken and reformed into the waste products energy is transferred to the cell.

The **word equation** for aerobic respiration is:
Glucose + Oxygen → Carbon dioxide + Water *(and energy is transferred)*

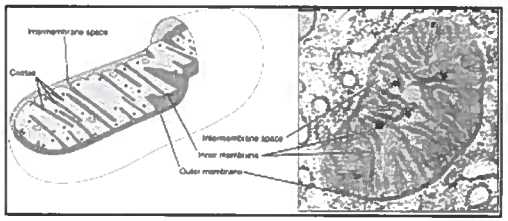
The **symbol equation** for aerobic respiration is:
$C_6H_{12}O_6 + 6O_2 \rightarrow 6CO_2 + 6H_2O$ *(and energy is transferred)*

- Aerobic respiration transfers 19 times more energy to the cell than anaerobic respiration for every molecule of glucose.

Key Terms	Definitions
Respiration	This is a life process. It is a reaction that is carried out continuously by all living organisms (animals, plants, fungi and bacteria) to transfer/release energy from glucose. It occurs in every cell all the time.
Aerobic respiration	Respiration that occurs when oxygen is present
Anaerobic respiration	Respiration that occurs when there is insufficient (not enough) oxygen for aerobic respiration
Glucose	A simple sugar compound used in respiration that is a chemical store of energy
Cytoplasm	Jelly-like substance in all cells where cell reactions take place
Mitochondria	Cell organelles where aerobic respiration occurs
Lactic acid	A waste product of anaerobic respiration in animals that causes muscle fatigue. Oxygen is needed to convert it into carbon dioxide and water which are then excreted.
Muscle fatigue	In humans, this is a decrease in the ability of a muscle to produce a force – brought on by exercise
Yeast	A microscopic single-celled fungus
Fermentation	Anaerobic respiration that occurs in yeast producing ethanol, carbon dioxide as waste products
Ethanol	A type of alcohol

Box 3 - Where does cellular respiration take place?

Anaerobic respiration takes place in the cytoplasm of cells when there is insufficient oxygen present.
If oxygen is present, the first part of aerobic respiration takes place in the cytoplasm and then finishes in the mitochondria.



Mitochondria – diagram and micrograph

6

Year 8 Biology Knowledge Organiser
Bioenergetics - Respiration page 2

Box 4 - Anaerobic Respiration

- This type of cellular respiration takes place when there is insufficient oxygen present for aerobic respiration.
- It enables some energy to be transferred to the cell from glucose when there is no oxygen.
- In animals, lactic acid is formed as a waste product of anaerobic respiration.
- In yeast and plant cells, ethanol and carbon dioxide are formed as waste products of anaerobic respiration.
- There is a lot less energy transferred by anaerobic respiration compared to aerobic respiration.

The **word equation** for anaerobic respiration in **animals**:

Glucose → Lactic acid *(and some energy is transferred)*

The **word equation** for anaerobic respiration in **Yeast and Plant Cells:**

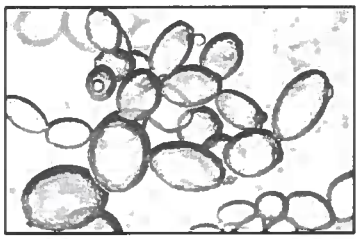
Glucose → Ethanol + Carbon dioxide *(and some energy is transferred)*

Box 5 - Anaerobic Respiration in Yeast and Plants

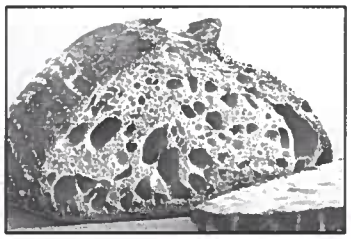
- Yeast are single-celled fungi who can respire with or without oxygen.
- Plants sometimes use anaerobic respiration if their roots get waterlogged. The root cells cannot access oxygen and so respire anaerobically.

Glucose → Ethanol + Carbon dioxide *(and energy is transferred)*

- This type of anaerobic respiration can also be called fermentation.
- We use fermentation of yeast to produce ethanol when used in brewing beer and carbon dioxide (CO_2) when used in bread making (CO_2 makes bread rise).



Yeast Cells



Bread risen by CO_2

Alcohol made by fermentation

Box 6 - Anaerobic Respiration in Animals

- In animals, anaerobic respiration occurs in cell as a result of strenuous exercise.
- During strenuous exercise, muscles are contracting to move limbs. The energy for this contraction is supplied by aerobic respiration of glucose in muscle cells.
- As exercise increases, the heart rate and breathing rate increase in order to transport oxygen to the muscle cells.
- If the supply of oxygen is not enough, respiration takes place without it – anaerobic respiration – and lactic acid is formed.

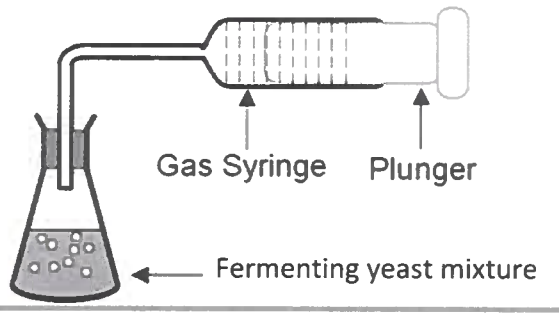
Glucose → Lactic acid *(and energy is transferred)*

- The build up of lactic acid in muscles causes fatigue. The muscles cannot contract as efficiently and produce less force with each contraction.
- Oxygen is needed in order to remove the lactic acid. Once oxygen is available, the lactic acid is converted back to glucose in the liver.

Box 7 - Investigating Yeast Fermentation

- Yeast is a living organism that can survive at a range of temperatures.
- We can grow cultures of yeast in a liquid and use this culture to investigate what affects the rate of fermentation in yeast.
- We can measure how fast the fermentation reaction is in yeast by measuring how much carbon dioxide (CO_2) is produced per minute when we change the growth conditions. The higher the rate, the better the yeast is growing.
- Conditions that can be changed include the temperature that the yeast culture is grown, the concentration of glucose in the liquid growth medium, the type of sugar in the liquid growth medium

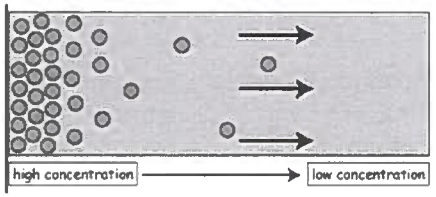
Glucose → Ethanol + Carbon dioxide



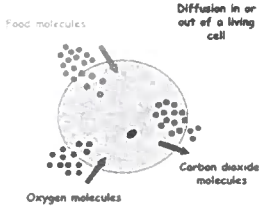
Year 8 Biology Knowledge Organiser
Organisation – Transport

Box 1 - Diffusion

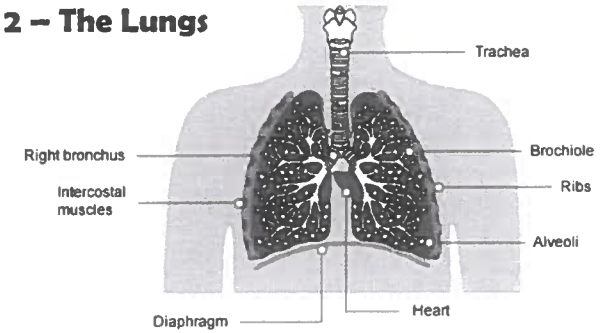
Diffusion is the **spreading out of the particles** of any substance in solution or a gas from an area of **higher concentration to a lower concentration.**



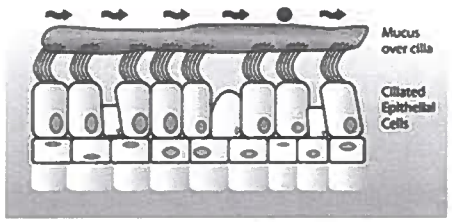
Substances can move into or out of cells across the cell membrane by diffusion.
Oxygen and **glucose** usually move into cells by diffusion.
Carbon dioxide and **waste (urea)** usually move out of cells by diffusion.
The bigger the surface area the faster the rate of diffusion.



Box 2 – The Lungs



When we breathe in, air enters the lungs; it travels through the trachea, bronchi, bronchioles then into the alveoli.
The trachea is held open by rings of cartilage to stop it collapsing when the neck is moved and bent.
The trachea and the bronchi are lined with ciliated epithelial cells and mucus. When we breathe, dust and microorganisms in the air stick to the mucus. The cilia "beat" to move the dirty mucus up and out of the lungs and it is then swallowed.



Box 3 - Breathing

Breathing is caused by the intercostal muscles between the ribs and the diaphragm.
Breathing in is also called **inhaling** and occurs when:

- Intercostal muscles contract and move the ribs up and out.
- Diaphragm contracts and flattens.

This increases the volume inside the thorax and decreases the pressure in the thorax which draws air into the lungs.
Breathing out is also called **exhaling** and occurs when:

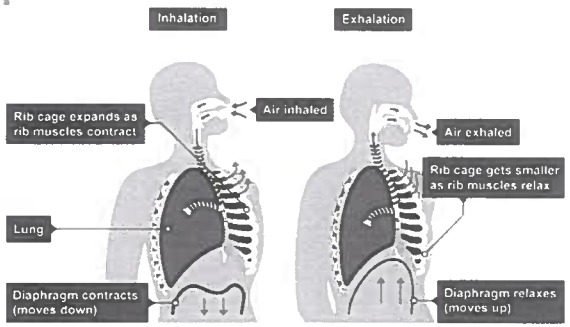
- Intercostal muscles relax and move the ribs down and in.
- Diaphragm relaxes and bulges upwards.

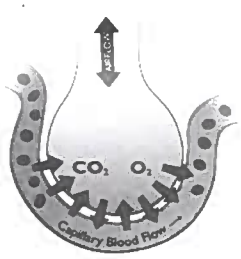
This decreases the volume inside the thorax and increases the pressure in the thorax which pushes the air out of the lungs.

Key Terms	Definitions
Cilia	Microscopic hair like structures that cover the cells in the trachea and bronchi.
Alveoli	Microscopic air sacs in the lungs where gas exchange by diffusion occurs.
Gas exchange	The swapping of oxygen and carbon dioxide between the alveoli and the blood.
Thorax	Upper part of body including the rib cage, lungs and heart.

Box 4 - Gas exchange

The lungs contain millions of microscopic alveoli. These are tiny air sacs that are just one cell thick and are surrounded by tiny blood vessels called capillaries.
The movement of oxygen and carbon dioxide is called gas exchange.
- The millions of tiny alveoli give a large surface area for diffusion.
- The walls of the alveoli are very thin so the substances don't have far to diffuse.





Box 5 - Asthma

Asthma is a disorder where the muscles in the walls of the airways become swollen and inflamed and the muscles in the airways contract and the tubes become narrow.
This makes it hard to breathe out.
The triggers for asthma include dust, pollen, exercise and smoke.
Inhalers make the muscles relax so the airways widen.

Box 6 - Smoking

Cigarette smoke contains:

- Tar (which can cause lung cancer)
- Carbon monoxide (which reduces the amount of oxygen the blood can carry and causes breathlessness)
- Nicotine (which is addictive).

Smoking damages the cilia, which leads to a smokers cough.

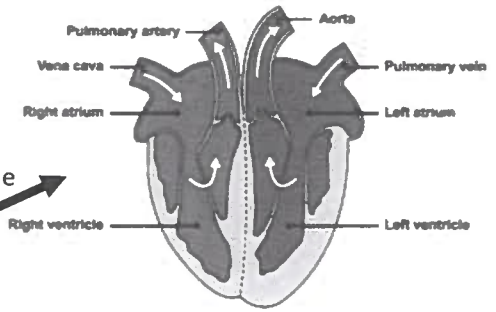
8

Year 8 Biology Knowledge Organiser
Organisation – Transport

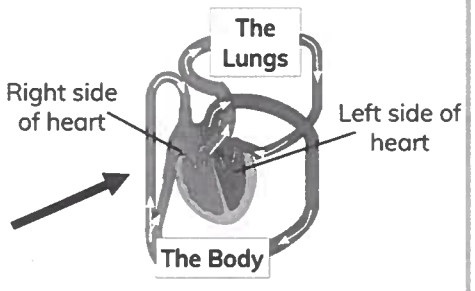
Box 7 - The Circulatory System- The Heart

The circulatory system includes the heart, blood vessels and blood.
The function of the circulatory system is to transport substances around the body.
The heart muscle contracts to pump blood around the body.
Heart muscle is a unique type of muscle because it doesn't tire.
The heart has four chambers called the

- left atrium
- right atrium
- left ventricle
- right ventricle

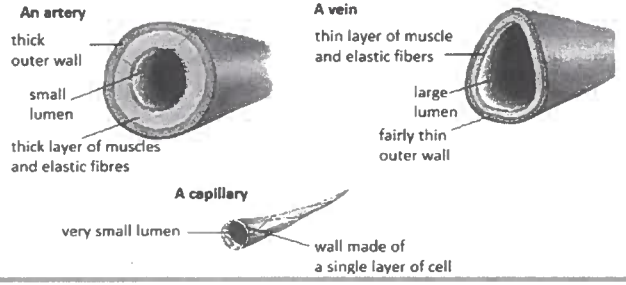


The right side of the heart pumps deoxygenated blood to the lungs.
The left side of the heart pumps oxygenated blood to the head and body
The heart is a **double pump**, with double circulation (one side of the heart pumps blood to the lungs and the other pumps blood to the head and body)



Box 8 - The Circulatory System- Blood vessels

Arteries are blood vessels that carry blood away from the heart under high pressure.
Capillaries are tiny blood vessels with walls that are one cell thick. Substances such as glucose, oxygen can move out of capillaries into cells. Carbon dioxide can move into capillaries from cells.
Veins are blood vessels that carry blood to the heart under low pressure.

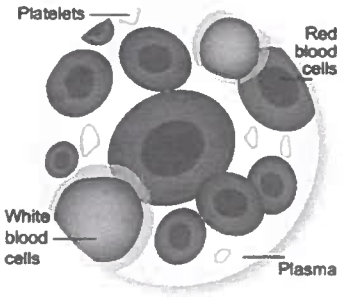


Key Terms	Definitions
Circulatory system	Heart, blood vessels and blood that are involved in transporting substances around the body.
Oxygenated blood	Blood containing oxygen.
Deoxygenated blood	Blood that doesn't contain oxygen.
Transpiration	The loss of water from the surface of plants that occurs by evaporation.

Box 9 - The Circulatory System- Blood

Blood is made up from red blood cells, white blood cells, platelets floating in a pale yellow liquid called plasma.

- **Red blood cells** carry oxygen around the body.
- **White blood cells** are part of the immune system and are
- involved in fighting disease .
- **Platelets** are needed for blood clotting.
- **Plasma** transports dissolved glucose and carbon dioxide.

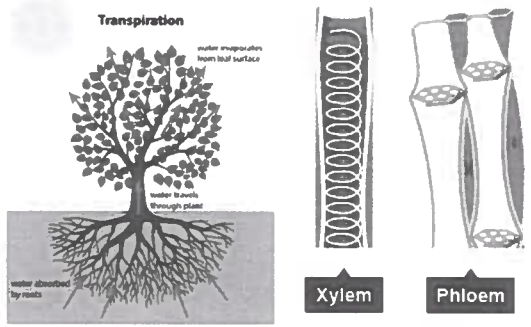


Box 10 - Transport in plants – Xylem, Phloem and Transpiration

Xylem cells transport water and minerals from the roots to the leaves.
Phloem cells transport sugars around the plant from the leaves to the roots and flowers.

Transpiration is the loss of water from a plant by evaporation.

The rate of transpiration is affected by the temperature.



Box 11 - Transport in plants – Minerals

Plants need minerals from the soil for healthy growth. Nitrates and magnesium are examples of minerals.
Nitrates are needed to make proteins. A plant that is deficient in nitrates has stunted growth and yellow leaves.
Magnesium is needed for making chlorophyll. A plant deficient in magnesium has yellow leaves
Fertilisers contain minerals and can be added to the soil to improve the growth of crops and plants.

Year 8 - Chemistry Knowledge Organiser
Materials and their properties

Box 1 -The Structure of the Atom

- All matter is made from atoms. Atoms are very small.
- The central part of the atom is known as the nucleus. The nucleus is tiny in comparison to the size of the atom.
- An atom is made up of three subatomic particles: **protons**, **neutrons** and **electrons**.
- Protons and neutrons are found in the **nucleus**
- Electrons are found orbiting the nucleus in energy levels (also known as *shells*).
- The mass and charges of the subatomic particles is shown below:

	Mass	Charge
Proton	1	+1
Neutron	1	0
Electron	0	-1

- Atoms have **no overall charge** because they have the same number of positive protons as negative electrons.

Box 3 -Electron Configuration/Electronic Structure

Each shell has a maximum number of electrons it can take.
Shell 1: maximum 2 electrons; Shell 2: maximum 8 electrons; Shell 3: maximum 8 electrons

23
Na
sodium
11

11 electrons

The electronic configuration of Sodium (Na) can also be written like this: 2,8,1. This shows there is 2 electrons in the 1st shell, 8 electrons in the second shell and 1 electron in the 3rd shell.

1. The period number is an element's row in the periodic table. It indicates the number of electron shells an element has.
2. The group number is the column an element is in in the periodic table. It indicates how many electrons an element has in its outer shell. All shells inside the outer shell are full.

Key Terms	Definitions
nucleus	The centre of an atom; it is made of protons and neutrons.
nanometre	A unit of measurement: $1x10^{-9}m$
proton	A subatomic particle found in the nucleus, it has an electric charge of +1 and a relative mass of 1.
electron	A subatomic particle found in the shells of an atom, it has an electric charge of -1 and a negligible mass
subatomic	Describes particles smaller than an atom (protons, neutrons, electrons)
neutron	A subatomic particle found in the nucleus of an atom, it has a charge of 0 and a mass of 1
Physical property	A characteristic or feature of a substance that can be measured (e.g. melting point, boiling point, density, colour, conduction of heat/electricity)

Box 2 - Atomic Number and Mass Number

23
Na
sodium
11

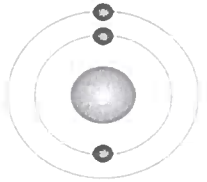
Mass number: This is the total protons + neutrons

Atomic number: This is the number of protons, which is equal to the number of electrons

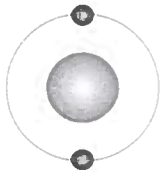
Therefore sodium has 11 protons, 11 electrons and 23 – 11 = 12 neutrons

Box 4 Electron Configuration/Electronic Structure

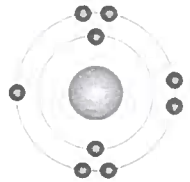
Hydrogen
1



Lithium
2,1



Helium
2



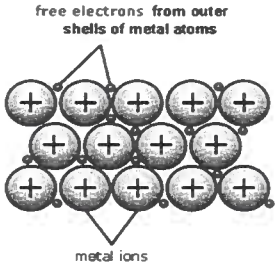
Fluorine
2, 7

10

Year 8 - Chemistry Knowledge Organiser
Materials and their Properties

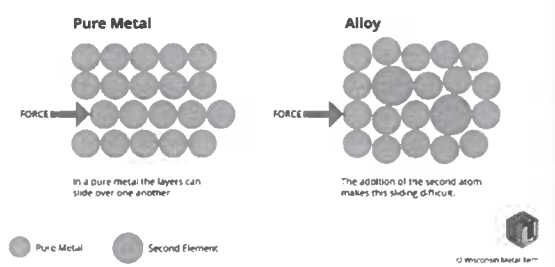
Box 5 – Metals Properties and Metallic Bonding

Metals form giant structures. The outer electrons are called delocalised electrons.
These electrons are free to move and mean that metals are good conductors of electricity and heat.
Metallic bonds hold the metal structure together.
The bonds are forces of attraction between the negative electrons and the positive metal ions.



Box 6 - Alloys

Alloys are mixtures of different **metals or metals and carbon.** Examples of alloys include brass (copper and zinc) and steel (iron and carbon).
Pure metals are soft because the layers of metal atoms/ions can slide over each other.
Metals are alloyed because the different atoms are different sizes, so the layers get disrupted and hence the layers cannot slide.



Stainless steel is a mixture of iron and chromium. It's physical properties include that it is hard and does not rust, making it useful for making cutlery.
Alloys of aluminium are used to make the bodies of aircraft. The body is hard and low density.

Box 7 - Composites

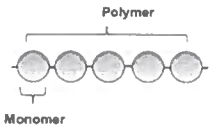
Composites are materials made from 2 different materials where one is embedded into the other.
A composite has properties of both materials and are stronger and more durable than the individual materials.
Bone is a natural composite. Concrete, Fibreglass and carbon fibre are man-made composites

Key Terms	Definitions
metallic bonding	A type of bonding which occurs only in metals
alloy	A mixture of 2 or elements, one of which is a metal (the other element may be metal or non metal)
delocalised electron	An electron that is free, not part of an atom
Physical Property	A feature/characteristic of a material or substance – e.g. conducts electricity, hard, strong.
malleable	The ability of a material to be hammered/pressed into shape.
Ceramic	Non-metallic solid that is hard, durable and brittle.
Composite	Substance made from 2 different materials where the properties of both materials are gained.
Polymer	Long chain molecules made up from repeating units called monomers.

Box 8 - Ceramics

Ceramics are non-metallic crystalline solids, for example porcelain, brick. They are made by the action of heating and cooling.
Physical properties - They are hard, durable, brittle, have high melting points and are non-toxic and unreactive.
Ceramics are used for plates, bowls etc because they are durable, non-toxic and unreactive.
Ceramics are used in dentistry because they are hard, durable, non-toxic and unreactive.

Box 9 - Polymers



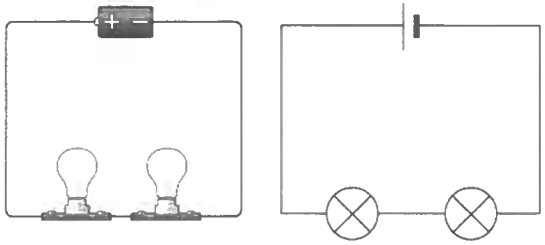
Polymers are long chain molecules made up from repeating units called monomers.
Natural polymers include DNA and starch.
Synthetic (man-made) polymers include polythene and polystyrene. These are called plastics and are often made from crude oil.
Polymers can be designed with useful physical properties.
Many synthetic polymers are non-biodegradable (they don't rot away) . This means they end in land fill or polluting oceans.

Year 8 Physics Knowledge Organiser: Electricity

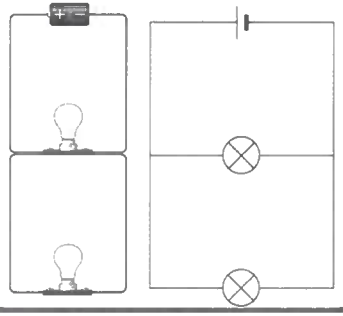
Box 1 – Series and parallel circuits

- Electrical circuits are made of metal wires with components (see Box 3) that perform a function.
- The metal in the wire is a conductor, so the electric current can pass through the wire – it is conducted.

Series circuits are closed circuits where the current can only flow along one route.



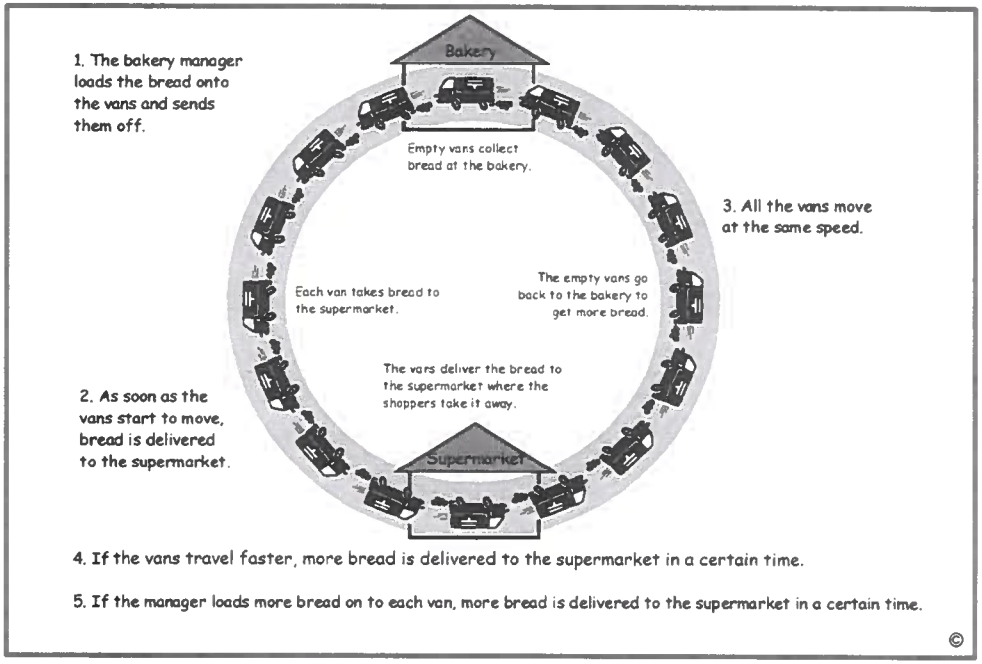
Parallel circuits are closed circuits with more than one route (also called branches) that the current can take.

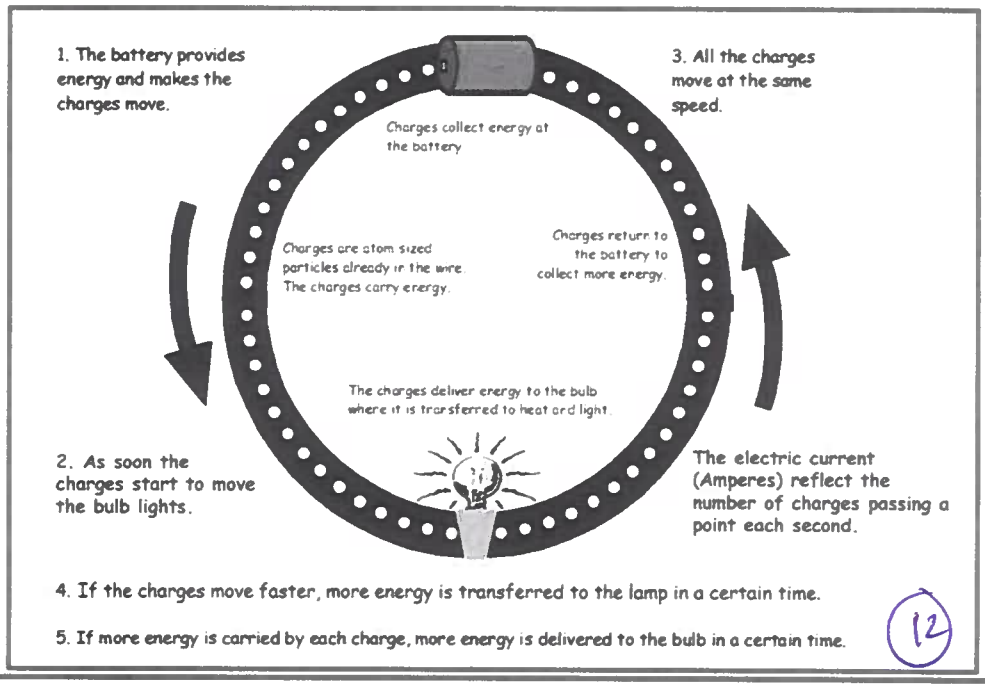


Key term	Definition	Analogy
Charge	The particles that carry energy in an electrical circuit, often electrons	Van
Energy	Electrical energy carried by charges	Loaves of bread
Current	Rate of flow of charge	Speed of vans
Potential difference	The energy per unit of charge	Number of loaves of bread in each van
Resistance	Opposes the current (the more resistance, the lower the current)	Reduces the speed of the vans

Box 2 – Describing Circuits Bread van analogy

Analogy – A story used as an explanation





12

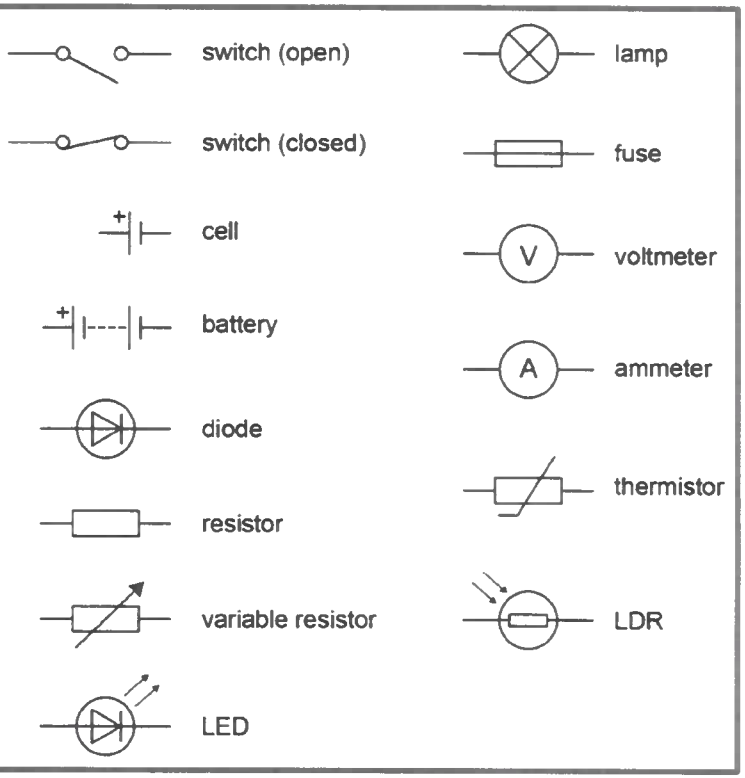
Year 8 Physics Knowledge Organiser: Electricity

Key term	Definition
Electrical conductor	A material with a low resistance that allows charge to flow.
Electrical insulator	A material with a high resistance that does not allow charge to flow.
Series circuit	Circuit with a single loop.
Parallel circuit	Circuit with two or more loops.

Equation	Meanings of terms in equation
$V = I\,R$	*Potential difference = Current x Resistance* *(Volts, V) (Amps, A) (Ohms, Ω)*

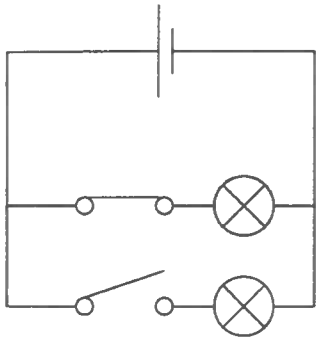
Box 3 – Circuit symbols

The parts that go into circuits are called components. They are shown in diagrams with symbols, as shown:



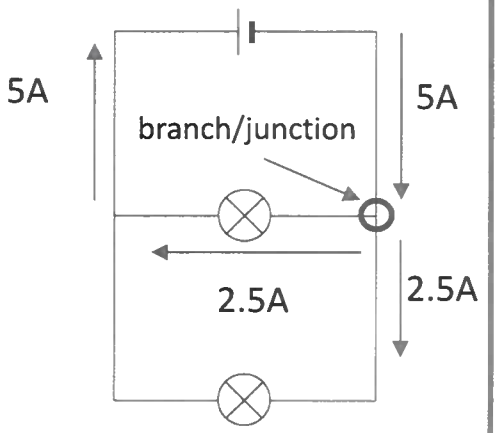
Box 4 – Using parallel circuits

- Lighting circuits in houses use parallel circuits to make sure all the bulbs in the house are bright and stay the same brightness regardless of how many bulbs are switched on at any one time.
- A parallel circuit also means that if one bulb breaks, the others remain lit.
- Car headlights are also wired in parallel for the same reasons.



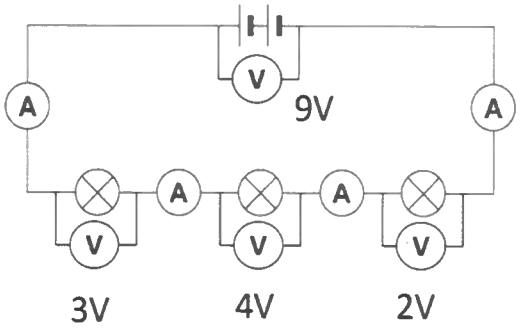
Box 5 – Kirchoff's current law

Current flowing into a junction in a parallel circuit must be equal to current flowing out of it.



Box 6 – Kirchoff's potential difference law

The sum of the potential differences in a series circuit is equal to the cell potential difference.



Potential difference of cell = 9V

3 + 4 + 2 = 9

13

Year 8 Chemistry Knowledge Organiser
Energy Changes and Rate of Reaction

Box 1 – Energy Changes: Exothermic and endothermic reactions

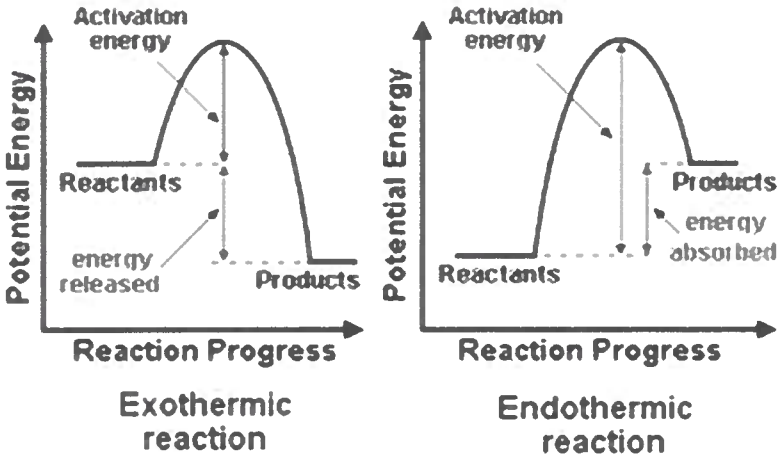
Exothermic reactions

- 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

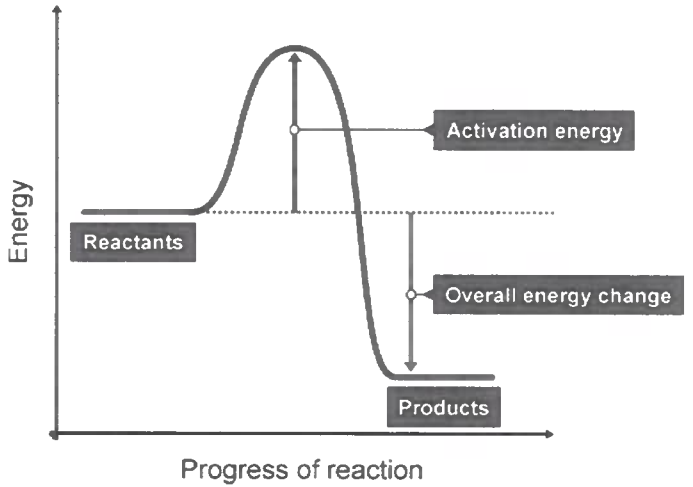
The rate of a reaction can be measured by how quickly a reactant is used up or by how quickly a product is made.

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

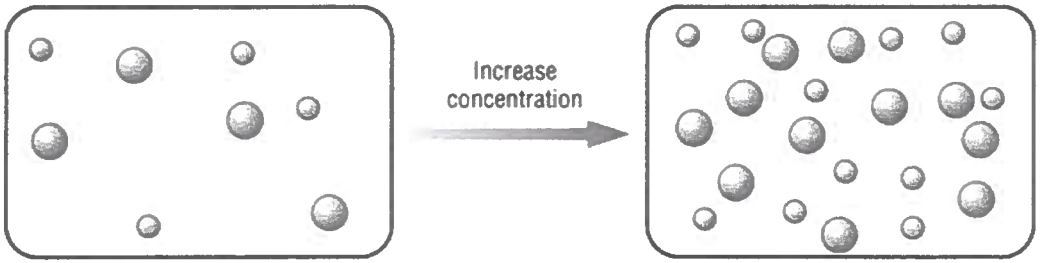
Box 5 – Explaining concentration

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.

Low concentration

Few particles in a set volume



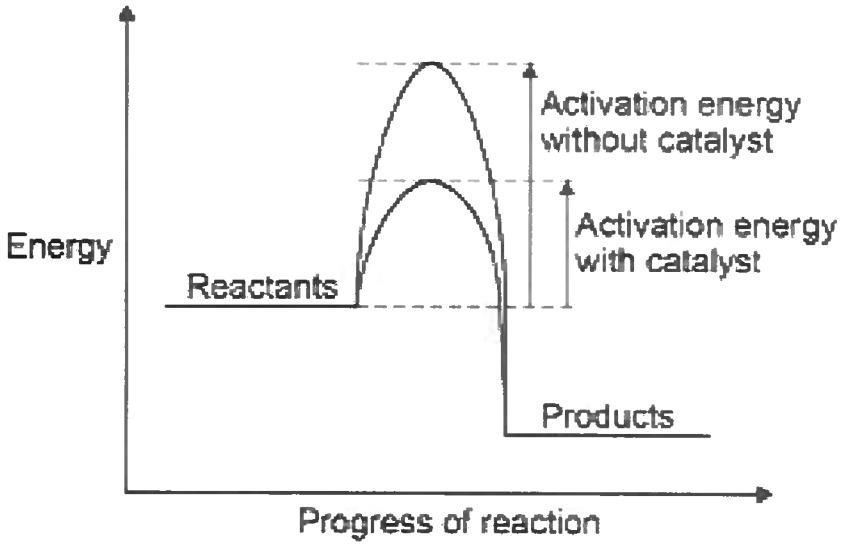
High concentration

Many particles in a set volume

Box 6 – Catalysts

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

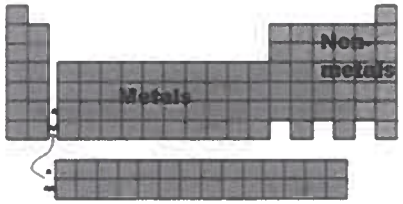
It does this by providing an alternative reaction pathway with a lower activation energy.



Year 8 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.



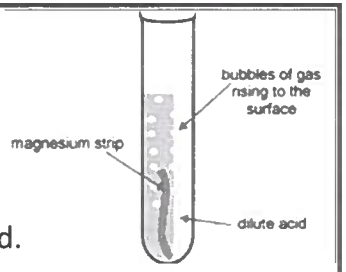
- Properties of metals are: high density, high melting point and good conductors of heat and electricity.
- Only three metals are magnetic (iron, cobalt and nickel).
- Metals react with oxygen to make metal oxides e.g.

Magnesium + Oxygen → 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:

metal + acid → salt + hydrogen



- The salt produced depends upon the metal and the acid.

zinc + sulfuric acid → zinc sulfate + 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

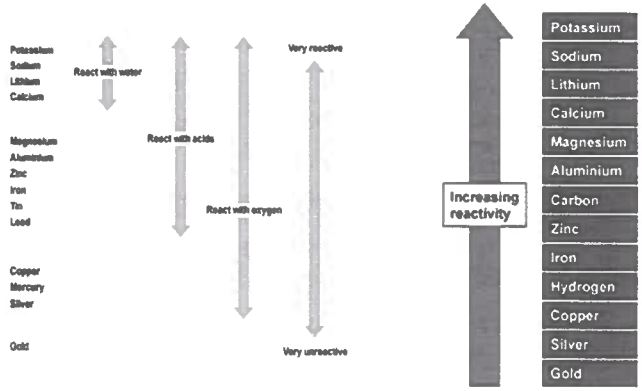
- **Corrosion** is where a metal reacts with substances in its environment.
- When iron corrodes we say that it **rusts**. Water and oxygen are required for rusting.
- The equation for rusting is:

Iron + Oxygen + Water → 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

Copper sulfate + Magnesium → Magnesium sulfate + 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 → 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 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.

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.

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.

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 **CO_2** from the atmosphere through **photosynthesis and** lock it away within themselves. Deforestation releases this 'locked in' CO_2 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 CO_2 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.

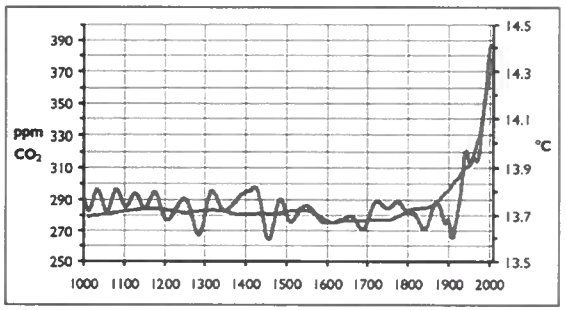
The main greenhouse gases are **carbon dioxide** and **methane**.

→ 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 CO_2 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

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

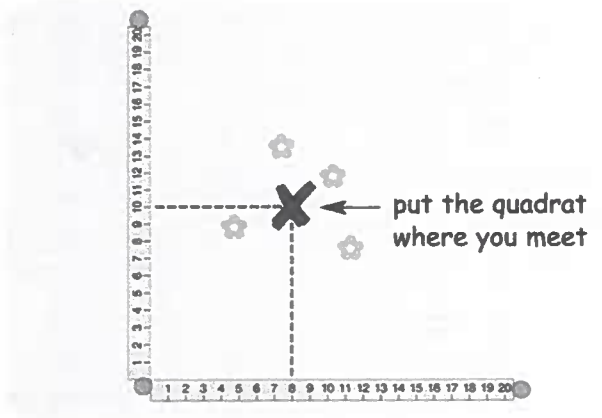


Image 1 - Use a random number generator to select coordinate positions for your quadrat placements

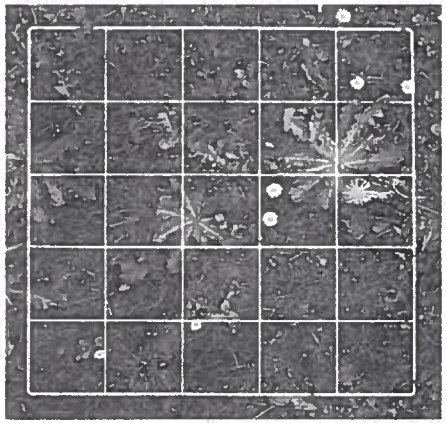


Image 2 - A quadrat: this one is a 0.5m x 0.5m square: the area is 0.25m^2. Quadrats are divided up into a grid (here of 25 smaller squares) within the frame, useful for estimating % coverage: each small grid square represents 4% of the area.

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.

Y8 History Knowledge Organiser: The Industrial Revolution

1.1 The Industrial Revolution

Britain underwent a dramatic transformation between 1750 and 1850

PRE-1750 An *Agricultural* Society

- Before 1750, Britain was a largely **agricultural** society
- Most people lived in the **countryside** and grew their own food
- The threat of **famine** kept the population low

POST-1750 An *Industrial* Society

- The process of **industrialisation** transformed Britain
- Most people now worked in **factories** and bought food with their **wages**
- The **population** expanded as towns and cities grew

Why was there an industrial revolution in Britain in the 18th Century?

Natural resources such as **coal** provided new forms of energy

New technology and machinery increased production

Slavery and **empire** provided wealth to stimulate **industry**

1.2 The Traditional View

The traditional pessimistic interpretation of the industrial life is based on sources written from a middle class point of view for a particular purpose and audience

Arnold Toynbee

- The 19th Century historian Arnold Toynbee argued that the **Industrial Revolution** was a **'darker period'** in history that was **'disastrous and terrible'** for ordinary people
- He based his conclusions on sources written by **middle-class** individuals such as:

Francis Trollope's novel

- Trollope's **novel** *Factory Boy* describes the miserable lives of child workers
- The **purpose** of her novel was to support the growing movement for improved working conditions

Michael Sadler's interviews

- **Michael Sadler** interviewed child workers and created a report to support a new law to improve **factory** work
- Sadler sometimes used **leading questions** to get the evidence he needed

1.3 Emma Griffin

The historian Emma Griffin has used the autobiographies of ordinary people to construct a different interpretation

Griffin's sources

- Emma Griffin looked at 350 **autobiographies** and **memoirs** of working people
- These sources provided evidence for a different **interpretation** of life in **industrial** Britain

Griffin's interpretation of life in industrial Britain

- Griffin argues that the **Industrial Revolution** presented new and exciting opportunities for **working class** men, even if they lived through hardships
- The **autobiographies** clearly show that family **incomes** increased
- However, **working class** women and children did not share in these advantages

Problems with Griffin's sources

- Very few women wrote **autobiographies**, making it hard to find evidence about their lives
- **Autobiographers did** not want to spend time discussing the difficult times in their life, preferring to focus on positive experiences

VOCABULARY

Agricultural	Related to farms and farming
Autobiography	A book written about the authors own life
Factories	Large buildings where goods are manufactured by workers and machines
Famine	A period in which there is not enough food
Glasgow	A large industrial city in Scotland
Income	The amount of money you earn
Industrial	An adjective that describes a place or a time when most people worked in factories
Industrialisation	The process of becoming industrial
Justify	To prove something was right
Leading questions	Questions that lead the respondent to give particular answers
Memoir	A type of autobiography
Novel	A fiction book
Poverty	The state of being very poor
Progress	Development towards a more advanced time / state
Purpose	The reason why something is made
Sanitation	Hygiene / Cleanliness
Slums	Poor quality housing
Wages	Money earnt from working
Working class	People who work for wages, usually the poorest people in society

Y8 History Knowledge Organiser: The Development of Democracy

1.1 Political power in Britain before 1750

Parliament became increasingly powerful during the Early Modern period, although the franchise was very limited

Magna Carta	*Personal Rule*	*Charles I executed*	*Restoration*	*Bill of Rights*
1215	**1629 - 1640**	**1649**	**1660**	**1689**

Medieval Parliaments

- In 1215, English barons forced **King John** to sign **Magna Carta**
- Later in the 13th Century, the barons set up **Parliament** to give **consent** for new **taxes** and present **petitions** to the monarch
- By the 14th Century, **Parliament** also included the **Commons**: **knights** and **burgesses**
- **Burgesses** were elected, but only by other wealthy and powerful men

The English Civil War

- During the **'personal rule' Charles I** ruled as an **absolute monarch**, claiming he held power by **divine right**
- This led to the **English Civil War** and **Charles' execution** in 1649
- The new government under **Lord Protector Oliver Cromwell** crushed groups like the **Levellers** who wished to broaden the **franchise**
- **Cromwell** ignored **Parliament** and ruled as **'king in all but name'**
- The monarchy was **restored** under **Charles II**

Bill of Rights

- In 1688 **Parliament** invited the Dutch ruler William of Orange to seize the English throne to protect **Protestantism**
- In 1689 **Parliament** introduced a Bill of Rights which stated that:
  - The **monarch** had to obey the law at all times
  - **Parliament's consent** was required for new taxes
- The **franchise** remained limited to **wealthy** men

1.2 The Age of Revolution

Revolutions in America, France, and Haiti increased the pressure for democratic reform

American Revolution	*French Revolution*	*Haitian Revolution*	*Haitian Constitution*
1775	**1789**	**1791**	**1801**

American Revolution

- In 1775, colonists in the **American colonies** rose up against British rule
- The **Declaration of Independence** introduced new ideas of **equality** (*"all men were created equal"*) and **democracy** (*"the consent of the governed"*)

French Revolution

- A **revolution** in France in 1789 led to the execution of the king and a new form of **democratic** government
- The **Declaration of the Rights of Man** laid out ideals of **equality** and **democracy**

Haitian Revolution

- A **slave revolution** in Haiti in 1791 defeated **French** imperial rule
- The 1801 **Haitian Constitution abolished slavery** and expanded the ideas of **equality** and **democracy** to include people of all **races**

1.3 Peterloo

The protests for democratic reform in the early 19th Century - and the brutal response from the authorities - reveals the corrupt and repressive nature of British government

The Peterloo Massacre

- On 16th August 1819, over 60,000 people gathered in St Peter's Field in **Manchester** to protest for **democratic reform** and listen to **radical** speakers such as **Henry Hunt**
- Fearing an **uprising**, the authorities demanded that the crowd leave and the speakers be arrested
- When the crowd linked arms to protect the speakers, the mounted **Manchester Yeomanry** charged
- 18 **protestors** were killed and over 700 injured

Why did so many people join the protest?

- In 1819 only 5% of the adult **population** could vote, excluding all women and huge **industrial** towns such as Manchester
- **'Rotten boroughs'** and **public elections** led to **corruption**
- **Trade unions** were illegal
- These realities clashed with the ideas of the age of **revolution**

Why did the authorities respond brutally?

- The authorities feared a **revolution** similar to the one in France and believed it could only be stopped by **brutal repression**
- The **Manchester Yeomanry** were made up of wealthy local **businessmen** who saw **democratic reform** as a threat to their power

Y8 History Knowledge Organiser: The Development of Democracy

2.1 Chartism and 19th Century Reform

Under pressure from groups such as the Chartists, Parliament passed a series of acts that reformed British democracy

1832

The Great Reform Act

- Abolished the **rotten boroughs** and gave MPs to growing industrial towns like Manchester
- Expanded the **franchise** to include all men with land worth over £10 a year, about 6% of the population

The Chartists

- The **Chartist movement** grew out of anger at the failure of the **Great Reform Act** to give the vote to the working class
- They presented **petitions** to **Parliament** with millions of signatures, demanding their **Six Points:**

1. **Votes for all men**
2. **Elections every year**
3. **Equal representation for all regions**
4. **Secret ballots**
5. **All men can be MPs**
6. **Pay for MPs**

- The Chartists lost power after 1848, yet their influence can be seen in later 19th Century reforms

Parliamentary Reform

1867

The 1867 Reform Act

- Gave more **MPs** to **industrial** areas in the North
- Increased the **electorate** to 15% of the **population** by giving the vote to men who paid £10 or more in rent

1872

The 1872 Ballot Act

- Introduce the **secret ballot**, allowing voters to cast their votes in secret

1884

The 1884 Reform Acts

- Set up a **commission** to ensure **MPs** were elected by an equal number of votes
- Increased the **electorate** to 30% of the population

2.2 Women's Suffrage

Although the franchise had expanded by the end of the 19th Century, women were still excluded from political life

Rights of Women?

- In 1792, **Mary Wollstonecraft** published **A Vindication of the Rights of Women**
- She argued that women were human beings who deserved the same rights as men
- However, 19th Century Britain was a highly **patriarchal** society:
  - Women were legally the property of their husbands and could be physically abused
  - Women were not allowed to own property
  - Even by 1900, women could not vote

Opponents of women's suffrage employed a variety of false arguments

1. ***Separate spheres***: women belonged in the private, **domestic** sphere, not the public male sphere of politics
2. ***Loss of femininity***: entering the world of politics might make women less feminine
3. ***Biology***: women were **hysterical and** wouldn't be able to cope with the pressure of political decisions

Some women still played a significant role in public life

- Women could vote in **local elections** after 1869 and played a role in **local government**
- There were women's **suffrage** societies across the country who held meetings and submitted **petitions** to **Parliament** demanding votes for women
- Women were also active in the **trade union** movement, for example winning improved working conditions during the **1888 Match Girls' Strike**

VOCABULARY

Absolute Monarch	A monarch with complete power
Act	A new law
Authorities	The local / national government
Ballot	A vote
Burgess	The representative of a town / city
Commission	A government agency
Democracy	Government based on the will of all the people
Divine Right	King's authority based on God, not the people
Domestic	Related to the home, including cooking / children
Electorate	The number of people who are allowed to vote
Election	An organised vote for political leaders
Equality	Being treated/seen as the same as other people
Femininity	Stereotypically like a woman
Franchise	The right to vote in elections
Haiti	A French Caribbean colony
Hysterical	Highly emotional / out of control
Local elections	Votes for local councils
MPs	Members of Parliament, elected
Parliament	The elected part of the UK government
Patriarchal	Ruled by men
Petition	A written appeal or request given to Parliament
Public elections	An election where voters have to vote publicly
Reform	A slower and gradual change
Repression	The crushing of protest by force
Revolution	A sudden often violent change
Rotten Borough	A tiny place that still elected MPs
Secret Ballot	An election where voters vote in secret
Suffrage	The right to vote in elections
Trade union	Organisations of workers to protect their rights
Yeomanry	A military unit made up of local businessmen

Y8 History Knowledge Organiser: India and 1857

1.1 The Mughal Empire

From the 16th Century India was ruled by the powerful and wealthy Mughal Empire

- The **Mughal Empire** was founded by **Emperor Babur** in **1526**
- The Empire contained over **150 million** people and controlled **25%** of global wealth

Mughal Emperors used their wealth...

- ...to build a **capital city** at **Delhi**
- ...to built great monuments such as the **Taj Mahal**

In the early 18th Century, the Empire declined as other Indian states began to challenge **Mughal** control.

The Mughal Empire was home to many religions. The largest were:

- **Hinduism**
- **Islam**
- **Sikhism**

Although they were **Muslims**, the Mughal emperors were **tolerant** of other religions.

1.2 The East India Company

By 1857, large parts of India were ruled by a British trading company: the East India Company

Trading Posts

The **East India Company** was set up by British **merchants** in 1600 to trade for **jewels**, **tea**, and **cotton**.

The **East India Company** set up **trading posts** on the coast of **India**.

Sepoys

The **Company** recruited **sepoys** - Indians **mercenaries** - to protect their **trading posts**

The **sepoys** were led by British officers. **Robert Clive** led the **Company's Bengal Army**

Company Rule

In 1757 **Clive** defeated the **Nawab of Bengal** in the **Battle of Plassey**.

This began the period of **Company Rule**: the **East India Company** was not just trading but actually *ruling* large parts of India.

Clive became the **Governor of Bengal**. He added to his income by collecting **taxes** and taking **loot**.

1.3 Causes of rebellion in 1857

The rebellion of 1857 was caused by a combination of long term grievances and a short term trigger

Annexation

- In the 19th Century, the **East India Company** continued to expand its territory
- The Company **annexed** Indian **provinces** such as the **Punjab** (1848) and **Awadh** (1856)

Company Rule

- Many Indians felt that the Company was asking them to pay too much **tax**
- During the **1770 Bengal Famine**, 10 million Indians died. This proved to many Indians that the **East India Company** was more interested in **profit** than ruling India well.
- **Hindus** and **Muslims** were worried that British **missionaries** were trying to stop traditional religious practices, such as **Sati**

Enfield Rifles

- In 1857 the **East India Company's** armies issued the **sepoys** with new **Enfield Rifles**
- To load the new rifles, sepoys had to bite a **cartridge** greased with pig and cow fat
- **Hindu sepoys** considered cows to be holy animals and refused to use the new rifles; **Muslim sepoys** also refused as the **Qu'ran** forbid them from eating pork
- When **East India Company** commanders threatened to punish any **sepoys** who would not use the new rifles, the **sepoys mutinied**

Y8 History Knowledge Organiser: India and 1857

2.1 Events of the rebellion

Although the rebellion began as a sepoy mutiny, it quickly spread to other parts of the Indian population, though some Indians remained loyal

Mutiny at Meerut

- In April 1857, **sepoys** in **Meerut** were arrested for refusing to fire the **Enfield rifle**
- Other sepoys in **Meerut mutinied** and marched towards **Delhi**, the old Mughal capital
- The rebels were joined by Indian **civilians**
- Within a few months, the rebels controlled northern India and chose a **descendent** of the **Mughal emperors** as their leader

India Divided

- During 1857, the **Company** lost control of most of northern and central India
- However, some areas - such as **Madras** - did not experience **mutinies** or **rebellions**
- **Sikhs** from the province of **Punjab** remained **loyal** to the **Company** because they did not trust the mutinous sepoys who were mainly Hindus and Muslims

The Rani of Jhansi

- The **Rani** of **Jhansi**, a **province** in northern India, initially supported the **Company** and fought off attacks by **mutinous sepoys** who wanted to seize her **province**
- However, when British forces tried to seize **Jhansi** for themselves in 1858, she fought for the **independence** of her province before being killed in battle

End of the Rebellion

- By 1858, fresh soldiers arriving from **Britain** and **Punjabi Sikhs** had crushed the rebels
- The British **executed** anyone who they suspected of supporting the rebellion
- After the rebellion, the British government ended **Company Rule** and ran **India** itself

2.2 Interpreting 1857

In the years after 1857, people in Britain and India gave different names to the events of 1857

	THE SEPOY MUTINY	INDIAN WAR OF INDEPENDENCE
What did this name suggest?	British historians in the 19th Century called the rebellion **the sepoy mutiny** to suggest that only a small number of sepoys had rebelled	The Indian **nationalist** leader **Veer Savarkar** called the rebellion an **Indian War of Independence** to suggest that the rebels wanted freedom from British rule
Why did historians use this name?	• After 1858, India was ruled directly from London during the **British Raj** • Queen Victoria was named **Empress** and 1,000 British **civil servants** ruled over 200 million Indians • British historians suggested that the **rebellion** was just a minor disagreement with a small number of sepoys to **justify** continued British rule in India	• In the early 20th Century, a **nationalist** movement began to protest for Indian **independence** • From 1915, **Gandhi** led **peaceful protests** against the **British Raj** • **Nationalists** such as **Savarkar** suggested that 1857 was a war of independence because they wanted to **inspire** Indians to rebel against Britain again

VOCABULARY

Annex	To add (a territory to an empire)
Annexation	The process of adding a territory to an empire
British Raj	The period of direct British rule of India from 1858 to 1947
Cartridge	A gunpowder container
Civilian	A person not in the army
Company Rule	The period of the East India Company ruling parts of India from 1757 to 1857
Famine	A period of hunger and starvation caused by a lack of food
Independence	Being free from an empire
Inspire	Make someone want to do something
Justify	Make something seem right or reasonable
Mercenaries	Soldiers who fight for money
Missionaries	European Christians who tried to convert people to Christianity
Mutiny	A rebellion by soldiers or sailors against their commanders
Mutinous	An adjective describing soldiers or sailors who had rebelled against their commanders
Nationalist	Someone who supports the independence of a colony from an empire
Peaceful protest	A protest that uses non-violent methods
Punjab	A province in northwest India
Province	An area of India
Rani	A Hindu queen
Sati	Traditional Hindu practice of burning a widow with her dead husband
Sepoy	An India soldier who was paid to fight for the East India Company
Tolerant	Being happy to allow religious beliefs different to your own
Trading Post	A coastal settlement to allow ships to land to import and export goods

PCSHE – Year 8 Term 2 – Identity and Relationships

KPI1: Key Terms

- **Consent**: Consent is a person's permission or agreement by choice to anything that informs them. Consent must be freely given, it is reversible, it must be informed, enthusiastic and very specific.
- **Underage**: Under the age of 16.
- **Age of consent**: The age where someone can legally agree to taking part in sexual activity. In the UK the age of consent is 16.
- **Legislation**: the law
- **Prosecuted**: to bring legal action against a crime or punishment of a crime for the breaking of a law.
- **Contraception**: Birth control, also known as contraception, is the use of methods or devices used to prevent unintended pregnancy.
- **Gender Identity**: Gender Identity is an individual person's sense of their gender; it is how they experience, feel, view and label it. It is unique to each person and is separate from the sex they were registered with at birth, although someone's gender identity may align with this.
- **Sexual Orientation**: Sexual Orientation relates to romantic attraction. Examples of sexual orientation can include:
- **LGBTQA+**: The letters stand for: lesbian, gay, bisexual, transgender, queer/questioning, asexual, and many other terms that people may use to define their sexual attraction or gender identity.
- **Cisgender**: Someone whose gender identity is the same as their birth sex.
- **Transgender**: Someone whose gender identity is the different to their birth sex.

KPI2 – What is consent?

Consent is a person's permission or agreement by choice to anything that informs them. For example, their body, personal space, time, money and belongings.

We all have the right to be asked for consent in situations that involve us, and the responsibility to ask others for consent in situations that involve them. Consent is important because it gives people **choice** and **control** over decisions that affect them.

Consent is:

- Freely given. It's not okay to pressure, trick, or threaten someone into saying yes.
- Reversible. It's okay to say yes and then change your mind — at any time!
- Informed. You can only consent to something if you have all the facts.
- Enthusiastic. You should do stuff you WANT to do, not things people expect you to do. If someone doesn't seem enthusiastic stop and check in.
- Specific. Saying yes to one thing (like going to the bedroom to make out) doesn't mean you're saying yes to other things (like having sex).

Consent cannot be given when:

- When a person is drunk or high, to the point that they are unable to speak or look after themselves.
- Asleep or Passed Out – if they are not conscious they are unable to agree to any sexual activity. If someone passes out whilst engaging in sexual activity – STOP!
- They are Underage – Legally a person under the age of 16 cannot give consent to any sexual activity.
- Mental disability or learning difficulties which mean they are unable to fully understand what they are consenting to.

KPI3 – Consent and the Law

In the UK, the age of consent is 16. This means that a person under the age of 16 cannot legally consent to sexual activity because they are seen as not having the capacity to do so. The law applies to everyone, regardless of gender or sexual orientation in England, Wales, Scotland and Northern Ireland.

The law is designed to protect young people from abuse, harm of being taken advantage of. If someone is under the age of 16 and decides to have sex anyway, it is still vital that they and their partner(s) are able to consent to sex in every other capacity.

According to the law, there are no circumstances in which someone under the age of 13 can consent to any sexual activity or act.

KPI4: Sexting

Sexting: Sexting is the sending or posting of nude or semi-nude images, videos or live streams online by young people under the age of 18. This could be via social media, gaming platforms, chat apps or forums. It could also involve sharing between devices via services like Apple's AirDrop which works offline.

What is the law about sexting?

In the UK the age of consent for sexual intercourse is 16. However, it is an offence to make, distribute, possess or show any indecent images of anyone aged under 18, even if the content was created with the consent of that young person. The law is contained in **Section 1 Protection of Children Act 1978**. 'Indecent' is not defined in law. When cases are prosecuted, the question of whether any photograph of a child is indecent is for a jury, magistrate or district judge to decide.
Indecent imagery does not always mean nudity.

Will I get in trouble?

You can get in trouble if you threaten to share a nude, even if you don't actually do it. Only the police can decide if they're going to charge you with an offence after sexting. But it's important to remember that the law is there to protect you, not get you into trouble.

PCSHE – Year 8 Term 2 – Identity and Relationships

KPI3 – Types of Contraception

Birth control, also known as contraception, is the use of methods or devices used to prevent unintended pregnancy.

Birth control	How to use	Prescription Needed	Protects against STIs
Oral Contraceptive	Take one pill every day as directed	Yes	No
Injection	Get injections every three months	Yes, injection given in health care providers office	No
Female condom	Insert every time before sex	No	Yes
Male condom	Partner must wear every time during sex	No	Yes

KPI5: Sexual Orientation and Gender Identity

Gender Identity:

Gender Identity is an individual person's sense of their gender; it is how they experience, feel, view and label it. It is unique to each person and is separate from the sex they were registered with at birth, although someone's gender identity may align with this.

Important definitions:

- **Biological Sex:** The physical anatomy and gendered hormones one is born with.
- **Cisgender:** A description for a person whose gender identity, gender expression and biological sex all align.
- **Gender Dysphoria:** where a person experiences distress due to a mismatch of their biological sex and their gender identity.
- **Intersex:** A person with a set of sexual anatomy that doesn't fit within the labels of female or male (e.g. XXY phenotype, uterus, and penis)
- **Transgender:** A person whose gender identity is the binary opposite of their biological sex, who may undergo medical treatments to change their biological sex.
- **Gender Identity:** A way to describe how you feel about your gender. You might identify your gender as a boy or a girl or something different. This is different from your sex, which is related to your physical body and biology.

People do not necessarily identify as only 'male' or 'female'. There are a number of different labels that people may use to describe their gender.

Sexual Orientation:

Sexual Orientation relates to romantic attraction. Examples of sexual orientation can include:

- **Asexual:** A person who generally does not experience sexual attraction to any group of people.
- **Bisexual:** A person who experiences sexual, physical and/or spiritual attraction to people of their own gender as well as another gender.
- **Heterosexual:** A person who is attracted to someone with the other gender.
- **Homosexual:** A person who is attracted to someone with the same gender.
- **Pansexual:** A person who experiences sexual, romantic, physical, and/or spiritual attraction for members of all gender identities/expressions.

KPI6 – Legal Changes that have affected LGBTQ+ people in the UK:

- 2000: Government lifts the ban on lesbians and gay men serving in the Armed Forces.
- 2001: Age of consent for gay/bi men is lowered to 16.
- 2002: Equal rights are granted to same-sex couples applying for adoption.
- 2003: Repeal of Section 28 - Section 28 was a law that made it illegal to talk positively about homosexuality in schools.
- 2003: A new law comes into force protecting LGBT people from discrimination at work. Until 2003 employers could discriminate against LGBT people by not hiring them or not promoting them, just because of their sexual orientation or gender identity.
- 2004: Civil Partnership Act is passed.
- 2004: Gender Recognition Act is passed - This Act allowed trans people to change their legal gender. This means that they can get a new birth certificate that reflects who they really are, which helps for future legal processes like marriage.
- 2007: It becomes illegal to discriminate against people because of their sexual orientation or gender identity when providing them with goods or services.
- 2008: The Criminal Justice and Immigration Act makes 'incitement to homophobic hatred' a crime.
- 2009: A new law gives better legal recognition to same-sex parents.
- 2013: The Marriage (Same-Sex Couples) Act is passed.

Where to get more help and support:

- Parents and trusted family members
- Teachers and School Staff including School Nurse and Safeguarding Team
- Your Doctor or Community Nurse
- NHS Online
- Young Stonewall: https://www.youngstonewall.org.uk/
- The Proud Trust – Local Support groups: https://www.theproudtrust.org
- Friends and Family of Lesbians and Gays: https://www.fflag.org.uk/
- www.healthforteens.co.uk
- www.brook.co.uk
- **NSPCC: Helpline: 0808 800 5000 (24 hours, every day)** nspcc.org.uk
- **Childline: Helpline: 0800 1111(24 hours, every day)** https://www.childline.org.uk

PCSHE – Year 8 Term 4 – Mental Health

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

KPI 3 – Digital Resilience

How does going online effect 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 0808 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 0808 802 0111 Monday to Friday, 9am to 9pm, or email contact@griefencounter.org.uk
- Hope Again – call 0808 808 1677 Monday to Friday, 9.30am to 5pm, or email hopeagain@cruse.org.uk
- Winston's Wish – call 0808 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: 0808 801060

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

KPI1: Key words:

- **Sustainable:** actions that meet the needs of the present without stopping future generations from meeting their own needs.
- **Social sustainability:** a process for creating sustainable successful places that promote wellbeing, by understanding what people need from the places they live and work.
- **The economy**: The state of a country or region in terms of the production and consumption of goods and services and the supply of money.
- **Economic sustainability:** refers to practices that support long-term economic growth.
- **Urban Planning:** Strategies that involve recommending locations for roads, schools and other infrastructure.
- **Unsustainable:** actions that cannot be maintained into the future.
- **Urban greening:** Planting more greenery around a city.
- **Megacity:** Cities with over 10 million people.
- **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
- **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
- **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

KPI1 – What makes an area sustainable?

For an area to be sustainable It has to include social, economic, political and environmental aspects. For example...

1. It has to be well run
2. It has to have lots of services
3. It has to be positive for the environment
4. It has to be fair for everyone.
5. It has to have a successful economy
6. It has to have well designed and well built homes.
7. It has to be active, inclusive and safe.

KPI2 – How can a city be environmentally sustainable?

Example: Curitiba – located in South East Brazil.

Rapid population growth caused problems such as

1. Mass unemployment
2. Traffic congestion
3. Lack of basic services

How is Curitiba environmentally sustainable now?

1. **Bus Rapid Transit System:** Roads with express lanes for buses, specially designed buses for quick boarding and cheap and uniform ticket prices have helped Curitiba maintain a quick, cheap and low-emission transit system.
2. **Green Space:** Since the 1970s, Curitiba has planted 1.5 million trees and built 28 public parks. To maintain the fields, the city uses sheep rather than mechanical means.
3. **Recycling:** Curitiba recycles around 70 percent of its waste thanks to a programme that allows for the exchange of bus tokens, notebooks and food in return for recycling.
4. **Education:** Curitiba houses the Free University for the Environment, which teaches them about sustainability. Signs and information panels provide citizens with information about the city's green design. Encouraging a culture of pride around sustainability and promoting knowledge helps to maintain the city's greenness

KPI3 – How can a city be socially sustainable?

Example: Gothenburg – located in South Sweden

How is Gothenburg socially sustainable?

1. Gothenburg has plenty of community facilities including health centres and schools.
2. Gothenburg has recreational spaces including Jubilee Park that acts as a gathering point for 15,000 people. It includes a swimming pool, sauna and roller derby area.
3. Gothenburg has tried to improve safety by using large concrete flower beds instead of concrete bollards.
4. Gothenburg is a walkable city with convenient transport, entertainment and public spaces.

KPI4 - How can a city be made economically sustainable?

Example: Stockholm – located in South Sweden

How is Stockholm economically sustainable?

1. **Public Transportation**: Stockholm's efficient public transportation system helps people get to work quickly and reliably. This boosts productivity and saves money.
2. **Modern Facilities**: The city has modern infrastructure, including well-maintained roads, bridges, and communication networks. This supports businesses and economic activities.
3. **Multiple Industries**: Stockholm's economy is not reliant on just one industry. It has a mix of technology companies, finance, manufacturing, and services. This makes the economy more stable and less vulnerable to changes in one sector.
4. **Startups and Tech Companies**: Stockholm is known for its innovation and is home to many successful startups and tech companies like Spotify and Klarna. These companies create jobs and drive economic growth.
5. **High-Quality Education**: Stockholm has excellent schools and universities that provide high-quality education. This ensures that people have the skills needed for good jobs and can contribute to the economy.
6. **Attractive Living Conditions**: Stockholm is a great place to live, with good healthcare, education, and recreational facilities. This attracts talented people and businesses to the city

KPI5 – Is Gloucester a sustainable city?

How has Gloucester become unsustainable?

1. Urban sprawl: The city has rapidly grown leading to a loss of green space. This has meant a loss of habitats. It has also increased car dependency.
2. Cars: An increased reliance on cars has meant more air pollution and traffic congestion
3. Housing demand: A growing population has meant that there isn't enough housing for everyone. This has led to an increase in property prices and rent prices. It has made Gloucester increasingly unaffordable.

How has Gloucester become sustainable?

1. Urban greening: More greenery has been planted around the city. This has improved air quality in some places and improved quality of life.
2. Segregated cycle lanes: Cycle lanes in some areas are now separate from the roads, increasing safety and allowing more people to exercise.
3. Habitats: Gloucester has created more habitats for species such as the Great Crested Newt population.

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

KPI 6: How do cities grow?

There are two main reasons why cities are getting bigger:

1. Rural-urban migration: The movement of people from the countryside into towns and cities.
2. Natural Increase: Where the birth rate is higher than the death rate.

As population grows, megacities are created.

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

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 is becomes less dense.

1. **CBD** – core of the city. Contains shops, offices and entertainment. Few residential. High buildings.
2. **Inner City** – Mixed land use of small industries, small houses and offices.
3. **Inner Suburbs** – Housing dates 80 – 100 yrs. Terraced houses with back yards.
4. **Outer Suburbs** – Semi-detached houses 1930+ Council houses. Shopping parades. Out-of-town shops.
5. **Rural/urban fringe** – Green belt around urban areas. Beyond it, small towns and villages. High cost housing.

There are limitations to this model such as:

1. Outdated and was created before car ownership was common.
2. Development of UK cities is different and not every city has developed in the same way.
3. Over time, cities have evolved and many of the previously suggested land use in the different sectors has now changed.

KPI 7: Is Tokyo manageable as a megacity?

What has bought people to Tokyo?

1. Few services in rural areas.
2. Better transport links in urban areas.
3. Improved living conditions in urban areas.
4. More entertainment opportunities in urban areas
5. Lack of job opportunities in rural areas.

These can be sorted into push and pull factors.

1. Push factors: Negative reasons to leave their homes and migrate.
2. Pull factors: Positive reasons which draw people to they places they migrate to.

What are the opportunities in Tokyo due to the growing population?

1. Tokyo is home to many international companies and businesses, offering a wide range of job opportunities in sectors like finance, technology, and manufacturing.
2. Tokyo is a major global city, meaning it has strong connections with other countries, which brings in diverse cultures, foods, and languages.
3. There are many prestigious universities and schools in Tokyo, providing excellent education and learning
4. Tokyo has one of the best public transportation systems in the world, including subways, buses, and trains that make it easy to travel around the city.

What are the challenges in Tokyo due to the growing population?

1. There is a major strain on housing with more than 20,000 people per km2.
2. There is increasing demand on Tokyo's water supply.
3. Despite its wealth, there are significant differences in income and living conditions among Tokyo's residents. Some people live in luxury, while others struggle to afford basic necessities.
4. The city has issues with air pollution due to traffic and industrial activities.

KPI 8: 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 9: Is the rural area of Ceredigion sustainable?

Ceredigion is located in West Wales.

As of 2021, Ceredigion is the second least densely populated of Wales' 22 local authority areas, with an area equivalent to around four football pitches per resident.

It's declining population has led to impacts such as:

- Fewer young people in the area means that there are fewer people working.
- Population decline means that local businesses have less people relying on them.
- Schools and healthcare facilities are closing due to population decline.
- There are more cuts in public transport due to fewer people in the area.
- There is an ageing population in the area.
- There is an increase in empty properties.

Year 8 Topic 4 – Is the geography of Russia a curse or a benefit?

KPI1: Key Words

1. **Abiotic:** Non-living
2. **Adaptation:** the process of change by which an animal becomes better suited to its environment.
3. **Abundance**: a lot of
4. **Arctic circle**: One of the two polar circles, and the most northerly of the five major circles of latitude as shown on maps of Earth
5. **Biomes**: a large naturally occurring community of flora (plants) and fauna (animals) occupying (living in) a major habitat
6. **Biotic:** Living
7. **Choropleth map**: a map that presents data using shading or colours
8. **Climate Graph**: A graph that presents data on the temperature and rainfall for a particular area throughout the year.
9. **Coniferous woodland**: Trees that produce cones, and have leaves that do not fall off in the winter.
10. **Continental climate**: A climate that has hot summers, cold winters, and little rainfall, typical of the interior (inside) of a continent.
11. **Deciduous woodland**: Trees that lose their leaves during winter.
12. **Densely populated**: a lot of people per km2
13. **Ecosystem:** An environment containing a community of interdependent plants and animals (plants and animals that rely on each other).
14. **Environmental pressure groups**: groups of people who share a common interest and try to influence the decisions made by businesses, organisations or governments
15. **Exclusive economic zone**: an area of coastal water and seabed within a certain distance of a country's coastline, to which the country claims exclusive rights for fishing, drilling, and other economic activities.
16. **Exports:** Goods sent to other countries.
17. **Indigenous**: Originating in a place
18. **Migration**: Movement of people
19. **Peninsular**: a piece of land almost surrounded by water or projecting (sticking out) into a body of water.
20. **Permafrost**: a thick subsurface layer of soil (a layer of soil just below the surface) that remains below freezing point throughout the year
21. **Plain**: a landmass (area) that is flat or gently rolling and covers many km
22. **Population density**: the number of individuals divided by the size of the area.
23. **Precipitation**: rainfall
24. Raw Materials: the basic material from which a product is made.
25. **Resource**: a stock or supply of money, materials, staff, and other assets that can be drawn on by a person or organization in order to function effectively.
26. **Self-sufficient**: needing no outside help
27. **Sparsely populated**: Very few people live in an area

KPI2: What is an ecosystem?

An **ecosystem** is 'an environment containing a community of interdependent plants and animals'.

It is made up of 2 parts: Living (**biotic**) factors and Non-living (**abiotic**) factors

An **ecosystem** is made up of different parts including...

- A food chain shows which what eats what or the transfer of energy between different organisms.
- A producer is a plant that gets its energy from the sun.
- A primary consumer is an organism that eats the producer.
- A secondary consumer is an organism that eats the primary consumer.
- A decomposer is an organism that eats dead or decaying matter and returns nutrients back to the soil.
- A food web is shows all the connections in an ecosystem.

KPI3: Where is Russia located?

In the continents of Asia and Europe. Surrounded by 14 countries including Mongolia, Kazakhstan, Ukraine, Belarus, Finland. It is surrounded by the Arctic Ocean and the Pacific Ocean.

KPI4: What is the climate of Russia?

Most of Russia experiences a **continental climate** – characterised by two main seasons: long dark cold winters with brief, often warm summers. Precipitation is low throughout the years.

Climate Graphs

Climate can be displayed on a graph. A climate graph contains two pieces of information, the **precipitation** and the temperature of an area. The temperature is shown as a line, and the rain is displayed as bars. The figures are usually calculated as an average over a number of years.

KPI5: What biomes exist in Russia?

Most of Russia is dominated by the taiga and tundra **biome**.

*Taiga **Biome**:*

- Characterised by **coniferous** forests – consists mainly of pines, spruces and larches.
- Largest biome in Russia.
- Contains more than 55% of the world's conifers.

Adaptations in the taiga biome

- Evergreen, no need to renew leaves during the short growing season
- Thick resinous (contains resin) bark acts as protection against the cold winds
- Cones protect seeds in winter loss
- Long shallow roots for anchorage (a means of securing) against strong winds
- Trees have long thin needles which reduce moisture loss

Tundra biome:

- Coldest of all the **biomes**.
- The Siberian tundra is located in the north-eastern part of Russia between 60° to 80° North latitude and 70° to 80° East longitude.
- Winters are long and summers are short.
- Soils form very slowly in these cold conditions – much is frozen as permafrost.

Adaptations in the tundra biome:

- Plants of the Siberian tundra grow low to the ground to be protected from the wind and the cold.
- Plants group together to keep warm.
- Plant roots spread out on the surface to take in water.
- They don't grow deep roots because the soil is always freezing and thawing which would break up

Year 8 Topic 4 – Is the geography of Russia a curse or a benefit?

KPI6: How have animals adapted to cold environments?

Adaptation: the process of change by which an animal becomes better suited to its environment.

Polar Bear has adapted by:

- A white appearance - as camouflage from prey on the snow and ice
- Thick layers of fat and fur - for insulation against the cold
- Large feet - to distribute their load and increase grip on the ice
- A greasy coat that sheds water after swimming - to help reduce heat loss
- A small surface area to volume ratio - to minimise heat loss

Arctic Hares have adapted by:

- Arctic hares have a very keen sense of smell that allows them to find food hidden beneath the snow and detect predators before they strike.
- It's ability to dig holes beneath the snow to escape the cold wind
- During winter, the coats are snow white and provide excellent camouflage, but towards spring, the color changes to blue-gray to match vegetation and local rocks.
- The paws of the Arctic hare are padded with the fur to help the animal spread weight while walking on snow and provide insulation from icy surfaces.
- The broad paw also provides a better grip on slippery surfaces, especially when running from predators

KPI7: Where do people live in Russia?

Russia is the largest country in the world by area, but it is ranked 9th largest worldwide for population.

*How to calculate **population density**:*

Population density is calculated like this:

$$\frac{\text{Total population}}{\text{Area}}$$

The total population of Russia is 144,000,000 people. The area is 17,098,246km²

$$\frac{144{,}000{,}000}{17{,}098{,}246} = 8.4 \text{ people per km}^2$$

So in each km² in Russia there are 8.4 people.

Places that are crowded are called **densely populated** areas. Places that only have a few people living there are **sparsely populated** areas.

*Reasons for **population density**:*

A place is **densely populated** if:

- Rich soils for farming
- Good communication options such as ports
- Temperate weather conditions

A place is **sparsely populated** if

- There are difficult landscapes such as mountains or deserts
- Harsh climates
- Risk of floods or earthquakes

77% of Russia's population live in the European part of the country, west of the Ural Mountains.

KPI8: How have humans adapted to cold environments?

Humans have **adapted** to the following conditions by:

Extreme temperatures:

- People dress warmly and this can make outdoor work very slow and difficult.
- Steep roofs – to stop snow from gathering on the roof and risk collapsing in on the house.
- Triple glazing – to ensure heat is not lost through the windows
- Fuel supply – it is important to keep the houses warm in the extremely low temperatures and make sure you have a supply of fuel in case your house is cut off
- Stilts – to stop your house from flooding when the now melts in the summer
- Small windows – these would reduce heat loss
- Overground pipes to prevent them from thawing the permafrost and allow easy maintenance.

KPI5: Does the geography help or hinder the Russian economy?

The geography of Russia helps the economy because:

- Russia has an **abundance** of natural resources.
- It provides 20% of the world's natural gas and is the world's leading producer of oil.
- Russia is **self-sufficient** in all major industrial raw materials and contains the 8th largest crude oil reserves
- Russia **exports** steel and aluminium
- 20% of the world's forests lie in Russia, supply the world's timber.

The geography of Russia hinders the economy because:

- It is a vast country so transport across the country is a problem (much of the natural resources are in Siberia and the north)
- Many of the roads are in poor condition because of the constant maintenance needed due to damage from the extreme cold (-35°C)
- Russia depends on railways including the world longest railway line, but this railways line does not extend to the north where many of the resources are.

KPI7: Why did Russia plant their flag on the seabed of the North Pole?

In 2007, Russian explorers carried out scientific research on the ocean floor near the North Pole. Two submarines planted a metre-high titanium Russia flag to claim this land as their own.

What is the Arctic like?

The Arctic is a region surrounding the North Pole that consists of the Arctic Ocean, surrounded by land.

Who owns the Arctic?

International law states that Arctic countries are allowed an **exclusive economic zone (EEZ)** of 200 miles bordering their coastline. Countries can apply to the United Nations to extend this zone and 'own' the land but they must have geological data to support the claim that this area of land is part of their continental shelf. If successful, then that country can control all the resources on or under the region of the continental shelf.

What is the environmental impact?

Environmental groups such as Greenpeace are concerned about the potential economic damage these economic developments will have on the environment. For example, Arctic oil drilling is high risk. Russia produces 12% of the world's oil but is responsible for 50% of the world's oil spills.

What is the impact for local people?

The **indigenous** population of the Arctic (the Nenets) live in the Yamal Peninsular. The Nenets have always moved seasonally with the reindeer but now their migration routes are affected by oil and gas pipelines.

Year 8 Spanish Module 4 – Shopping and Music

1	Normally I go shopping	Normalmente voy de compras
2	in second hand shops because is fashion	en tiendas de segunda mano
3	From time to time I go shopping	De vez en cuando voy de compras
4	to designer shops	A las tiendas de diseño
5	because there are lots of sizes	Porque hay muchas tallas
6	Often I buy a dress	A menudo compro un vestido
7	Usually I buy a present	Generalmente compro un regalo
8	Recently I bought a new hat	Recientemente compré un sombrero nuevo
9	I bought a blue T-shirt	Compré una camiseta azul
10	I bought a magazine	compré una revista
11	I am going to buy a bottle of water	Voy a comprar una botella de agua
12	Tomorrow I am going to buy a box of chocolate	Mañana voy a comprar una caja de chocolates
13	I am going to pay by card	Voy a pagar con tarjeta
14	I am going to pay by cash	Voy a pagar en efectivo

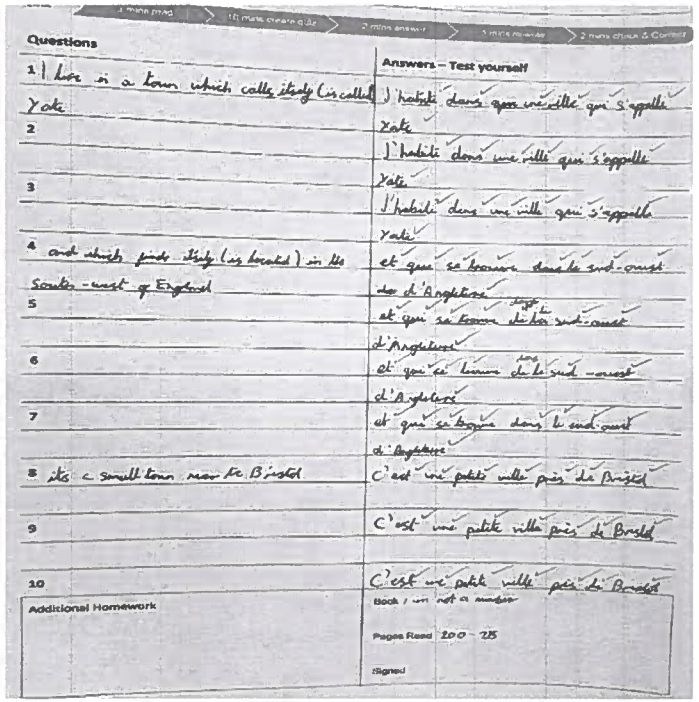
Year 8 Spanish Module 4 – Shopping and Music

15	I always listen to pop music	Siempre escucho la música pop
16	my best friend listens to latin music	Mi mejor amigo/a escucha música latina
17	Because my mum loves their songs	Porque a mi madre le encanta sus canciones
18	Last year I went to a music festival	El año pasado fui a un festival de música
19	The first day we danced	El primer día bailamos
20	Lo mejor fue cuando	The best thing was when

MFL key classroom language:

Key Word	Student-friendly definition	Example
Infinitive	In English it is always accompanied by the word **"TO"**. In Spanish, it always finishes in **"R" (-ar/-er/-ir)** E.g: **to** play, **to** do, **to** go, **to** visit. jugar/ hacer / ir / visitar	An opinion is always followed by an infinitive: <u>Me gusta</u> jugar/ hacer/ comprar I like **to play/to do/to buy** After suelo/solía, you always need an infinitive: <u>suelo</u> ver /jugar/descansar I tend **to watch/to play/to rest**
Cognate	A word that is similar in spelling and meaning in two languages,	This word is a cognate, what do you think it means? e.g. ciclismo = cycling
Connectives	A word that links two sentences or ideas together, e.g. y/por otro lado	What connective can we use to link these two sentences ? • Me gusta la historia **(pero)** odio el ingles • I like history **but** I hate English
Intensifiers	A word that strengthens the meaning of other expressions and shows emphasis, e.g. muy/bastante	Every time you write an adjective, make sure you use an intensifier before it. • Creo que las ciencias son **muy** interesantes • I think science is **very** interesting

Example of a French/Spanish LSQ:



Year 8 French Term 2 Shopping and Music

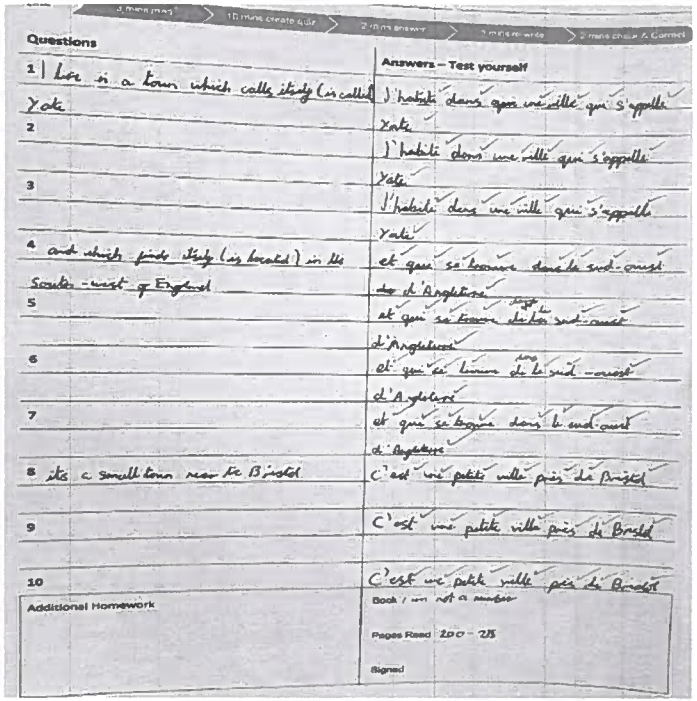
1	Normally I go shopping	Normalement je fais du shopping
2	online and to the shopping centre	en ligne et au centre commercial
3	From time to time I go shopping	De temps en temps je fais du shopping
4	to designer shops	aux magasins de mode
5	because there are more sizes	car il y a plus de tailles
6	Often I buy a dress	Souvent j'achète une robe
7	Usually I buy a present	Généralement j'achète un cadeau
8	Recently I bought a black hat	Récemment j'ai acheté un chapeau noir
9	I bought a blue T-shirt	J'ai acheté une chemise bleue
10	I bought designer clothes	J'ai acheté des vêtements de marque
11	I am going to buy rice	Je vais acheter du riz
12	Tomorrow I am going to buy ice-cream	Demain je vais acheter de la glace
13	I am going to pay by card	Je vais payer par carte
14	I am going to pay by cash	Je vais payer en monnaie
15	I always listen to pop music	J'écoute toujours de la musique pop

Year 8 French Term 2 Shopping and Music

16	My best friend listens to electronic music	Mon meilleur ami écoute de la musique électronique
17	My mom listens to a singer called…	Ma mère écoute le chanteur qui s'appelle
18	Last year I went to a music festival	L'année dernière je suis allé(e) au festival de musique
19	The first day we danced and we sang	Le premier jour on a dansé et on a chanté
20	How lucky	Quelle chance!

MFL key classroom language:

Key Word	Definition	Example
Infinitive	In English it is always accompanied by the word **"TO"**. In French, it always ends in **ER/IR/RE** E.g: **to** play, **to** do, **to** go, **to** go out. jouer / faire / sortir	An opinion is always followed by an infinitive: J'aime jouer/ faire/ acheter I like **to play/to do/to buy**
Cognate	A word that is similar in spelling and meaning in two languages	This word is a cognate, what do you think it means? e.g. télé-réalité = TV reality
Connectives	A word that links two sentences or ideas together, e.g. et / cependant	What connective can we use to link these two sentences ? • j'aime l'histoire **(mais)** je déteste l'anglais • I like history **but** I hate English
Intensifiers	A word that strengthens the meaning of other expressions, e.g. très/assez	Je pense que le sport est **très** important



Year 9 Term 2 French – Mon clan, mon tribu

1	**Je m'habille** à huit heures et demie	**I get dressed** at 8.30am
2	**Je prends** le petit déjeuner à neuf heures	**I have** breakfast at 9am
3	Dans ma famille **il y a** quatre personnes	In my family **there are** 4 people
4	**Je m'entends** bien avec ma soeur	**I get on** well with my sister
5	Car **elle est** vraiment fidele	Because **she is** really loyal
6	Mais **je me dispute** avec mon frère	But **I argue** with my brother
7	Parce qu' **il est** agaçant	Because **he is** annoying
8	Mes parents **sont** fiers de moi	My parents **are** proud of me
9	**Il est** important d'**avoir** un ami proche	**It is** important **to have** a close friend
10	**Mes amis portent** des chaussures bleues	**My friends wear** blue shoes
11	**I get up** early, at 8 o'clock.	**Je me lève** tôt, à huit heures.
12	On Sunday **the family relaxes** together.	Le dimanche **la famille se repose** ensemble.

13	**I don't get on well** with my old friends.	**Je ne m'entends pas bien** avec mes vieux amis.
14	A good **friend listens** to my problems.	Un bon **ami écoute** mes problèmes.
15	**She is** quite tall, like her mother.	**Elle est** assez grande, comme sa mère.
16	In the photo **there is** a man and a woman.	Sur la photo **il y a** un homme et une femme.
17	**I follow her** because she fights against cyber bullying.	**Je la suis** car elle lutte contre le cyber-harcèlement.
18	**He was born** in the south-west of France.	**Il est né** dans le sud-ouest de la France.
19	Today **is** my sister's birthday.	Aujourd'hui **c'est** l'anniversaire de ma sœur.
20	**I am going to dance** and **to celebrate**.	**Je vais danser** et **fêter**.

Show off language

Opinion Phrases

j'estime que – I think that
ce que j'aime le plus est- What I like the most is
ça me plait parce que- I like it because
j'ai peur de (voler)- I'm scared of (flying)
c'est meilleur que- it's better than
c'est pire que- it's worse than
j'ai toujours rêvé de (+ infinitive)- I've always dreamed of

Infinitive Phrases

on peut + infinitive – you can
pour + infinitive – In order (to)
je préfère + infinitive – I prefer (to)
je dois + infinitive- I must
il faut + infinitive- I/We have to

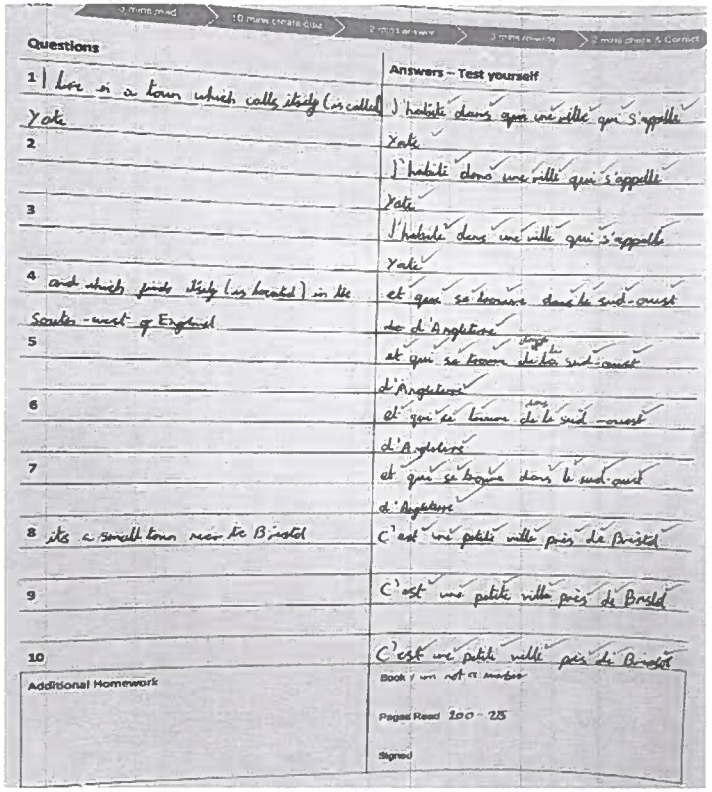
je voudrais + infinitive – I would like (to)
j'aimerais bien + infinitive – I would really like (to)
ce serait bien de + infinitive – It would be good (to)

Connectives

parce que/car/puisque- because
pourtant/cependant- however
donc – therefore
par exemple- for example
y compris- including

après avoir fait cela- After having done that

Example of what an LSQ in MFL Should look like:



Questions	Answers – Test yourself
1 I live in a town which calls itself (is called) Yate	J'habite dans une ville qui s'appelle Yate
2	J'habite dans une ville qui s'appelle Yate
3	J'habite dans une ville qui s'appelle Yate
4 and which finds itself (is located) in the South-west of England	et qui se trouve dans le sud-ouest de d'Angleterre
5	et qui se trouve dans le sud-ouest d'Angleterre
6	et qui se trouve dans le sud-ouest d'Angleterre
7	et qui se trouve dans le sud-ouest d'Angleterre
8 its a small town near to 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 / on not to mark Pages Read 200 - 225 Signed

ART Year 8 - Term 2 - Cultures Project/ Places & Spaces

Formal Elements

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 off 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.

Poly-Tile Printing

Poly (Polystyrene) Tile
Versatile plastic sheets

Type of print
Relief Printing (printing from a raised image)

Technique
Carving/cutting into a surface.
Carved/cut areas remain untouched by ink, only recessed area transfers colour.

Keywords

Clay
A stiff, sticky fine-grained earth that can be moulded when wet.

Kiln
a furnace or oven used to fire pottery Ceramic made of clay and permanently hardened by heat.

Glaze
a substance used to add colour, decorate or waterproof a piece of ceramic work.

Slip
Watered down clay which is used as a type of glue to stick one piece of clay to another.

Carving
A shape or pattern cut into a specific material.

Layering
Laying one material on top of another (building up)

Proportion
The size and relation of objects to one another. Using the grid-method is one way of helping you draw using accurate proportions.

Aboriginal Art

Aborigines
Indigenous peoples, ethnic groups who are the original or earliest known inhabitants of an area (Australia)

Time
First Aboriginal Rock Painting dates back to 1620 but only developed in 1971 as Dot paintings.

Country (origin)
Australia

Technique/Style
The 'Dot' is used to hide secret messages.

Intentions
Originally, artists used circles and dots to disguise sacred meanings and messages especially from the Western countries, e.g. America, Great Britain etc.

Key Artist
Sarita King

Artist Influence
Aboriginal dotting technique and changing climate of Australia e.g. lightning, thunderstorms, deserts, wild fires etc.

Colour Theory

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.

More Keywords:

Bisque Ware
Fired clay that is ready to be glazed.

Rolling Guides
Wood slats used when rolling clay to give it an even thickness.

Ceramics
Any artwork produced using clay.

Composition
This is where you place objects on a page. You can explore different layouts such as close up, far away, busy, quiet, off centred, clustered.

Composition Examples:

Foreground = closest thing to a viewer
Midground = section in between the fore- and background.
Background = the furthest thing in the distance to a viewer.

Fore-, mid- and background are compositional techniques which help to create distance in a landscape.

Cropped = a picture doesn't appear fully as the edges look like they have been cut off.

Zoomed in = object is close up and therefore you may only see parts of it.

Places & Objects - Tips, Tools & Techniques

Types of Perspective
The difference between one- and two-point perspectives is the number of vanishing points on the horizon line. A vanishing point is a spot on the horizon where all receding parallel lines appear to meet or disappear

A bird's-eye view is an elevated view of an object from above, with a perspective as though the observer were a bird, often used in the making of blueprints, floor plans, and maps. It can be an aerial photograph, but also a drawing.

Grid-Method
A method of drawing to recreate, enlarge or reduce an image ensuring accurate proportions.

Mono-Printing
A form of printmaking that has lines or images that can only be made once.

Places & Objects Keywords & Concepts

Architecture
Architecture is both the process and product of planning, designing and construction. For this project we will be focusing on buildings from our local area, as well as looking at some historic or contemporary buildings around the world.

Composition
This is where you place objects on a page. You can explore different layouts such as close up, far away, busy, quiet, off centred, clustered.

Watercolour Wash
Diluting watercolours by adding more water to make them lighter.

Key Artists - Places & Spaces

Thomas Denny (born 1956)
Kevin Atherton (born 1950)
Damien Hirst (born 1965)
Anne Desmet (born 1964)

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. Other: Pets, Dirt, Birds, Vermin (mice/rats), Insects, bacteria from raw meat and seafood.
Bacteria needs:	Heat, Moisture, Time and Food to grow/survive.
Chopping Boards	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.

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.

Year 8 - Food Technology - Vitamins and Minerals

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 Conduction Heat** – to transfer heat to cook food through either air or water **Oven Convection Heat** - to transfer heat to cook food through a solid **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). **Emulsification** - to combine and stabilise two ingredients together that would usually split apart - oil/egg yolk **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 carbohydrate foods. It is made up of many sugar molecules. **Amino Acids** - Protein is made up of building blocks - 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.

Year 8 Unit 1 Introduction to python

Keywords	**Programming language**	A programming language is designed to communicate instructions to a computer
	Interactive mode	A mode of operation where the user can input commands one at a time
	Script mode	when a complete program is executed
	Input	In python the input statement is used to enable the user to input data into the program
	Print	In python the print statement is used when the computer wants to output a message to the screen
	Variable	A device used to store data while a program is running
	Comment	Text added to a program that helps programmers understand the purpose of the code.
	If statement	An if statement is a statement used to check a condition, and execute certain code if the condition holds true.
	If Else statement	If the condition is true, the if block code is executed and if the condition is false, the else block code is executed.
	Elif statement	An elif statement is used where there are more than two possible outcomes from a decision. Each condition will execute a different piece of code if it is true.
	Comparison Operator	Comparison operators can compare numbers or strings and perform evaluations. Examples include =, >, <.
	Indentation	After an IF statement the code that is to be executed if the IF statement is True will be indented from the side of the screen.
	Concatenation	In python, string concatenation is the operation of joining character strings end-to-end. For example, the concatenation of "snow" and "ball" is "snowball".
	Data types	Data can be described in various ways, examples include float (real numbers), integers, string (text)or boolean (True / False)
	Syntax error	Syntax errors are where the code you have written has a mistake against the rules of the language
	Run time error	Run-time errors occur whilst the program is running
	Logic error	Some programs run perfectly but they don't work as the programmer intended

Lesson 1

What is Python?

Python is a high-level programming language. **Be able to program a sequence in Python including:**

What is interactive mode?

Interactive mode is a command line shell which gives immediate feedback for each statement as it is executed.

What is script mode?

Python script mode refers to writing and saving Python code in a .py file, which can then be executed as a whole using the Python interpreter.

Describe the use of input and print functions.

The input() function allows a program to receive data from the user, through the keyboard, while the print() function displays output to the console.

What is a syntax error?

A syntax error is a mistake in the way code is written, violating the rules of a programming language. Similar to SPAG errors in English.

What is a variable?

A variable is a placeholder for information you want Python to recall later in the coding process when you need to complete an action.

	Describe the purpose of a comment. The purpose of a comment is to explain the code in a program, making it easier to understand, maintain, and debug,.
Lesson 2	**What are the basic data types in python?** Float, Int, string, bool
Lesson 3	**What is a selection statement?** A selection statement, also known as a conditional statement, is a programming construct that allows a program to execute different blocks of code based on whether a certain condition is true or false.
Lesson 4	**What is an algorithm?** An algorithm is a step by step set of instructions for solving a problem. **What is pseudocode?** Pseudocode is an informal language used to describe the steps of algorithms
Lesson 5	**What is a while loop?** A "While" Loop is used to repeat a specific block of code an unknown number of times, until a condition is met. **Describe the use of the random module.** The random module will generate random numbers that can be used in a program.
Lesson 6	**What is a Linear search?** A linear search checks each item one by one **Binary search** 1. First the items must be in numerical or alphabetical order. 2. The target is compared with the middle item. If the target is the middle item the search ends. 3. If the middle item is smaller than the target then the first half of the list can be discarded as they are all smaller than the target. 4. If the middle item is bigger than the target then the second half of the list can be discarded. 5. Repeat steps 2 -4 until the target item is found.

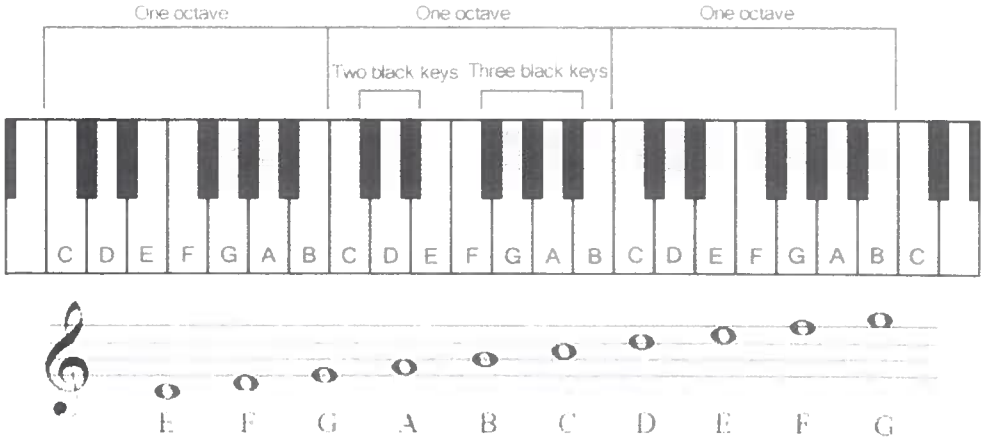
MUSIC - The Elements of Music

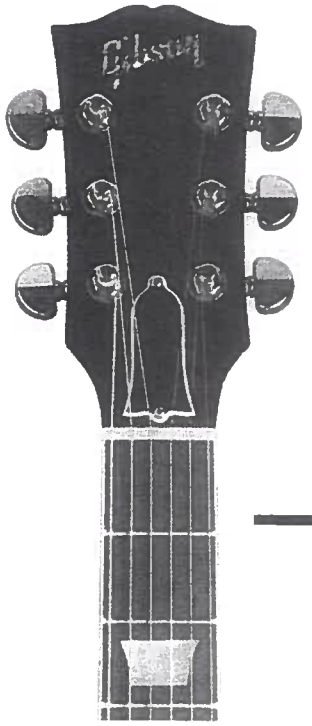
Key Terminology

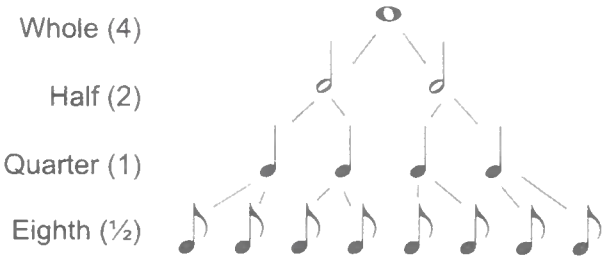
Conductor - A person who directs the performance.
Note - A singular sound.
Chord - A group of three or more notes played at the same time.
Harmony - Different notes played or sung together.
Melody - A small arrangement of notes that make a tune.
Scale - A series of eight notes starting somewhere between 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.

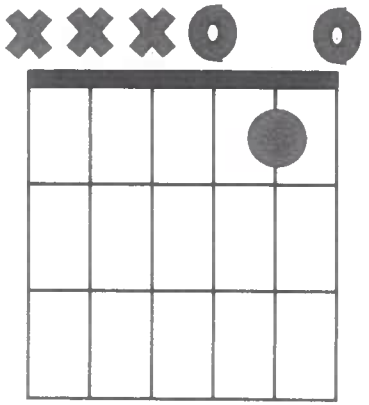
Feedback Starters

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









DRAMA year 8 - Romeo and Juliet

PLOT

Act 1 - In Italy two noble families, the Montagues and Capulets, have much bad blood between them. Romeo, son of old Montague, is in love with Rosaline, who disdains his love. As a result, Romeo is depressed. To cure him of his love, his friend Benvolio induces him to attend a masked ball at the Capulets, where he could encounter other beauties and forget Rosaline. At the ball, Romeo is attracted by a girl who he learns is Juliet, daughter of the Capulets. They seal their love with a kiss.

Act 2 - Romeo lingers in Capulet's garden, standing in the orchard beneath Juliet's balcony. He sees Juliet leaning over the railing, hears her calling out his name, and wishes that he were not a Montague. He reveals his presence, and they resolve, after an ardent love scene, to be married secretly.

Act 3 - Tybalt encounters Romeo returning from Friar Lawrence's cell. Romeo, softened by his newfound love and his marriage to Juliet, refuses to be drawn into a quarrel with Tybalt, now his kinsman by marriage. Mercutio grapples with Tybalt and is killed. Aroused to fury by the death of his friend, Romeo fights with Tybalt and kills him and takes shelter in the Friar's cell.

Act 4 - In despair, Juliet seeks Friar Lawrence's advice. He gives her a sleeping potion, which for a time will cause her to appear dead. Thus, on the day of her supposed marriage to Paris, she will be carried to the family vault. By the time she awakens, Romeo will be summoned to the vault and take her away to Mantua.

Act 5 - The Friar's letter fails to reach Romeo. When he hears of Juliet's death Romeo procures a deadly poison from an apothecary and secretly returns to Verona to say his last farewell to his deceased wife and die by her side. At Juliet's side, Romeo drinks the poison and dies. When Juliet awakens from her deep sleep, she realises Romeo's error and kills herself with his dagger.The Capulets and Montague decide to reconcile as a result of the deaths of their children.

CHARACTERS

Romeo Montague - Intense, intelligent, quick witted, and loved by his friends.

Juliet Capulet - Naïve and sheltered at the beginning, develops into a woman with strength. Grounded.

Mercutio - Romeo's close friend. Wild, playful and sarcastic

Tybalt - Juliet's cousin. A hothead consumed by issues of family honour. Hates the Montagues.

Benvolio - Romeo's cousin, less quick witted than Romeo and Mercutio, tries to keep the peace.

Friar Laurence - A Franciscan monk and a friend to both Romeo and Juliet.

Nurse - Juliet's best friend and confidante, and in many ways is more her mother than Lady Capulet is.

Prince Escalus - Leader of Verona, concerned with keeping order between the warring families.

Paris - Nobleman given permission to woo Juliet initially, then to marry her after Tybalt's death. Killed by Romeo.

Lord Capulet - Patriarch of the Capulets, counterpart to Lord Montague. Arranges marriage for Juliet, quick to anger when disobeyed.

Lord Montague - Romeo's father, despises the Capulet family and would never approve of the union between the star crossed lovers.

Balthazar - Romeo's friend who delivers the news that Juliet has died.

THEMES AND CONTEXT

Love - The love Romeo and Juliet share *is* beautiful and passionate. It is pure, exhilarating, and transformative, and they are willing to give everything to it. But it is also chaotic and destructive, bringing death to friends, family, and to themselves. Alternative attitudes to love are offered through Mercutio's cynicism and innuendo, and the Nurse's often bawdy, physical references. Familial love can be explored, especially with Juliet's relationship to her parents.

Fate- No matter what the lovers do, what plans they make, or how much they love each other, their struggles against fate only help fulfill it. But defeating or escaping fate is not the point. No one escapes fate. It is Romeo and Juliet's determination to struggle against fate in order to be together, whether in life or death, that shows the fiery passion of their love, and which makes that love eternal.

Individuals v society- Because of their forbidden love, Romeo and Juliet are forced into conflict with the social world around them: family, friends, political authority, and even religion.

Violence / Conflict – The play opens in a violent street fashion. The blood feud between the two families features in the prologue. The romance between Romeo and Juliet brings many deaths until the eventual death of the two protagonists.

Language and word play- Romeo and Juliet constantly play with language. They pun, rhyme, and speak in double- entendres. All these word games may seem like mere fun, and they are fun. The characters that pun and play with language have fun doing it. But word play in *Romeo and Juliet* has a deeper purpose: rebellion. Romeo and Juliet play with language to escape the world.

SYMBOLISM AND KEY TERMS

Light and Dark/Night and Day - *Romeo and Juliet* is filled with imagery of light and dark. But while light is traditionally connected with "good" and dark with "evil," in *Romeo and Juliet* the relationship is more complex. Romeo and Juliet constantly see each other as forms of light. In the balcony scene, Romeo describes Juliet as the sun, while Juliet describes Romeo as stars. But the relationship between light and dark is complicated by the lover's need for the privacy of darkness in order to be together.

Prologue - an opening of a play that establishes context and gives background details.
Foreshadowing - a warning or indication of a future event.
Dramatic irony - originating from Greek tragedies, a technique whereby the audience is aware of a piece of information that is still unknown to the characters.
Monologue - a long speech by one actor
Soliloquy - the act of speaking one's thoughts aloud when by oneself regardless of who is listening, usually for the benefit of the audience (a Shakespearean version of thought tracking)
Direct address - when a character breaks the metaphorical fourth wall and speaks directly to the audience
Iambic Pentameter - a line of verse/poetry with 10 syllables whereby one short (unstressed) syllable is followed by a longer (stressed) syllable

All of the techniques listed above were prominent in almost all of Shakespeare's plays. They may seem completely normal in modern performances but at the time, Shakespeare was praised for the innovative ways of presenting a play in a way that engaged audiences of all classes. His plays were just as accessible to the poor as they were to the rich, which is another reason why his work has aged well and is still studied all across the world.

Drama - Base work

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.

Posture - 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 ue 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 my 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.

46