Year 8

Knowledge Organiser

September- December 2024

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.

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Autumn Term Year 8 KO
Fear of the Unknown

Gothic Conventions

- Abandoned houses, supposedly uninhabited
- Isolated, decaying, bleak settings
- Majority of the story takes place at night/in
- darkness
- Supernatural entity that wants revenge
- Death of a character or those close to a character
- Frequent use of the colour black
- Rational protagonist who doesn't believe in the
- supernatural
- Presence of evil/religious imagery
- Inhuman or monstrous antagonist
- Use of tension and suspense to create fear
- Damsel in distress versus a wicked (male) antagonist

Origins of Gothic Literature

The term 'Gothic' was first coined in 1764 by English author Horace Walpole in his novel, The Castle of Otranto, which he subtitled 'A Gothic Story'. The novel was set in a haunted castle where the protagonist is plagued by supernatural occurrences.

Walpole used the word 'Gothic' because it refers to medieval buildings like castles and churches, where a lot of Gothic fiction is set. 'Gothic' also refers to a type of architecture from the medieval ages which was made popular in the nineteenth century. The Houses of Parliament is an example of this.

Gothic Literature became immensely popular in England and Germany during the 18th and 19th century, with many other genres borrowing its conventions. Gothic fiction is all about creating terror in the reader and using fear to create suspense.

Gothic literature is thought to be a reaction to the developments of science in the late 17th century and follows 'The Age of Enlightenment.' It explores that which is unexplainable by logic and fact and much in common with romanticism, another literary movement popular at this time.

American gothic is a subgenre of gothic fiction. Element for this include rationality versus the irrational, puritanism and guilt as well as ghosts and monsters.

Gothic stylistic features and techniques

Pathetic Fallacy When the weather or nature reflects the tone/mood of the scene.

Antagonist The villain of the story.

Protagonist The hero of the story.

Dramatic Monologue A type of poem told only from the perspective of the narrator. The reader has to distinguish the truth.

Epistolary Narrative A story told in a series of letters or collection of newspaper clippings. This genre normally has several narrative perspectives.

Motif A dominant or recurring idea that keeps repeating throughout the novel.

Olfactory Imagery Imagery to describe a smell which is often unexplained or

Transferred epithet where something which doesn't have emotions is given an emotion- eg. angry eyes, nervous hands

Fear rather than gore. Gothic fiction works on creating fear through what cannot be explained rather than gory events.

Damsel in distress. The female character is usually pursued by a malevolent male (supernatural) force.

Unexplained events. A gothic text usually contains a supernatural element which cannot be explained by rational thoughts or science.

Key Gothic Themes

- The supernatural
- The unknown
- Mystery
- Isolation
- Monsters
- Evil
- Death/Murder
- Remote settings
- Darkness
- Psychological breakdown
- Over-wrought emotions

Key Vocabulary

- Mysterious – that which is unable to be explained
- Malevolent – evil, harmful intentions
- Alchemy – the process of turning base metal to gold.
- Galvanism – scientific process where electrical currents transfer energy to dead tissue, forcing muscles to contract and creating the illusion of life.
- Darwinism- Darwin's Theory of evolution (1854) which challenged religious ideas about creation and put forward the belief humans were descended from apes.
- Vampirism- a creature (once human) who survives on sucking the blood of living things.
- Sublime- The power and force of nature which cannot be controlled
- The Age of Enlightenment – Late 17th century and early 18th century period where scientific developments led to the idea that logic and reason were driving social
- Romanticism – Late 18th century, early 19th century literary movement which focuses on extreme emotions and the sublime of nature over rationality and science.
- Pastiche – written in the style of another work.
- Conventions- a set of ideas which are normally included by the writer (see list)

Gothic writing techniques

- **Simple sentence** – contains a main clause of information, a verb and a subject.
- **Compound sentence** – contains two main clauses of information joined by a conjunction or semi colon.
- **Complex sentence** – contain a main clause and a subordinate clause that doesn't make sense without the main clause.
- **Embedded clause/parenthesis** – a subordinate clause is inserted into a main clause to add extra information.
- **Fragmented sentence structure**- doesn't follow the normal rules. Use sparingly!
- **Simile**: a comparison using like or as.
- **Metaphor**: is a figure of speech that describes an object or action in a way that isn't literally true.
- **Pathetic fallacy**: The weather reflects the mood of a character.
- **Imagery**: visually descriptive or figurative language.
- **Personification**: giving human feelings or actions to an inanimate object.
- **Foreshadowing**: giving hints to what may come later in the story.
- **Foreboding**: give a negative feeling about what may come later in the story
- **Tension**- the writer directs the plot/characters in the opposite way to the reader's desire. This causes conflict for the reader and creates tension.

Gothic adjectives

Aghast
Defenceless
Exposed
Fearful
Gaunt
Helpless
Intimidating
Looming
Morose
Pallid
Suspicious
Vulnerable
Places
Claustrophobic
Deserted
Dismal
Extinguished
Isolated
Macabre
Melancholy
Obscured
Ominous
Secluded
Shadowy
Sublime
Alarming
Ancient
Antique
Curious
Dusty
Locked
Neglected
Ornate
Peculiar
Shocking
Shrouded
Unusual

Gothic nouns

Alley
Attic
Castle
Cellar
Chamber
Church
Graveyard
Staircase
Dungeon
Moor
Heath
Clouds
Darkness
Drizzle
Fog
Lightning
Midnight
Rain
Storm
Tempest
Thunder
Moonlight
Candle
Carriage
Cobbles
Chest
Ghost
Grave
Lock
Lantern
Raven
Ruin
Shadow
Shroud
Spectre
Turret
Trance

Gothic verbs

Ascend
Creep
Descend
Evade
Hide
Leap
Lunge
Peek
Pursue
Tiptoe
Uncover
Sound
Announce
Cackle
Creak
Cry
Gasp
Howl
Intone
Murmur
Shout
Shriek
Whisper

Gothic Adverbs

Abruptly
Cautiously
Creepily
Eerily
Furtively
Ominously
Reverently
Suddenly
Surreptitiously
Suspiciously
Secretly
Tentatively

Gothic texts and authors (and further reading)

- **The Castle of Otranto** – Horace Walpole 1796
- **The Fall of the House of Usher** – Edgar Allan Poe 1839
- **Wuthering Heights** – Emily Bronte 1847
- **The Grey Woman** - Elizabeth Gaskell 1861
- **Rebecca**- Daphne Du Maurier 1938
- **The Tenant of Wildfell Hall** -Anne Bronte 1848
- **The Hound of the Baskervilles** Sir Arthur Conan Doyle 1902
- **The Woman in Black** Susan Hill 1983
- **Dracula** Bram Stoker 1897
- **Frankenstein** Mary Shelley 1818
- **The Red Room** HG Wells
- **Jane Eyre** Charlotte Bronte 1847
- **The Lady of the House of Love** Angela Carter
- **The Historian** Elizabeth Kostova 2005
- **Interview with the Vampire** Anne Rice 1976
- **A Christmas Carol** Charles Dickens 1843

Values and Ideas held by gothic writers.

- Gothic writers are preoccupied with the supernatural because they believe that not everything has a scientific explanation.
- They believed that nature is 'sublime': it has the power to simultaneously inspire awe and terror in people.
- They challenged society's expectations about propriety and emotion. To show wild emotion was seen as crass and uncouth, but not to the gothic writers, who often depicted passion and rage.
- They explored the role of the female characters: often in gothic texts, there are powerful female roles, which contrasted the contemporary society.
- They were very interested in the psychological exploration of characters, particularly in relation to themes of madness.

Y8 Autumn Knowledge Organiser

Search sparx codes in KS3 at sparxmaths.uk/student/independentlearning

Percentage of amounts

Topics

- Finding percentages of amounts without a calculator (M437)
- Finding percentages of amounts with a calculator (M905)

Building Blocks

- Converting between fractions, decimals and percentages (M264)
- Fractions of amounts without a calculator (M695)

Keywords

Percent (%) - 'out of 100'.

Multiplier - a decimal you multiply by to increase/decrease a number by a percentage.

Percentage increase - multiplier is greater than 1.

Percentage decrease - multiplier is less than 1.

Value Added Tax (VAT) - a tax added on to things that you buy, usually 20%.

Percentage change

Topics

- Percentage change without a calculator (M476)
- Percentage change with a calculator (M533)

Building Blocks

- Finding percentages of amounts without a calculator (M437)
- Finding percentages of amounts with a calculator (M905)

Keywords

Change - to increase or decrease, profit and loss.

Increase - become or make greater in size or amount.

Decrease - become or make smaller in size or amount.

Profit - the difference between the amount earned and the amount spent.

Loss - an amount of money lost by a business.

Index laws

Topics

- Index rules with positive indices (M608)
- Index rules with negative indices (M150)
- Simplifying expressions using index laws (M120)
- Simplifying algebraic fractions by cancelling common factors (M568)

Building Blocks

- Calculating with roots and powers (M135)
- Simplifying fractions (M671)
- Algebraic notation (M813)

Keywords

Indices - an index, or power, is the small floating number that appears after a number or letter.

Simplify - to make less complicated, clearer, or easier.

Algebraic - relating to, involving, or according to the laws of algebra.

Factor - is a number that divides the given number without a remainder.

Solving equations

Topics

- Solving equations with two or more steps (M509)
- Solving equations with the unknown on both sides (M554)
- Constructing and solving equations (M957)
- Solving equations with the unknown in the denominator (M387)

Building Blocks

- Solving equations with one step (M707)
- Simplifying expressions containing a single variable (M795)
- Substituting into expressions with multiple operations (M327)

Keywords

Equation - a mathematical statement that shows that two mathematical expressions are equal.

Expression - numbers, symbols and operators (such as and times) grouped together that show the value of something.

Variable - a quantity that can be changed and is not a fixed constant.

Sequences

Topics

- Term-to-term rules for numerical sequences (M381)
- Term-to-term rules for sequences of patterns (M241)
- Substituting into position-to-term rules (M166)
- Position-to-term rules for arithmetic sequences (M991)
- Position-to-term rules for sequences of patterns (M866)

Building Blocks

- Using number lines (M763)
- Adding and subtracting with negative numbers (M106)
- Multiplying and dividing with negative numbers (M288)

Keywords

Sequence - follow a specific pattern that can be used to extend them.

Substitution - replacing the variables (letters) in an algebraic expression with their numerical values.

Variable - a quantity that can be changed and is not a fixed constant.

Negative number - is a number that is less than zero.

Arithmetic - the sequence where the common difference remains the same.

Y8 Autumn Knowledge Organiser

Search sparx codes in KS3 at sparxmaths.uk/student/independentlearning

Ratio

Topics

- Writing and simplifying ratios (M885)
- Writing ratios in the form 1:n (M543)
- Converting between ratios, fractions and percentages (M267)
- Using equivalent ratios to find unknown amounts (M801)
- Sharing amounts in a given ratio (M525)

Building Blocks

- Finding the highest common factor (M698)
- Constructing fractions (M939)
- Writing numbers as percentages of other numbers (M235)

Keywords

Ratio - the relationship in quantity, amount, or size between two or more items.

Fraction - a part of a whole. Made up of two parts; numerator and a denominator.

Numerator - the top number in a fraction.

Denominator - the bottom number in a fraction.

Percentage - a number or ratio that can be expressed as a fraction of 100.

Scale diagrams

Topics

- Drawing and interpreting scale diagrams (M112)

Building Blocks

- Writing and simplifying ratios (M885)
- Using equivalent ratios to find unknown amounts (M801)
- Writing ratios in the form 1:n (M543)

Keywords

Ratio - the relationship in quantity, amount, or size between two or more items.

Equivalent - when two or more quantities have the same value.

Interpret - to explain the meaning of the question.

Scale - the relationship between the actual figure and its model.

Calculating with money

Topics

- Value for money (M681)

Building Blocks

- Solving proportion problems (M478)
- Adding decimals (M429)
- Subtracting decimals (M152)
- Using a written method to multiply decimals (M803)
- Using a written method to divide with decimals (M262)

Keywords

Proportion - to show how quantities and amounts are related to each other.

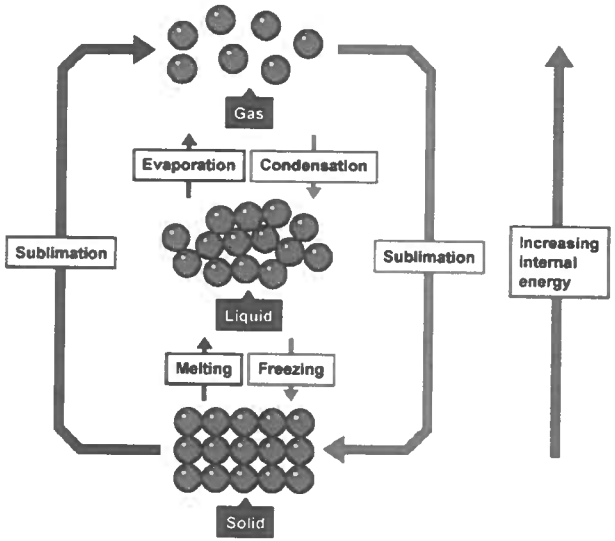
Integer - a whole number that can be positive, negative, or zero.

Decimal numbers - not integer values.

Year 8 Chemistry Knowledge – Chemical Reactions Page 1

Box 1 - Physical Changes

Physical changes occur when substances change state, for example changing from a liquid to a solid, which is called freezing.



Physical changes are usually easy to reverse. State changes are reversed either by a substance cooling down or by heating the substance up.

Box 2 - Chemical Reactions

- Chemical changes occur during chemical reactions.
- Chemical reactions occur between one or more elements and/or compounds called reactants. When they react, the bonds between the atoms that make up the reactants are broken and the atoms rearrange and form new bonds to produce new molecules or compounds, called products. This is the general equation any chemical reaction:

reactants → products

- The arrow between the reactants and the products shows the direction of the reaction, and means "the reactants react to make the products". Here are two examples:

zinc + oxygen → zinc oxide
magnesium + chlorine → magnesium chloride

Key Terms	Definitions
Atom	The smallest particle that can take place in a chemical reaction.
Molecule	Two or more atoms chemically joined together. Atoms can be the same, but also different. When the atoms in a molecule are of the same element the substance is called an element. When the atoms in a molecule are different elements the substance is called a compound.
Element	1. Can be found in the periodic table. 2. A substance that is made of only one type of atom.
Compound	A substance made of two or more different elements chemically joined together in fixed proportions.
Reactant	A substance that is added at the start of a chemical reaction.
Product	A substance that is made during a chemical reaction.

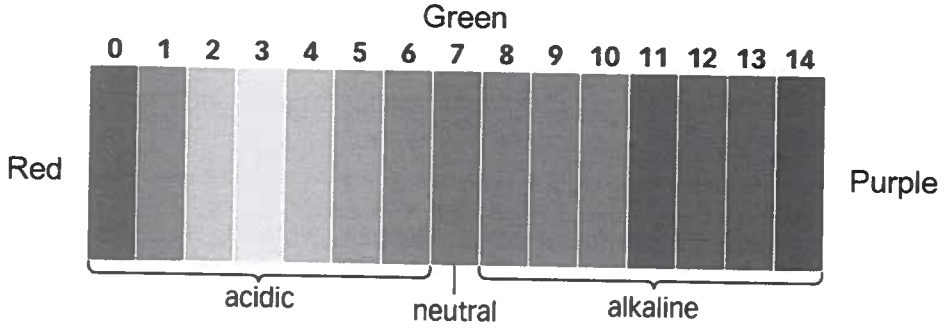
Box 3 - Naming Simple Compounds

- Chemical reactions often take place between metal elements and non-metal elements.
- A compound that has been made from a metal and a non-metal is named by writing the name of the metal first, and then the first syllable of the non-metal followed by the suffix "-ide".
- For example:
- Sodium and oxygen are combined to make sodium oxide.
- Iron and sulfur are combined to make iron sulfide.
- Calcium and chlorine are combined to make calcium chloride
- Copper and oxygen are combined to make copper oxide.

Year 8 Chemistry Knowledge – Acids and Alkalis
Page 2

Box 4 - The pH Scale

- The pH scale is a number scale between 0 and 14 that measures the acidity or alkalinity of substances.



- The pH of substances can be tested using universal indicator.
- Acids have a pH of less than 7.
- Alkalis have a pH of greater than 7.
- pH 7 is neutral – pure water is neutral.

Box 5 - Neutralisation Reactions

- The three most common acids are: hydrochloric acid, sulfuric acid and nitric acid.
- There are different types of alkali, the most common are made of a metal combined with hydroxide: potassium hydroxide, sodium hydroxide, magnesium hydroxide.
- A neutralisation reaction occurs when an acid and an alkali react together and are both neutralised.
- In general, when acids and alkalis react together in neutralisation reactions a salt and water are made, the general word equation is:

Acid + Alkali → Salt + Water

- A salt is a chemical made from the metal part of an alkali and part of the acid.
- If the acid is:

Name of acid	Second part of the salt name
Hydrochloric acid	- chloride
Sulfuric acid	- sulfate
Nitric acid	- nitrate

Key Terms	Definitions
Chemical property	A way of describing how a chemical acts or behaves.
Acid	A substance that displays acidic properties, strong acids are usually reactive and corrosive.
Acidic	A property given to a substance that has a pH of below 7 on the pH scale.
Alkali	A substance that displays alkaline properties, strong alkalis are usually reactive and caustic.
Alkaline	A property given to a substance that has a pH of above 7 on the pH scale.
Neutral	A property given to a substance with a pH of 7 on the pH scale, like pure water.
Universal indicator	A chemical that can be added to other substances to show whether they are acidic, neutral, or alkaline. Universal indicator changes colour according to the pH scale colours.
Reactive	A property given to a substance that is likely to react, and often reacts vigorously and quickly.
Corrosive	A corrosive substance will damage or destroy another substance when they come into contact.
Caustic	Caustic is similar to corrosive, but only applied to alkaline substances.

Box 6 - Examples of Neutralisation Reactions

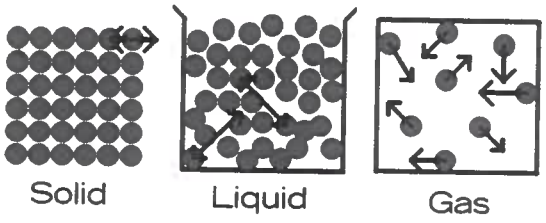
Hydro**chloric** Acid + Sodium Hydroxide → Sodium **Chloride** + Water
Sulfuric Acid + Potassium Hydroxide → Potassium **Sulfate** + Water
Nitric Acid + Magnesium Hydroxide → Magnesium **Nitrate** + Water

In each case, the acid used in the reaction turn universal indicator solution red, the alkali used in the reaction turns universal indicator solution purple, and the products (the salt and water) turn universal indicator solution green.

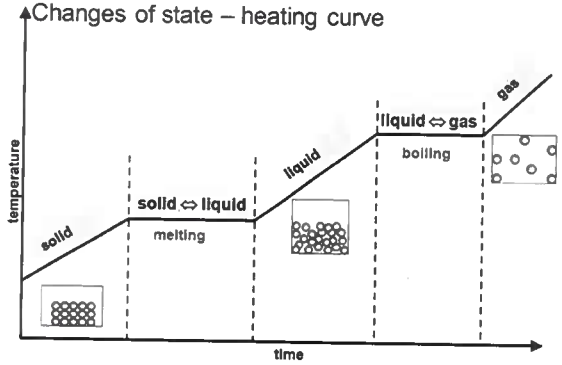
Year 8 - Knowledge Organiser Physics Topic – Particle Theory page 1

Box 1 - Using the particle model

Solid – particles are in fixed positions and have a regular arrangement, a fixed volume and the particles vibrate around a fixed point.
Liquid – particles can move around each other, they have a fixed volume and an irregular arrangement.
Gas – particles are far apart, they move in random directions at random speeds.

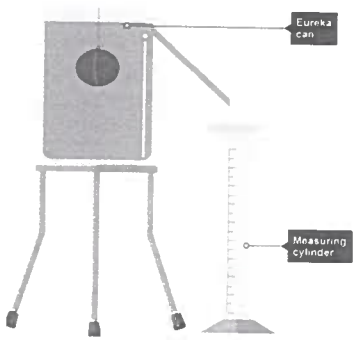


- Heating a substance increases the kinetic energy store of the particles.
- This either increases the temperature of the substance or causes a change of state.
- A change of state occurs when increased kinetic energy causes increased movement of particles, causing forces between the particles to be broken.
- During a state change the temperature remains constant.



Box 2 - Density

Density is the mass per unit volume of a material – the unit used is kg/m³ or g/cm³.
To calculate the density of a **regular shape** use a mass balance to determine the mass. Measure the volume by take measurements of the dimensions of the shape and use the appropriate formula to calculate the volume of that shape.



A Eureka can is used to measure the volume of displaced water when an irregular shaped object is added to the can.

The volume of a liquid and gas is calculated using the volume and mass.

The volume of a cuboid = height x depth x width
Volume of a cylinder = p r^2 h
Volume of a cone = 1/3 x p^2 x h

Key Terms	Definitions
Particle motion	A description of the movement of particles with regard to speed and direction.
Temperature	A measure of the average kinetic energy of the particles in a system.
Kinetic Energy	Energy stored in a moving object
Mass	A measurement of the amount of matter in an object, measured in kg.
State	A state of matter – solid, gas, liquid
Melting	The change of state from a solid to a liquid
Freezing	The change of state from a liquid to a solid.
Evaporation	The change of state from a liquid to a gas
Condensing	The change of state from a gas to a liquid.
Volume	The amount of 3-dimensional space enclosed by a surface, measured in m^3
Density	The mass of a fixed volume, this is measured in kg/m^3.
Regular	A shape where the angles or side lengths allow a formulae to be used to calculate area and volume.
Irregular	A shape where it is not possible to use formulae to calculate area or volume.
Displaced	Term used to describe the volume of fluid moved by a submerged object.

Equation	Meanings of terms in equation
Density = $\frac{\text{mass}}{\text{volume}}$ P = m/v	*P = density (kg/m³)* *M = mass Kg* *V = volume m³* *For example a box with a volume of 27m³ and a mass of 45 kg:* *45kg ÷ 27m³ = 1.6666... so 1.7 kg/m³*

Year 8 - Knowledge Organiser Physics Topic – Particle Theory page 2

Box 3 - Pressure in fluids

Gases

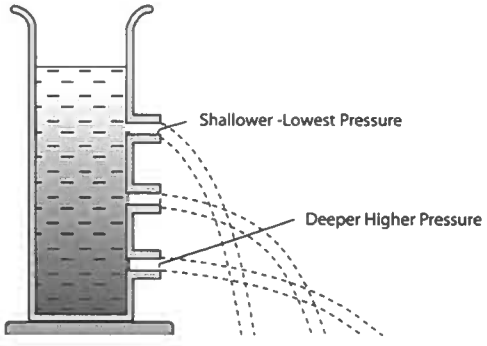
Changing the volume of a gas: For a fixed mass of gas at a constant temperature the volume is inversely proportional to the pressure, as pressure reduces the volume increases.

Increasing the temperature of a gas: As the temperature of a gas increases the pressure increases, as temperature increases the number of collisions with a surface increases, in addition the velocity of the particles increase as their temperature increases (due to higher level of kinetic energy). This increases the force of the collisions in turn increasing the pressure.

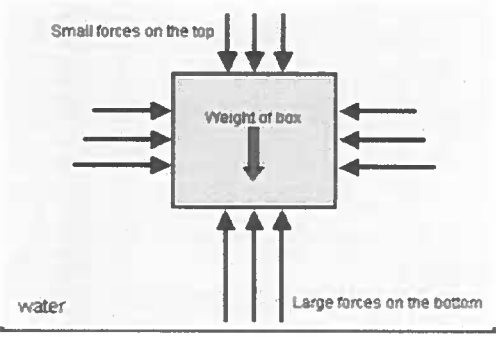
Increasing temperature and maintaining pressure: When the pressure of a gas is held constant, an increase in temperature will result in an increase in the volume of the gas, this is a directly proportion relationship.

Liquids

Density and Floating – An object will float when it is less dense that the water surrounding it.



Pressure in a fluid increases with depth, this is due to the weight (force) applied by the particles above. This causes a submerged object to experience greater pressure as the object increases in depth.



Upthrust is a force calculated by the difference in pressure between the bottom surface and top surface of a submerged or partially submerged object.

Key Terms	Definitions
Pressure	The force per unit area applied at right angles (normal) to the surface
Kinetic	Energy stored in a moving object
Mass	The quantity (amount) of matter in an object
Submerged	When an object sinks below the surface of a fluid.
Fluid	A substance that can flow – liquids and gases can flow.
Inverse proportion	A relationship between 2 quantities, as one increases the other reduces.

Equation	Meanings of terms in equation
Pressure = $\frac{\text{force}}{\text{area}}$ P = F/A	*F = resultant force (N)* *P = pressure (N/m^2 or Pa)* *A = area (m^2 or cm^2)*

Box 4 – Pressure on surfaces

Solids apply pressure onto the surface they are in contact with. The pressure depends on the force applied by the object and the area of the object in contact with the surface.

Pressure can be calculated (See equation above).

Drawing pin
High pressure

Force applied over a very small area

Snow shoes
Low pressure

Force applied over a very large area

Box 5 – Pressure Calculation

A person has a body mass of 50 kg, each Kg exerts a 10N force meaning they are applying a 500N onto the ground. The surface area of their feet is $0.02m^2$

Calculate the pressure on the ground.

1. Pressure = Force ÷ Area
2. Pressure = 500N ÷ $0.02m^2$
3. Pressure = 2500 N/m^2

Year 8 Biology Knowledge Organiser Organisation: Health and Disease page 1

Box 1 - Microorganisms and the Spread of Disease

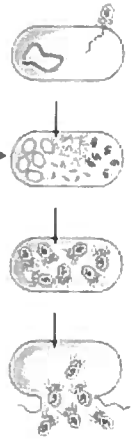
Diseases can be **communicable** or **non-communicable**.
Communicable diseases are caused by **pathogens**. Pathogens are micro-organisms that cause diseases and they include bacteria, viruses and fungi. Microorganisms are organisms that are too small to see with the naked eye.
Bacteria and fungi can be **cultured** (grown) in **Petri dishes** on **agar jelly. Aseptic technique** is used to prevent unwanted microorganisms growing on the agar jelly. In schools they are grown in an incubator at 25°C instead of 37°C to minimise the growth of harmful microorganisms.
Pathogens can be spread from person to person by the following methods:

- Droplet infection (e.g. flu)
- Direct contact with contaminated objects (e.g. cold sores)
- Drinking contaminated water (e.g. cholera)
- Eating contaminated food (e.g. salmonella food poisoning)
- Sexually transmitted (e.g. chlamydia)

Understanding how diseases spread can help to prevent them. This is called **epidemiology**. In the 19th Century there was an outbreak of cholera in London. John Snow looked at the pattern of the cases and worked out that the source of the outbreak was the water from the pump on Broad Street. For the first time it was understood that cholera was spread by dirty water and not 'bad air'.

Box 2 - Barriers to infection

When bacteria and viruses enter our bodies they quickly reproduce.
Bacteria produce **toxins** (poisons) that make us feel unwell.
Viruses reproduce inside living cells and damage these cells.



Microbes are all around us. We don't continually get ill because we have defences to stop the pathogens getting into our bodies. The defences include:

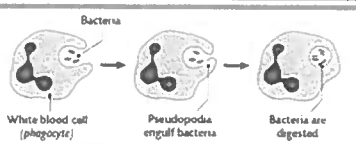
1. Skin is a barrier to pathogens.
2. Nose hairs and mucus trap pathogens
3. The stomach contains hydrochloric acid , which kills pathogens.
4. **Mucus** and **cilia** lining the lung passages trap pathogens in the air we breathe in.

If we encounter a large number of pathogens we are more likely to become ill. The pathogens get past the non-specific defences and reproduce rapidly. We become unwell and an immune system response is triggered.

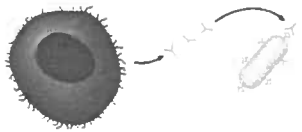
Key Terms	Definitions
Communicable disease	Infectious diseases that are caused by pathogens and spread from person to person .
Non-communicable disease	Diseases that are not infectious e.g. diabetes, coronary heart disease, lung cancer
Epidemiology	The study of how diseases spread.
Pathogen	A micro-organism that causes disease.
Antibody	A chemical substance made by white blood cells that attaches to and destroys pathogens.
Immune	The white blood cells can rapidly produce the correct antibodies to destroy the pathogens before you become unwell.
Vaccination	Dead or weakened pathogens that trigger the white blood cells to produce antibodies.
Aseptic technique	A practical method to prevent contamination by unwanted microorganisms.
Cilia	Microscopic hair-like structures that cover the cells in the trachea and bronchi
Antibiotic	A drug that treats diseases caused by bacteria.
Antibiotic resistant bacteria	A bacteria that has mutated genes so that an antibiotic no longer kills it.

Box 3 - The immune system

White blood cells are part of our immune system. One type of white blood cell can change shape to **engulf** and destroy the pathogen.



A second type of white blood cell produces **antibodies**. These are chemical substances that are specific to the pathogen. They attach to the pathogen and destroy/kill it.



Once white blood cells have encountered a pathogen, they remember how to make the correct antibody. This means you are **immune** to the disease, because your white blood cells can quickly make antibodies to fight off the pathogen in the future.

You get some illnesses more than once because some pathogens, e.g. the cold virus, can change their appearance to the immune system, so the white blood cells need to learn to make the correct antibody each time.

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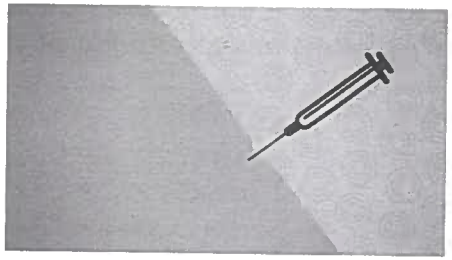
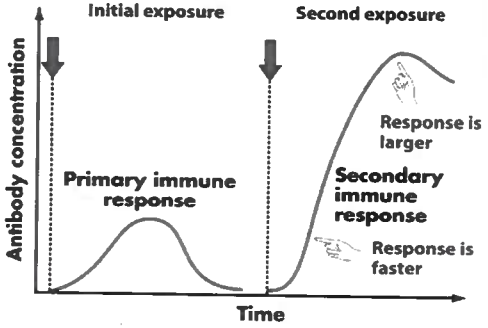
Box 4 - Vaccination

Vaccinations contain **dead or inactive pathogens**. They are usually injected into the body and trigger the white blood cells to make the correct antibody for the pathogen. If you ever get infected by the real pathogen your white blood cells make the correct antibody quickly so the pathogens are destroyed and you don't become ill.





Having lots of people vaccinated in a population is important as it also protects people who cannot be vaccinated. This is called herd immunity.

The MMR controversy occurred because a scientific journal presented some poor science that the MMR vaccine caused autism. This claim was later proven by scientists to be wrong and the investigation had not been peer reviewed, but it was also published in a national newspaper. It caused a drop in the number of people being vaccinated and there have been outbreaks of measles because of this. There continue to be lots of unscientific claims about the safety of vaccinations on social media and on websites.

Box 5 - Antibiotics

Antibiotics are medicines used to treat diseases caused by bacteria by killing the bacteria.
Antibiotics cannot be used to treat diseases caused by viruses.
The antibiotic penicillin was discovered, by chance, by **Alexander Fleming** in the early 20th Century.

Box 6 - Antibiotic Resistance

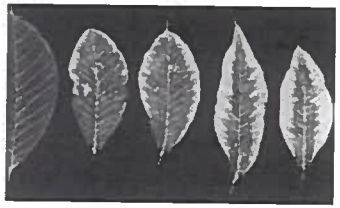
There is an increasing problem with bacteria becoming **resistant** to antibiotics. This means that the antibiotic no longer kills the bacteria.
Examples of antibiotic resistance bacteria are ***MRSA*** and ***Clostridium dificile.***
To prevent antibiotic resistance humans need to minimise the use of antibiotics and ensure they are used correctly and carefully.

- Most infections get better on their own, without the need for antibiotics. Antibiotics should only be prescribed for bacterial infections that haven't got better on their own.
- Antibiotics should not be prescribed or taken for viral infections such as colds, flu, most coughs and sore throats.
- When antibiotics are prescribed, the course should be finished even if you feel better.

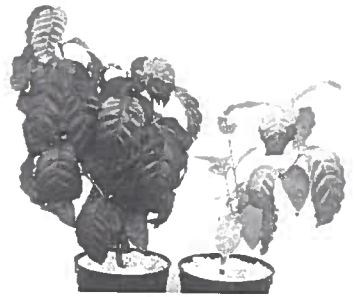
We also need to use careful hygiene practices to stop them spreading from person to person.
Scientists are researching new types of antibiotics. If our current antibiotics stop working before new antibiotics are found, then minor infections could once again become fatal and operations and chemotherapy might not be possible.

Box 7 - Plant diseases

Plants can also suffer from ill health.
Plant ill health can be caused by pathogens (bacteria, viruses and fungi) and also by mineral deficiencies.
Plants need minerals for healthy growth and these include nitrates and magnesium.
Nitrates are needed for making proteins.
Plants deficient in nitrates have stunted growth and yellow older leaves.



Magnesium is needed for making chlorophyll.
If a plant is deficient in magnesium it has yellow leaves and doesn't grow well.



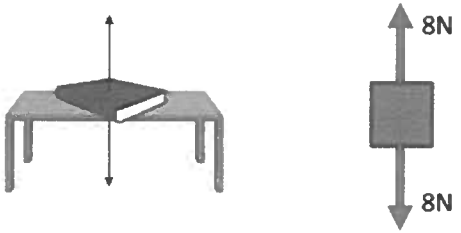
Year 8 Physics Knowledge Organiser
Forces 2 Motion page 1

Box 1 - Force Arrows and diagrams

Forces have a **size** and a **direction**. This means we show forces with arrows.

- The length of the arrows shows how large the force is
- The direction the arrow points shows the direction the force pushes or pulls

Diagrams that show the forces acting on an object, using arrows, are called **free body force diagrams**.



Free Body Force Diagrams

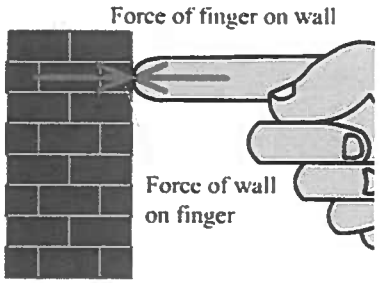
We can show the forces acting on an object by drawing a free body force diagram.

- Forces are shown as arrows. The size and direction of the arrow represents the size and direction of the force.
- Arrows should always start from the centre of the object's mass
- The object is shown as a box or circle.

Box 2 - Interaction Pairs and Newton's 3rd Law

Newton's third law states that when **two objects interact,** they apply equal and opposite forces on each other. We call this pair of forces an interaction pair.

Example below: if the person pushes on the wall with a force of 10 N the wall will push back with a force of 10

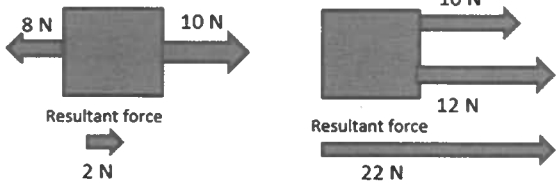


Box 3 – What is a Resultant force

The **resultant** force acting on an object is the single force *resulting* from all the separate forces acting on it. In other words, the resultant force is the single overall force.

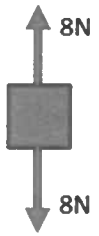
To find resultant force:

- Add up forces acting in the same direction
- Subtract forces acting in opposite directions



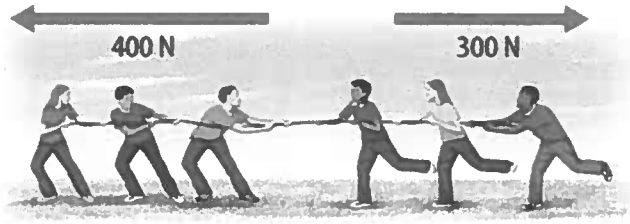
Box 4 - Balanced forces and Newton's First Law

- If the forces are **balanced** the resultant force will be 0N.
- Newton's first law states that if the resultant force on an object is 0N then the object will either be **stationary or moving at a constant speed.**



Box 5- Unbalanced forces and Newton's Second Law

- When forces on an object are **unbalanced** there is a resultant force. This means the resultant force is not 0N.



- Newton's Second Law states if there is a resultant force forces on an object are unbalanced then the object's speed will change, it will either:
  - accelerate (speed up) in the direction of the force
  - decelerate (slow down) in the direction of the force.
- A larger resultant force is needed to accelerate an object at a higher acceleration or for heavier objects.

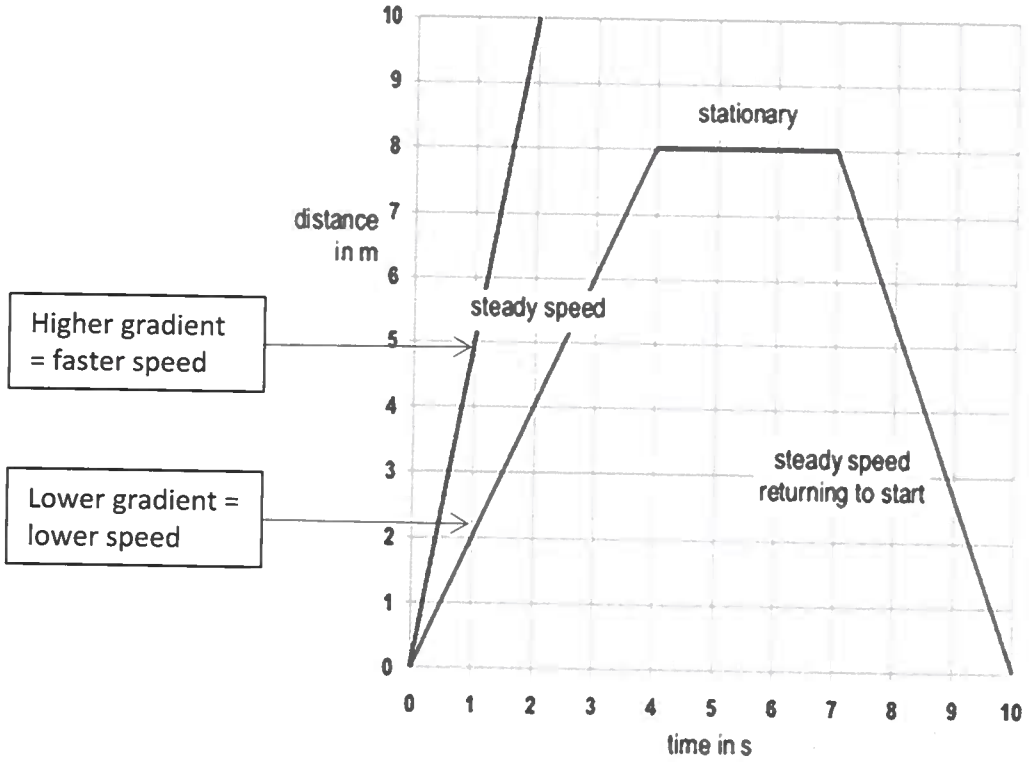
Year 8 Physics Knowledge Organiser
Forces 2 Motion page 2

Box 6 – Speed

- The speed of an object tells you how much distance is travelled in a unit of time. **The unit for speed is m/s** (metres per second).
- Speed is calculated by **dividing distance by the time.**
- If the speed of an object is increasing, then it is **accelerating.** If the speed is decreasing it is **decelerating.**

Box 7 – Distance Time Graphs

- A distance time graph has the time on the x axis and the distance on the y axis.
- If an object is stationary (not moving) the line **will be horizontal.**
- If the line is diagonal the object is moving at a constant speed.
- If the line has a larger gradient (steeper), it means the object is moving faster.
- If the line is going back towards the x axis the object is **returning to its starting point.**

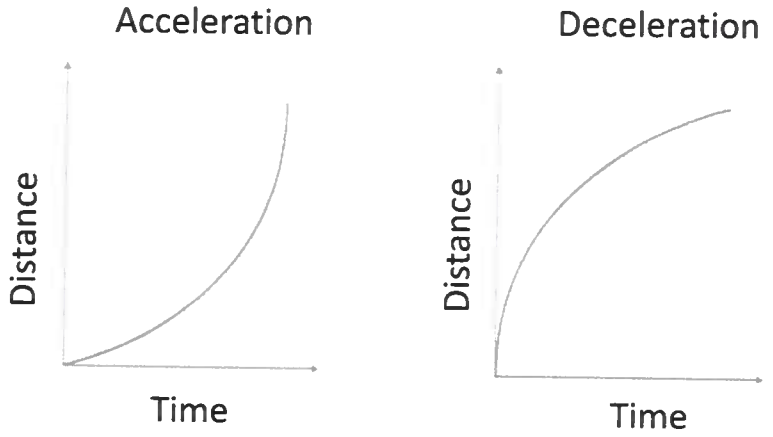


Key Terms	Definitions
Speed	How fast an object is moving, regardless of direction
Gradient	How steep the line on a graph is
Stationary	Not moving
Acceleration	A measure of how quickly the speed of an object is increasing
Deceleration	A measure of how quickly the speed of an object is decreasing
Relative Motion	A calculation that shows the difference in speed between 2 moving objects.

Equation	Meanings of terms in equation
$v = \frac{s}{t}$	v = *speed* (m/s) s = *distance* (m) t = *time* (s)

Box 8 – Acceleration and Deceleration

- When an object is accelerating (getting faster), the line of the distance time graph will **curve upwards.**
- When an object is decelerating (getting slower), the line of the distance time graph will **curve towards the horizontal.**



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)*

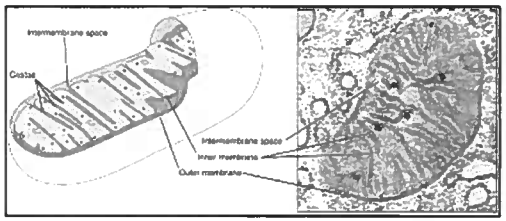
The **symbol equation** for aerobic respiration is:
$C_6H_{12}O_6 + 6O_2 \rightarrow 6CO_2 + 6H_2O$ *(and energy is transferred)*

- 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

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:**

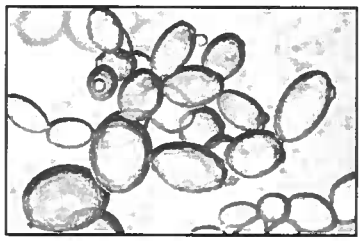
Glucose → Ethanol + Carbon dioxide *(and some energy is transferred)*

Box 5 - Anaerobic Respiration in Yeast and Plants

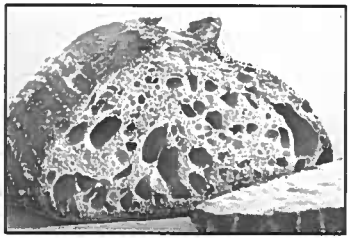
- Yeast are single-celled fungi who can respire with or without oxygen.
- Plants sometimes use anaerobic respiration if their roots get waterlogged. The root cells cannot access oxygen and so respire anaerobically.

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.

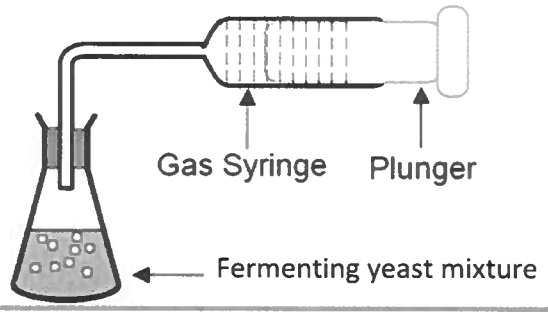
Glucose → Lactic acid *(and energy is transferred)*

- 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 <u>rate</u> 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 – 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.

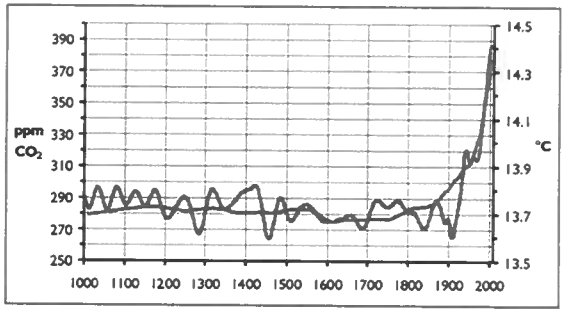
The main greenhouse gases are **carbon dioxide** and **methane**.

→ 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

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

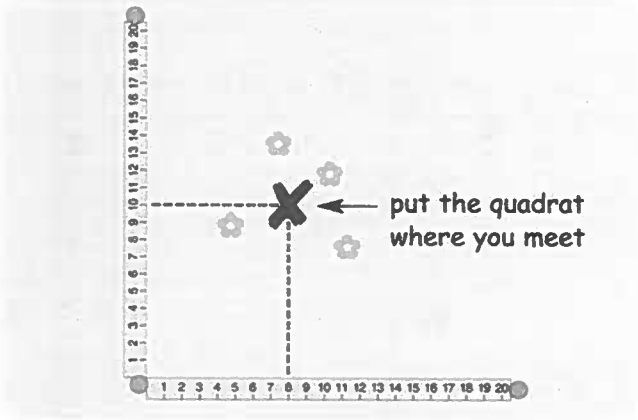


Image 1 - Use a random number generator to select coordinate positions for your quadrat placements

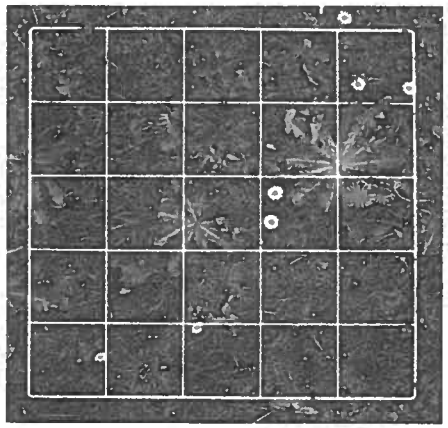


Image 2 - A quadrat: this one is a 0.5m x 0.5m square: the area is 0.25m^2. Quadrats are divided up into a grid (here of 25 smaller squares) within the frame, useful for estimating % coverage: each small grid square represents 4% of the area.

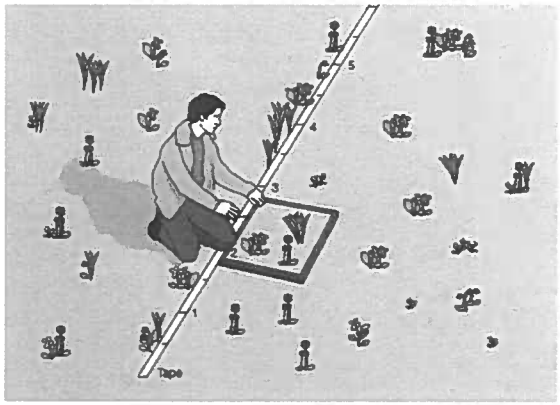


Image 3 - A Line transect: place a tape measure and use a quadrat to sample the organisms at regular intervals along its length.
This shows how the distribution changes alongside an abiotic factor, as you move across an area from one region to another.

Y8 History Knowledge Organiser: Autumn Term - *The British Empire, New World Slavery and Abolition*

VOCABULARY - Empire

Civilisation	An advanced stage of human development
Colonisation	The process of taking control and building an empire
Colony	A territory controlled by an empire
Colonists	People from Europe who went to live in the colonies
Domestic policy	New laws that affect what happens in a country
Elected	Chosen by voting
Empire	Several territories ruled by one powerful country
Foreign policy	Government decisions about war etc
Fulani	A powerful African kingdom
Governor	British official in charge of a colony
Hausa	An African people
Independent	No longer part of an empire
Inferior	Not as advanced / good as
Loyal	Always supportive
Maori	The native people of New Zealand
Migration	Moving to another place permanently
Native American	People who lived in America before Europeans
Persecution	Unfair treatment
Settler	Someone who moves to a colony to live there
Strategy	A long term plan

Empire - Constructing an Empire

Individuals and governments sought new territories for a variety of interconnected reasons:

***Wealth** - In 1600 the East India Company began to trade with the Mughal Empire in India for luxury goods such as spices and silks. India also provided markets for British products such as textiles and manufactured goods.*

***Religious Freedom** - Religious groups settled in the Thirteen Colonies during the 1600s to escape religious persecution in England.*

***The Civilising Mission** - The British East Africa Company was founded in 1888 to set up the colonies of Kenya and Uganda. It's founders were motivated by a desire to bring "Christianity and Civilisation" to the people of East Africa.*

Why did the British government support colonization?

***Money** - The British government issued royal charters, recognising the colonisers' right to rule an area and committing to protect the colonists. In return, the government expected payment. For example, the Pennsylvania royal charter required the colonists to give the King: One fifth of any gold and silver found and two beaver skins each year.*

***Strategy** - The British government seized colonies in strategic locations to protect trade and communication*
For example, Britain acquired colonies in southern Africa, Mauritius, and Sri Lanka to protect the sea route from Britain to India

Empire - Ruling the Empire

The British used different methods to rule different colonies depending on their location and their population.
Responsible Government - The British government attempted to rule by appointing Royal Governors. The American War of Independence showed that this would not work. In the 1800s, the white settler colonies - Australia, New Zealand, and Canada - were governed through a system of responsible government. An elected parliament controlled the domestic policy of the colony.
Direct Rule - In colonies such as Sri Lanka where there no white settlers, the British did not adopt responsible government. The British thought non-white people were racially inferior and not capable of governing themselves. Instead, these colonies were ruled directly from Britain.
Indirect Rule- In some colonies, local circumstances made it too expensive or too difficult for the British to rule directly. After 1857, for example, much of 'British' India was in fact ruled by Indian princes who were loyal to Britain.

Empire - Relationship between the colonisers and colonised

Nigeria - In 1861 King Dosunmo was forced to sign a treaty giving up control of Lagos to the British
Between 1900 and 1906, the Royal Niger Company battled the Fulani people for control of Nigeria
The Company won but despite victory, the British were not powerful enough to control Nigeria, instead granting power to loyal local leaders to rule on their behalf.

Pennsylvania - The Lenape people were one of a large variety of Native American groups who had lived in North America for thousands of years. In 1682, William Penn signed the Treaty of Shackamaxon with the Lenape, agreeing to share land and settle disputes fairly. However, after his death, Penn's sons destroyed the treaty and began to trick the Lenape out of land, for example in the 1737 'Walking Purchase'. Unsettled by this, the Lenape began to resist attempts to seize their land, bringing them into violent conflict with the Europeans. Over the next century, the Lenape were forced to migrate steadily westwards.

New Zealand - The 1840 Treaty of Waitangi gave the British control of New Zealand, although the Maori were allowed "undisturbed possession" of their lands. British migration and sheep farming created more demand for land leading to the New Zealand Wars. Some Maori refused to sell their land, war broke out and land was confiscated. Other Maori - Kaupapa - fought with the British and many converted to Christianity. By the 20th Century, Maori owned less than 10% of land in New Zealand Parliament reserved 4 seats for Maori.

New World Slavery - Early European Slave Trading

Spanish and Portuguese colonisation in the New World created a demand for slave labour.
In the 16th Century, the **Spanish** and **Portuguese** built empires in **South America** and mined **gold** and **silver**
New European diseases and ruthless **exploitation** reduced the **indigenous** population from 60 million to 10 million
Criticism of Spanish activity in the **New World** led to the **King of Spain** banning the **enslavement** of **indigenous** Americans. This created a **demand** for **labour** that was met by buying **enslaved** people on the west coast of **Africa.** However, slavery and race were not tightly linked in the **Spanish Empire**
Enslaved people could buy their own freedom. Around 50% of people of **African descent** in the **Spanish Empire** were free.

Y8 History Knowledge Organiser: Autumn Term - *The British Empire, New World Slavery and Abolition*

VOCABULARY - New World Slavery

African Descent	Born in Africa or related to Africans
Alliance	Agreement to support each other
Ashanti Empire	A large and powerful West African empire
Authorities	Government
Dahomey	A West African empire
Demand	The amount of people who want something
Enslaved	Made into a slave
Exploitation	Taking advantage of other people
Fertile	Suitable for growing food
Field Overseer	An enslaved person in charge of work on a plantation
Guerrilla Warfare	Using ambushes to fight against larger forces
Hierarchy	A social system ranking people by their status
Indentured Labourers	People who sold themselves as temporary slaves
Indigenous	Native, from an area originally
Imported	Brought in from another country
Labour	Work
Manufactured	Manmade, made in a factory
Maroons	Runaway slave communities who lived in the mountains
Militarised	Based on warfare / the army
Motley Crew	The diverse group who made up the crew of ships
Plantation	A farm
Plantation owner	A wealthy British individual who owned a plantation
Profits	Money made from business
Racialised	Divided up by race
Slave Code	Laws controlling a slave society
Slave Ship	The ship that carried slaves from Africa to the Caribbean
Suppress	Stop (a rebellion)
Workforce	The people who work on a plantation / in a factory /etc

VOCABULARY - Abolition

Abolition	Ending / Getting rid of
To abolish	Getting rid of something
American South	Part of USA where cotton was grown by slaves
Compensation	Money to make up for something
Compensated	Given money to make up for something
Enslaved	Made into a slave
Evolution	Scientific theory that humans developed from apes
Governor	British official in charge of a colony
Haiti	French slave colony in the Caribbean
Infrastructure	Roads, railways, bridges, etc
Jamaica	British colony in the Caribbean
Pension	Money given by the government
Plantation	A farm, often worked by enslaved people
Publicised	Made public / brought to people's attention
Profitable	Money making
Slave Trade	Bringing enslaved people from Africa to New World
Slavery	Forcing people to work without paying them
Stereotype	A false view of someone / something
Squadron	A group of ships
Trespassing	Walking / living on someone else's land

New World Slavery - Transatlantic Slave Trade

Demand for sugar in Britain created a booming transatlantic trade network that relied on enslaving Africans

Sugar Consumption in England. In the 17th Century, **sugar** became a important part of the British diet as it was used to sweeten new foods **imported** from other parts of the empire, including **coffee**, **tea** and **chocolate**
The trade in **sugar** made huge **profits** for British **merchants** in cities such as **Liverpool** and **Bristol**

Sugar was grown on **fertile plantations** on **Caribbean** islands such as **Jamaica** and **Barbados**
At first, **plantation owners** relied on white **indentured labourers** from Britain to work on the **plantations**, although this supply of labour dried up by the mid-17th Century. By 1700, the **workforce** on British **plantations** in the **Caribbean** was made up almost entirely of **enslaved Africans. Plantation owners** grew very wealthy from selling sugar grown by free **labour.**

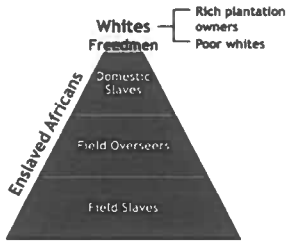
West African kingdoms such as the **Ashanti Empire** were too powerful for the British to force Africans into slavery
Instead, British **merchants** exchanged **manufactured goods** such as metal products and guns for **enslaved people.** Exporting these **manufactured goods** allowed British **merchants** to become very wealthy.

New World Slavery - The Middle Passage

Slave ship captains viewed their cargo as less than human. The brutal conditions meant that of the 12 million people loaded on to slave ships, 2 million died on board. In 1791 James DeWolf, the American captain of the slave ship The Polly, murdered a sick enslaved woman to stop her infecting others.

New World Slavery - Slave Society

By 1833 there were 800,000 enslaved Africans working in Britain's Caribbean colonies, controlled by just 40,000 white planation owners and managers. In order to control the enslaved people, colonies introduced slave codes. The original slave code was introduced in Barbados in 1661. The slave code outlined the brutal physical punishments enslaved African people faced for any acts of theft, rebellion, or violence. It made it clear that slave owners would not be punished for injuring - or even killing - enslaved African people. It also stated that, unlike white indentured labourers, enslaved Africans did not have the right to a trial by jury or the protection of the law.



New World Slavery - Maroons

In Jamaica, slaves resisted by running away to form bands of maroons in the forests and mountains. The maroons were led by runaway slaves from highly militarised African states such as the Ashanti. One group of maroons was led by Queen Nanny, an Ashanti woman, whose guerrilla warfare caused severe problems for the British. In 1739 the British were forced to sign a treaty with the maroons in which: The maroons were given a large area of land to set up farms and towns & the maroons agreed to support the British against foreign invasion or slave rebellion.

Abolition

In the 19th Century, slavery and the slave trade were abolished in the Empire.
1807 - The Abolition of the Slave Trade Act - Made it illegal to trade slaves.
1833 - The Slavery Abolition Act - Freed enslaved children immediately, Gave freedom to 800,000 enslaved people by 1838, Compensated slave owners with £20 million.

Abolition - Consequences for Britain

Compensation - 46,000 slave owners were compensated. The pay out was the equivalent of £17 billion today.
West Africa Squadron - British ships tried to intercept slave ships from other countries and free Africans. The squadron freed 160,000 Africans. However, this was only 6% of the Africans taken.
Cotton - Even after abolition, the British economy continued to rely on the labour of slaves in other countries. 4 million British people depended on the textile industry, spinning cotton picked by slaves in the American South.

Abolition - Consequences for Jamaica

Abolition did not bring freedom and equality to Jamaica. 1865 Morant Bay Rebellion - Bogle led a protest against the arrest of a freed slave for trespassing in Morant Bay. Violent clashes between the police and protestors led to Governor Eyre sending in the army. Eyre's soldiers, aided by the maroons, killed 439 Jamaicans and burnt 1000 homes to the ground. 350 more Jamaicans, including Bogle, were arrested and hanged

Geography - Year 8 Term 1 Are we facing a climate crisis?

Key words:

- **Adaptation**: Making adjustments to our environment to cope with climate change.
- **Atmosphere**: The layer of gases surrounding a planet.
- **Carbon Cycle**: nature's way of reusing carbon atoms, which travel from the atmosphere into organisms in the Earth and then back into the atmosphere repeatedly.
- **Carbon**: An element which exists in many different forms including diamond and graphite.
- **Climate Change:** Refers to the long-term shifts in temperature and weather patterns.
- **Deforestation**: Cutting down trees
- **Fossil Fuels**: a natural fuel such as coal or gas, formed in the geological past from the remains of living organisms.
- **Glacial period**: A period of time within an ice age that has colder temperatures and glaciers forming/advancing.
- **Global warming**: The increase in Earth's average temperature.
- **Greenhouse gases**: a gas that contributes to the greenhouse effect by absorbing radiation (heat from the sun).
- **Groundwater**: water held underground in the soil or in pores and crevices (gaps) in rock.
- **Industrialisation**: the development of industries in a country or region on a wide scale.
- **Infrastructure**: the basic physical and organisational structures and facilities (e.g. buildings, roads, power supplies) needed for the operation of a society or enterprise.
- **Interglacial period**: A period of time outside an ice age that has warmer climate.
- **Living organisms**: a living thing e.g. plant or animal.
- **Mitigation**: Trying to stop what is happening.
- **Monsoon:** Extremely heavy rainfall during a rainy season.
- **Natural Greenhouse effect**: A natural process that warms the Earth's surface.
- **Photosynthesis**: The process by which plants use sunlight, water and carbon dioxide to create oxygen and sugar.
- **Quaternary period**: a period that spans (goes) from 2.58 million years to present day.
- **The Enhanced Greenhouse effect**: impact on the climate from the additional heat retained due to the increased amounts of carbon dioxide and other greenhouse gases that humans have released
- **Thermal expansion**: Scientific term for expanding water.
- **Climate Refugees:** Climate refugees are individuals displaced due to climate-related events such as rising sea levels, extreme weather, and environmental problems.

KPI1: What is the evidence the world's climate is changing?

- **Temperature records:** Scientists have recorded an increase in the average temperature of land and ocean (around 0.85°C since the end of the 19th Century).
- **Glaciers:** Glaciers are retreating due to the melting of ice. Glaciologists use repeat photograph and satellite imagery to track the movement of glaciers.
- **Ice Cores:** When snow falls it traps air. We can then take a section of ice out of the ground and measure the amount of CO2 store. This can be used to calculate temperatures.
- **Tree rings:** The width of the tree ring shows the temperature of that year. The wider the ring the warmer the temperature.

KPI2: What is the enhanced greenhouse effect?

Natural Greenhouse effect: The **greenhouse effect** is the name given to the natural process that causes the Earth to be warmer than it would be in the absence of an atmosphere. The surface of the Earth is heated by the Sun. There are naturally occurring greenhouse gases in the **atmosphere** that trap this heat, keeping the planet warm. Without the **greenhouse effect**, the surface of the Earth would have an average temperature of -18 °C

The Enhanced Greenhouse Effect: **Global warming** is caused by the **enhanced greenhouse effect**. This is caused by the increased concentration of **greenhouse gases** in the **atmosphere**. **Greenhouse gases** e.g. carbon dioxide (CO2), methane and nitrous oxides, act like a blanket and trap heat inside the Earth's **atmosphere**.

Process:

1. **Greenhouse gases** allow more solar radiation to pass through Earth's atmosphere
2. The Earth absorbs most of the radiation and warms up.
3. The Earth radiates heat energy.
4. More heat is absorbed by **greenhouse gases** in the **atmosphere**.
5. Less heat escapes into space.
6. **Greenhouse gases** radiate (give off) heat in all directions
7. The lower **atmosphere** heats up.

Human activity is responsible for increasing amounts of **greenhouse gases** in the atmosphere. The main causes of this are:

- Burning **fossil fuels** – release carbon dioxide with accounts for 50% of greenhouse gases.
- **Agriculture** – accounts for around 20% of greenhouse gases due to methane production from cows etc.
- **Deforestation** – logging and clearing land for agriculture increases carbon dioxide in the atmosphere and reduces the amount of CO2 absorbed through photosynthesis.

KPI3: Carbon Cycle

The **carbon cycle** is nature's way of reusing carbon. Carbon can travel from the atmosphere into plants/animals and then back into the **atmosphere** over and over again.

Process:

1. **Carbon** enters the food chain during **photosynthesis**.
2. All living tissue (plants and animals) contain carbon
3. The carbon is recycled when organisms die and released into the **atmosphere** through the decaying process.
4. We use the carbon in fossil fuels.

Carbon Dioxide is added into the atmosphere by: Respiration (*breathing out*), Decaying organisms (*plants and animals breaking down*), Combustion (*burning)* of fossil fuels. Carbon Dioxide is removed from the atmosphere by: **Photosynthesis,** Dissolving in the oceans, Stored in seashells

Geography - Year 8 Term 1 Are we facing a climate crisis?

KPI4: Should India be allowed to continue developing fossil fuels?

Yes, India should be allowed to continue developing fossil fuels...

- Fossil fuels are reliable so are used to power industries such as creating steel, cement and other items which need a constant supply of energy.
- India has a high population of 1.4 billion people. Lots of energy is needed to power homes, businesses and public services.
- India is an NEE so needs to improve quality of life and standard of living. It uses fossil fuels to ensure that everyone has access the resources they need.
- Fossil fuels are used for building materials and infrastructure (e.g. roads and concrete). Transportation also needs diesel and petrol to power vehicles.

No, India should not be allowed to continue developing fossil fuels because climate change is having severe environmental impacts such as...

- Rising temperatures: India has experienced an increase in the amount and intensity of heatwaves,
- Changes in rainfall patterns: Monsoon patterns have changed leading to unpredictable rainfall causing severe flooding and then long droughts.
- Melting glaciers: Himalayan glaciers are melting at a faster speed, impacting the supply of water for millions of people.
- Sea level rise: Rising sea levels are causing problems in Mumbai and Kolkata.
- Cyclones: Cyclones are become more intense

KPI5: How will the Forest of Dean be impacted by climate change?

1. *Warmer and drier summers:* This places strain on the heart and lungs. More cases of sunburn and skin cancer. Puts strain on water and energy supplies, road and rail transport and health and fire services.
2. *High intensity rainfall events:* Effects the planting of crops. Farmers have to spend more money on farming equipment. The weather makes it more challenging for lambing and calving seasons.

KPI6: How can we mitigate climate change in the Forest of Dean?

Strategy: Afforestation - The Forestry Commission is replanting thousands of saplings (small trees) in the Forest of Dean, including native species like oak and beech. This allows more CO2 to be absorbed and store carbon in leaves, wood and bark.

Example: Cannop Ponds. They are ensuring there is continuous cover forest by cutting down older trees and allowing younger trees to grow naturally under the existing tree canopy.

KPI7: Why is Kale Island disappearing?

Kale Island is located in the Solomon Islands, just off the coast of Oceania. It is disappearing because of sea level rise.

Causes of sea level rise:

- Thermal expansion: Expanding water as temperatures increase due to global warming.
- Melting glaciers in Antarctica.

What are the impacts of sea level rise in the Solomon Islands?

- Coastal erosion leading to loss of land
- Flooding of low-lying areas affecting homes, infrastructure and farm land
- Salt water entering fresh water sources. This affects drinking water supplies.
- Biodiversity loss. Ecosystems in the mangroves and coral reefs are being impacted
- People are forced to relocate.
- Fish populations are decreasing which impacts food supplies.
- Economic cost of rebuilding in these areas.

KPI8 – What are the causes, impacts and responses to wildfires?

Location: South West Australia in New South Wales
Cause: A combination of extreme heat, prolonged drought and strong winds.
Impacts:

- 33 deaths,
- 18 millions hectares of Australia has been burnt
- 1 billion animals have dies including koalas
- Air pollution in many areas including Canberra the capital city
- Smoke drifted across to other countries like New Zealand and even Argentina
- of emergency declared in many areas of New South Wales

Responses

- Fundraising events happened around the world often led by celebrities – the singer Pink donated $500,000
- Food and goods were donated
- Extra firefighters and troops sent to the areas including firefighters from the USA

KPI7: How can climate refugees be managed?

100% of the Maldives population in Tuvalu live below 5m. There is the possibility these individuals will eventually become climate refugees - individuals displaced due to climate-related events such as rising sea levels, extreme weather, and environmental degradation.

Why are people leaving the Maldives?

- Lack of freshwater due to drought and salt water from sea level rise.
- Food production is low.
- Unpredictable monsoons
- Lack of fish

What problems do climate refugees face?

- Climate refugees often do not have skills that are needed in cites and therefore cannot find work.
- Climate refugees need to adjust to different laws, languages and cultures.
- Educational and healthcare systems must adjust to refugees arriving.
- Climate refugees are not recognised by law, so can often be forced to return back to the country there are a citizen of.
- Individuals who are forced to leave their country might end up in refugee camps that can lack in basic resources.

What are the solutions?

1. The Maldives should build a new island by pumping sand from the seafloor onto a coral platforms One example is Hulhumalé, a newly constructed artificial island northeast of the capital, Malé.
2. The Maldives government has explored plans to purchase land in other countries including Sri Lanka, India and Australia.
3. The Maldives is considering building artificial coral reefs as they absorb 97% of wave energy, reduce coastal erosion and are affordable (1m costs $300)

Year 8 Term 2 How vulnerable is my local area to the risk of flooding?

Key words

- Source - The beginning of the river.
- Confluence - Where two rivers meet.
- Watershed - An area of high land between two drainage basins.
- Mouth - Where a river flows into a lake or the sea.
- Tributary - A small river or stream that flows into a larger river.
- Drainage Basin - The area drained by a river and its tributaries.
- Discharge – the amount of water in a river
- Lag time -the time taken between peak rainfall and peak discharge.
- Meander- a bend in the river.
- Erosion- is the process by which the surface of the Earth gets worn down
- Floodplain- an area of low-lying ground adjacent to a river, formed mainly of river sediments and subject to flooding.
- Hard engineering- controlled disruption of natural processes by using man-made structures
- Soft engineering-controlled disruption of natural processes by using man-made structures
- Impermeable- will not allow liquid to pass through
- Hard engineering -Man-made structures built to control the flow of rivers and reduce flooding
- Soft engineering - where the natural environment is used to help reduce erosion and flooding

KPI 1 What is a drainage basin?

- A drainage basin is an area of land drained by a river and its tributaries.
- The edge of the drainage basin is known as the watershed.
- The water flowing through the river will eventually leave the river basin through its mouth and enter the sea or a lake.

Discharge is the amount of water a river holds factors that affect how quickly water reaches a river include:

- Rock type
- Soil Type
- Land use
- Relief

KPI 2 How do rivers erode and transport material?

- *Hydraulic Action:* When sheer force of water wears away rock
- *Abrasion:* When rocks wear away the cliff-face/riverbanks
- *Attrition*: When rocks wear each other away
- *Solution*: When dissolved materials wear rock away or are transported
- *Traction:* When rock is moved by rolling along sea/riverbed
- *Saltation*: When rock is moved by bouncing along sea/riverbed
- *Suspension*: When rock is carried within the river/sea and is off the sea/riverbed
- *Deposition*: The dropping of rock

KPI 3 What landforms are created by erosion and deposition

Waterfalls - Formed when a river flows over an area of hard rock followed by softer rock. The softer rock is eroded quicker (by hydraulic action and abrasion) creating an overhang in the river. As water goes over, the erosion continues which creates steep drop. The hard rock is eventually undercut and collapses. The collapsed rock swirls around the foot of the water fall eroding the rock (abrasion) creating a plunge pool. Overtime the waterfall retreats leaving a gorge.

Meanders -A bend in the river, created by deposition and erosion, The outside of the bend is eroded whilst deposition occurs on the inside bend. Overtime a meander will move and change shaped and can eventually form an ox-bow lake.

KPI 4 Why do rivers flood?

A flood occurs when a river bursts its banks and the water spills onto the **floodplain.**

Physical causes of flooding: Heavy or long periods of rain, snowmelt steep slopes, <u>impermeable</u> rock, saturated soil, compacted or dry soil

Human factors increasing flood risk: <u>Urbanisation</u>; because towns and cities have a more impermeable surface. Deforestation; because removing trees reduces the amount of water <u>intercepted</u> and increases <u>run-off</u>

KPI 5 How do we protect against flooding?

Hard engineering – dams, channel straightening, embankments, flood relief channels

Soft engineering – Flood warnings, floodplain zoning, planting trees

Examples:

- Embankments: Raising the banks of a river so that it can hold more water. Advantages – cheap with a one-off cost, allows for more water to be contained within a river. Disadvantages – looks unnatural and water speed up downstream so can increase flood risk in other areas.
- Floodplain zoning: Allows only certain land uses on the floodplain to reduce the risk of flooding to houses and important buildings. Advantages – less damage is caused, leading to fewer insurance claims. Disadvantages – not always possible to change existing land uses.

<u>Flooding Management: Stakeholders</u>

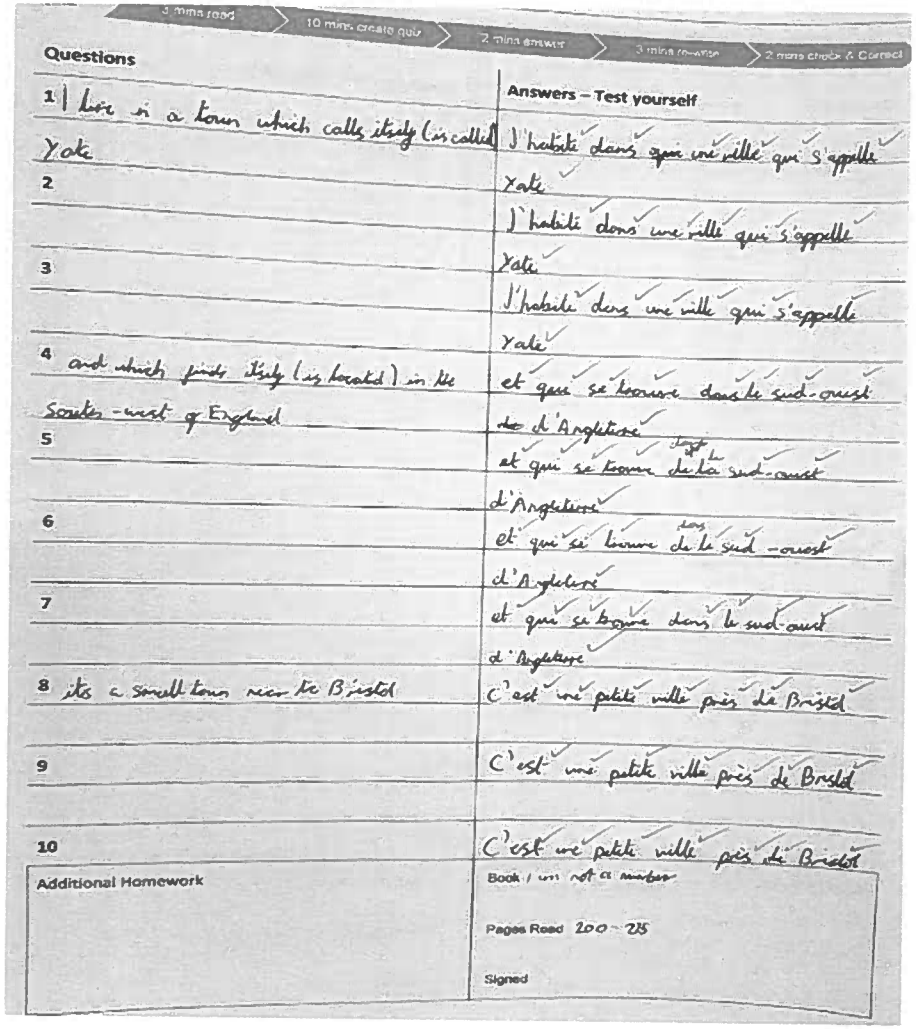
Different people or groups of people will have differing views on how the coast should be managed by erosion and flooding. Some examples are listed below.

- **Homeowners:** Would want their house to be protected (e.g hard engineering)
- **Business Owner:** Would want their business to be protected (e.g hard engineering)
- **Member of a Walking Group:** Would want interesting landscapes to walk on (e.g soft engineering)
- **Environmentalist:** Would want as little damage to the landscape as possible but also species to be protected (e.g soft engineering)

Year 8 French Term 1 - Relationships, Role Models, Food, Drink

1	My best friend is called François	Mon meilleur ami s'appelle François.
2	He is (has) 13 years old.	Il a treize ans.
3	He has brown eyes and red hair.	Il a les yeux marron et les cheveux roux.
4	He is nicer (more nice) than me.	Il est plus agréable que moi.
5	Sometimes I get on well with my friend.	Quelquefois je m'entends bien avec mon copain.
6	He is self-confident.	Il est sûr de lui.
7	My role model is my aunt because she understands me.	Mon modèle c'est ma tante car elle me comprend.
8	I can't stand my half sister because she is not kind.	Je ne supporte pas ma demi-sœur car elle n'est pas sympa.
9	She is an only child.	Elle est fille unique.
10	From time to time, he is too hardworking.	De temps en temps, il est trop travailleur.
11	I ate a piece of cake.	J'ai mangé un morceau de gâteau.
12	I drank a bottle of water.	J'ai bu une bouteille d'eau.
13	I am going to eat a bowl of strawberries.	Je vais manger un bol de fraises.
14	I am going to drink a cup of coffee.	Je vais boire une tasse de café.
15	You have to go to the butcher's.	Il faut aller à la boucherie.
16	For breakfast I eat eggs.	Pour le petit-déjeuner je mange des œufs.
17	After lessons I drink tea.	Après les cours je bois du thé.
18	At my house we have fish and vegetables.	Dans ma maison on prend du poisson et des légumes.
19	I prefer to buy meat and cheese.	Je préfère acheter de la viande et du fromage.
20	I buy some when I have enough money.	J'en achète quand j'ai assez d'argent.

Example of what LSQs for MFL should look like:



3 mins read | 10 mins create quiz | 2 mins answer | 3 mins reverse | 2 mins check & Correct

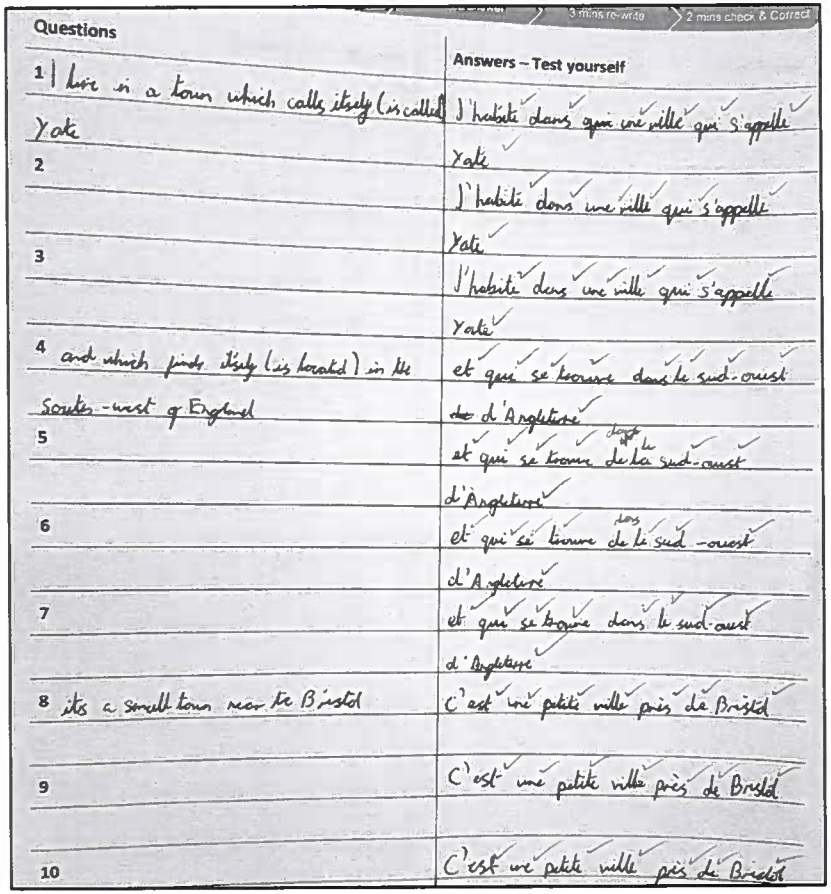
Questions	Answers – Test yourself
1 I live in a town which calls itself (is called) Yate	J'habite dans une ville qui s'appelle Yate
2	J'habite dans une ville qui s'appelle Yate
3	J'habite dans une ville qui s'appelle Yate
4 and which finds itself (is located) in the South-west of England	et qui se trouve dans le sud-ouest de l'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 1 un not a number Pages Read 200 - 215 Signed

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 and shows emphasis, e.g. très/assez	Every time you write an adjective, make sure you use an intensifier before it. • je pense que le sport est très important • I think that sport is very important

Year 8 Spanish Term 1 - Relationships, role models, food, drink

1	My best friend is called Miguel.	Mi mejor amigo se llama Miguel.
2	He is (has) 13 years old.	Tiene trece años.
3	He has brown eyes and red hair.	Tiene los ojos marrones y el pelo rojo.
4	He is nicer (more nice) than me.	Él es más simpático que yo.
5	My boyfriend is tall and really strong.	Mi novio es muy alto y verdaderamente fuerte.
6	Sometimes I get on well with my friend.	A veces me llevo bien con mi amigo.
7	He is social and very chatty.	Él es sociable y muy hablador.
8	My role model is my aunt because she helps me.	Mi modelo es mi tía porque me ayuda.
9	I can't stand my cousin because he scares me.	No soporto a mi primo porque me da miedo.
10	They always make me laugh.	Siempre me hacen reír.
11	She is an only child.	Ella es hija única.
12	I argue with my neighbour because he is boring.	Me peleo con mi vecino porque es monótono.
13	Sometimes I get on well with my friend.	A veces me llevo bien con mi amigo.
14	For breakfast I eat eggs.	Para el desayuno como huevos.
15	After school I drink tea.	Después del insti bebo té.
16	At my house we have fish and vegetables.	En mi casa comemos pescado y verduras.
17	From time to time for lunch I have ham.	De vez en cuando para el almuerzo tomo el jamón.
18	For the main course we have meat.	De segundo plato tomamos carne.
19	I tend to eat fish and rice.	Suelo comer pescado y arroz.
20	I am going to buy orange juice.	Voy a comprar zumo de naranja.



Questions	3 mins re-write	2 mins check & Correct
	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	

Example of what LSQs should look like in Spanish:

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: Me gusta jugar/ hacer/ comprar I like **to play/to do/to buy** After suelo/solía, you always need an infinitive: suelo 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

Year 8 Term 1 What is it like to be a Muslim today?

Key terms:

Islam	The religion of the Muslims, as monotheistic religion regarded as revealed through Muhammad as the prophet of Allah
Muslim	Followers of the religion of Islam
Allah	Arabic names for God
Ummah	The whole community of Muslims
Tawhid	Oneness of God
Prophet	A person regarded as an inspired teacher of messenger of God
Mecca	Birthplace of Muhammad; spiritual centre of Islam
Qur'an	The Recitation or Reading
Muhammad	The last messenger of Allah and founder of Islam, called 'Seal of the prophets' in the Qur'an
Five Pillars	The five observance which must be followed by all practising Muslims
Shahadah	Muslim declaration of faith

KPI 1- To investigate Muslim belief

The word **'Islam'** in Arabic means **submission** to the will of God. Followers of Islam are called **Muslims**. Muslims believe there is one true God **Allah** (the Arabic word for God the Qur'an, and the Sunnah).

Allah is the creator and has revealed himself through history to many peoples through prophets. God's final and greatest revelation comes in the form of the Qur'an to Prophet Muhammad.

1.6 billion Muslims worldwide – 2nd largest religion. 4.5% of UK is Muslim.

KPI 2- Qur'an

Most important source of authority for Muslims. Complete and perfect book of guidance for all humans. Revealed by God to Prophet Muhammad through Angel Jibril. Written in Arabic and final compilation by Caliph Uthman shortly after Prophet's death (632AD). Unchanged and literal word of God. Qur'an is known as Umm-ul-Kitab 'Mother of Books'. Qur'an is a sacred and holy text which is free from distortion unlike other holy books. Qur'an has always existed and was written in Arabic on tablet of stone in heaven. Qur'an is guide for life, teaches everything, learn by heart in Arabic

KPI3- To explain why the prophet Muhammad (pbuh) is important to Islam

•Muhammad was born in **Mecca** in Saudi Arabia in 570. He was a deeply spiritual man, and often spent time in meditation on **Mount Hira.**

•Night of power

The traditional story of the **Qur'an** tells how one night in 610 he was meditating in a cave on the mountain when he was visited by the **angel Jibreel** who ordered him to recite. Once Jibreel mentioned the name of Allah, Muhammad began to recite words which he came to believe were the words of God.

•During the rest of his life Muhammad continued to receive these **revelations**. The words were remembered and recorded, and form the text of the Holy Qu'ran, the Muslim scripture.

•Muhammad's popularity was seen as threatening by the people in power in Mecca, and Muhammad took his followers on a journey from Mecca to Medina in 622. This journey is called the **Hijrah** (migration) which the Islamic calendar begins.

KPI4 - To explore what the five pillars of Islam are.

The most important Muslim practices are the Five Pillars of Islam.

The Five Pillars of Islam are the five **obligations** that every Muslim must satisfy in order to live a good and responsible life according to Islam.

The Five Pillars consist of: **•Shahadah: •Salat: •Zakat: •Sawm: •Hajj:**

Why are they important? Carrying out these obligations provides the framework of a Muslim's life, and weaves their everyday activities and their beliefs into a single cloth of **religious devotion.**

KPI 5: To understand the importance of shahadah in the worship of Allah

•"There is no God but Allah, and Muhammad is his messenger. "This is the basic statement of the Islamic faith: anyone who cannot recite this wholeheartedly is not a Muslim.

•When a Muslim recites this they proclaim: That Allah is the only God, and that Muhammad is his prophet, that they personally accept this as true, that they will obey all the commitments of Islam in their life. Shahadah is repeated in Salah daily and also in call to prayer. Furthermore, these are first words whispered into new born baby's ear. Testament to monotheism (belief in one God). 1st pillar said to become a Muslim or revert; all born Muslims and so return to faith.

Year 8 Term 1 What is it like to be a Muslim today?

Key words

Ibadah –	**acts of worship; any permissible action performed with the intention to obey God**
Salah/t	**Prescribed communication with, and worship of, Allah.**
Wudu	**ritual washing to be performed in preparation for prayer and worship.**
Mosque (masjid)	**a Muslim place of worship.**
Mihrab	**prayer niche in the qiblah wall (that facing Mecca) of a mosque**
Rak'ah	**series of movements performed during Salat prayer.**
Zakah	**charity, giving money to the poor.**
Sawm	**fasting during Ramadan**
Hajj	**pilgrimage to Mecca**
Qibla	**the direction to face during prayer (towards Mecca)**
Ramadan	**ninth month of Islamic year in lunar calendar. 11 days shorter than solar calendar so Ramadan moves every year.**
Id –ul Fitr	**Festival of fast-breaking – end of Ramadan.**

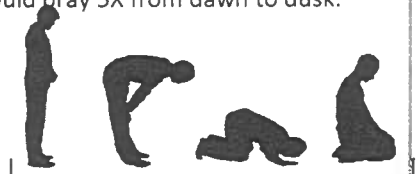
KPI 6: To explain the importance on prayer for a Muslim.

Prayer is most important way to worship God. Expected 5 times a day. Give thanks and submit to Allah. 'Prayer prohibits immorality and wrongdoing.' (Q 29). Preparation for prayer includes being respectful and showing reverence and concentration. Part of this is Wudu – ceremonial washing of body – hands, mouth, nose face, arms, head and feet. Sign of inner cleanliness. Sunnah indicates Muslims should pray 5X from dawn to dusk. Prayer involves prostration in ra'kah – movements of prayer. Facing Mecca

Jumu'ah are congregational prayers which happen on a Friday at midday.

Du'a is personal prayer which takes place after prayers of duty.

When Muhammad went on night journey he received the instruction from Allah through negotiation of Musa to pray 5X a day.



Second Rak'ah

KPI 7: To investigate the importance of fasting in the lives of a Muslim

•**Sawm** is fasting. It's the fourth of the Five Pillars of Islam.

•Muslims are required to fast during **Ramadan**, the ninth month of the Islamic calendar. During the 29/30 days of Ramadan all adult Muslims must give up food etc.

•When daylight is over, most Muslims will break or open the fast with dates or water, following the example of the Prophet Muhammad, before having a proper meal later.

On 27th day, Muslims celebrate Laylat-ul-Qadr – Night of Power – revelation of Qur'an. Why do Muslims Fast? Commanded in Quran. Follows example of Prophet. Brings Muslims closer to each other. Worship Allah. Reminds Muslims of hungry and poor. Promotes self-control.

Who should fast? All except those young, ill, travelling.

•**Eid ul-Fitr.** The month of Ramadan ends with the festival of Eid ul-Fitr. This is marked by dressing up and visiting the mosque for prayer, and have a celebratory meal.

KPI8- To describe the Muslim place of worship

- Public worship takes place in the **mosque**. The muezzin (mu'adhdhin) calls the people to prayer, sometimes from a minaret.
- When they enter the mosque, Muslims remove their shoes and sit on the floor facing the **Qiblah** or prayer wall which orients them in the direction of **Makkah** (Mecca).
- The **Imam** leads the people in the rak'ahs. At Friday prayers, also called Jumu'ah, he preaches a sermon using words from the Qur'an.

KPI9 : To investigate pillar 3 and 5

Zakah is the third pillar of Islam

- All Muslims are expected to perform Zakah as a regular duty by giving 2.5 %. Qur'an commands to give to those in need
- Zakah is a sign of cleansing and purity.
- The Prophet Muhammad practiced zakah as a practice when he became ruler in Medina. Those that can receive Zakah include the poor, needy and travellers

Hajj is the fifth pillar of Islam

•Hajj is the fifth pillar of Islam. Once a year, Muslims of every ethnic group, colour, social status, and culture gather together in Mecca and stand before the Ka'bah praising Allah together.

•Muslims are to go on Hajj at least one in a lifetime. The Hajj makes Muslims feel real importance of life here on earth, and the afterlife. In the Hajj all are truly equal.

Year 8 Unit 3 -Python Introduction

Lesson 1

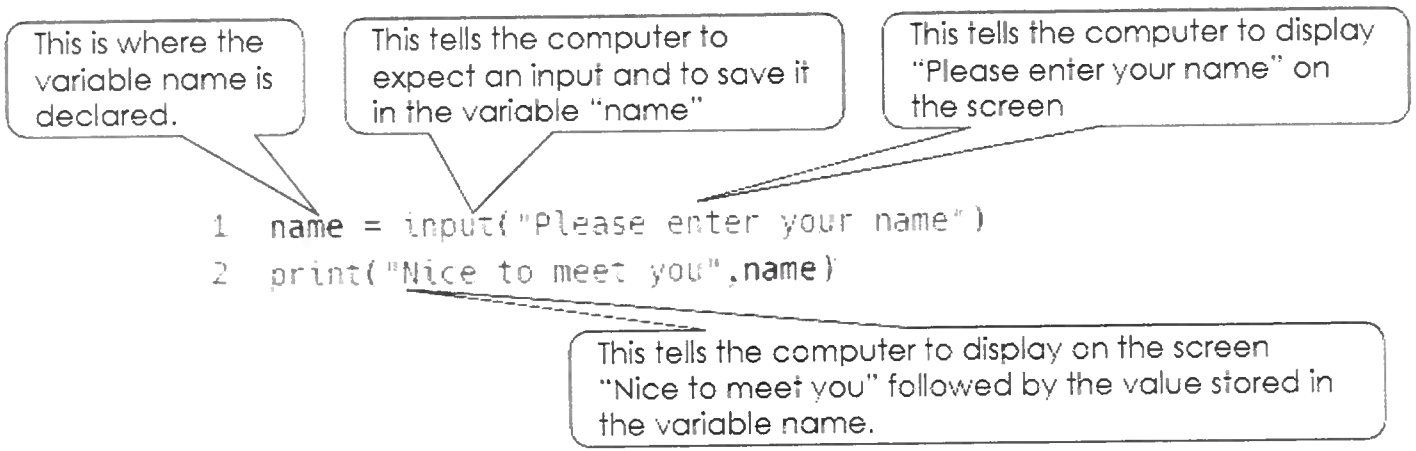
Describe what algorithms/sets of computer instructions and programs are and how they differ.

An algorithm/set of computer instructions is a set of instructions created in order to solve a problem. An algorithm/set of computer instructions is written in what is known as pseudocode. Pseudocode is written similar to how a program is written but without all the syntax (commas, brackets, colons etc)/ (the set of rules for forming language). A programmer will then take the pseudocode and turn it into a computer program. Algorithm/Sets of computer instructions s are similar/are just like to a program but they are not written using a programming language.

What needs to happen to a completed computer program before it can be executed/ran/run by the computer?

Programming languages have been developed to help humans write computer programs. A computer cannot directly understand the programs that are written. They must first be converted into binary form (1's and 0's) using a translator. Only then can a computer execute/run those programs.

Give an example of a simple Python program that displays a message,assigns a value to a variable/(number or thing that changes), and receive keyboard input



Keywords

Algorithm/Set of computer instructions
An algorithm/Set of computer instructions is a list of instructions, used to solve problems or perform tasks/(do/complete).

Program
A program is a set of operations for a computer to perform/(do/complete).

Programming language
A programming language is a language that can be used to control a computer.

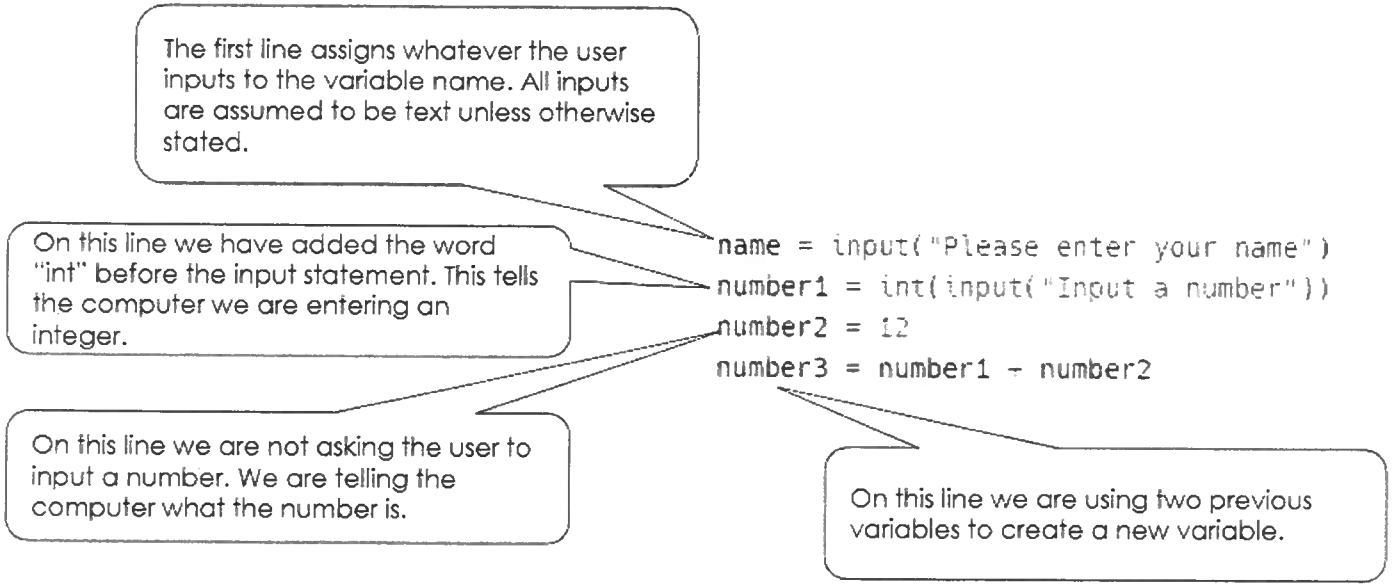
Program translation
A translator is a program that converts source code (python) into code that the computer can use.

Program execution
To execute/run a program is to run the program in the computer,

Interpreter
A computer program that directly executes instructions written in a programming language

Lesson 2

Describe the semantics/(meanings of words) of assignment statements



Use simple arithmetic expressions in assignment statements to calculate values

```
length = 4.5
width = 3.76
area = length * width
perimeter = length * 2 + width * 2
```

Receive input from the keyboard and convert it to a numerical value

See example for variable/ (number or thing that changes) **number2** above.

Programming environment/(surrounding conditions)

A program that contains language specific/clearly stated/particular editors and source level debugging/(finding and correcting mistakes in) facilities. (Replit.org)

Input

Data that is entered into or received by a computer

Output

The information that it displays on a screen or prints on paper as a result of a particular program.

Variables/(numbers that change/things that change)

A variable/(numbers that change/things that change) is a value that is stored by a computer.

Assignment

A statement in computer programming that is used to set a value to a variable.

Operators

An operator is a specific mathematical or logical action or process.

Expressions

A combination of values and functions that are combined to create a new value

Lesson 3

Lesson 3

Describe how to use binary selection to control the flow of program execution.

On the first two lines variables a and b are set to values 1 and 2.

On this line we are using an IF statement to check if a is equal to b using the double equals. (==)

If they are equal we set c = a.

If not then we set c = b.

```
a = 1
b = 2
if a == b:
  c = a
else:
  c = b
print(a,b,c)
```

Describe how to use random integers e.g.,

We need to tell the computer we are using a library of ocde called random

On these lines we are setting a and b to random numbers between 1 and 10.

If they are equal we set c = a.

If not then we set c = b.

```
import random
a = random.randint(1,10)
b = random.randint(1,10)
if a == b:
  c = a
else:
  c = b
print(a,b,c)
```

Integer and string type

Integer is a numeric/number-based value, while string is a character value represented in quotes.

Execution

To execute/ **run** a program is to run the program in the computer

Selection

Where a section of code is run only if a condition is met

Relational operators

Relational operators compare numeric/**number-based**, character string, or logical data. The result of the comparison, either true (1) or false (0). Examples include =, > < and <>.

Logical (or Boolean) expressions

An operation involving the use of logical functions, such as AND or OR.

Conditions

Conditions are statements which evaluate/(**figure out the worth, amount, or quality of**) if something is true or false.

Multi-branch selection

Where the flow of a program can go in many different directions depending on a particular value.

		Iteration/Cycle A sequence of instructions or code being repeated until a specific end result is achieved/(accomplished or gained with effort). **Flags** A flag is a variable(number or thing that changes) that acts as a signal within a program.

Lesson 4	**Explain how multi-branch selection (if, elif, else statements) can be used to control the flow of program execution.**

We need to tell the computer we are using a library of ocde called random

On these lines we are setting a to a random numbers between 1 and 10.

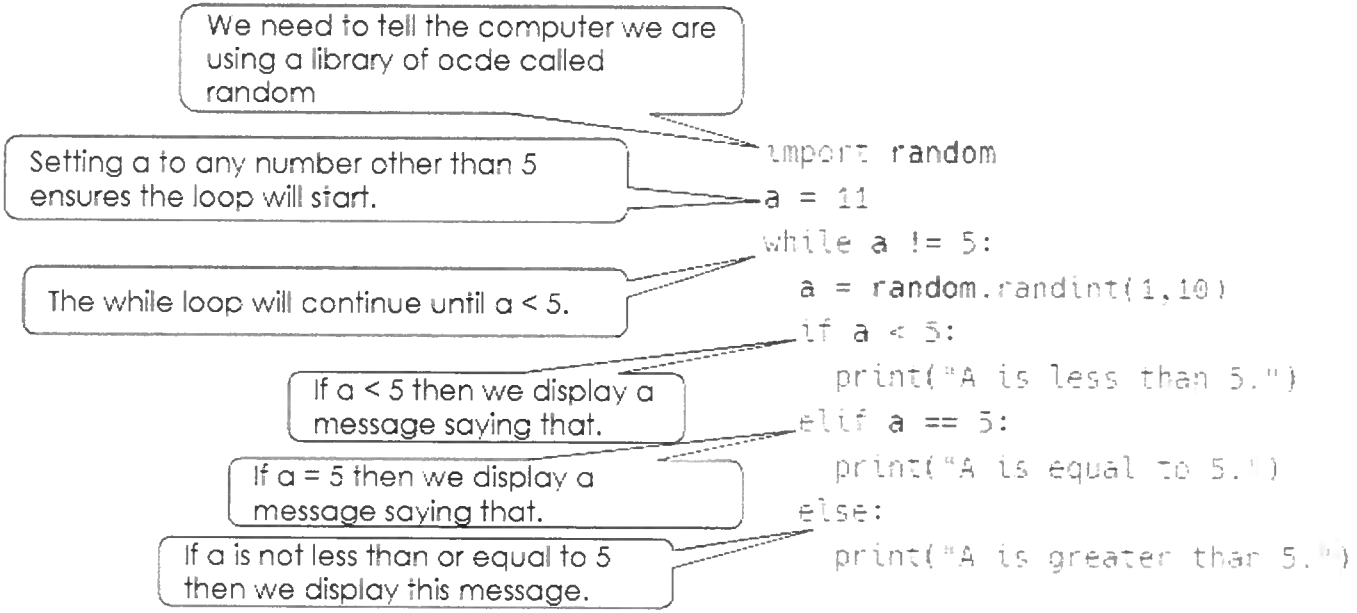
If a < 5 then we display a message saying that.

If a = 5 then we display a message saying that.

If a is not less than or equal to 5 then we display this message.

```
import random
a = random.randint(1,10)
if a < 5:
  print("A is less than 5.")
elif a == 5:
  print("A is equal to 5.")
else:
  print("A is greater than 5.")
```

Explain how iteration/cycle (while statements) controls the flow of program execution



Lesson 5	**Use iteration/cycle (while loops) to control the flow of program execution** **Use variables/ (numbers that change/things that change) as counters in iterative/repeating/repetitive programs**

We need to tell the computer we are using a library of ocde called random

Count will be used to control the loop

The while loop will continue as long a count < 10

If a < 5 then we display a message saying that.

If a = 5 then we display a message saying that.

If a is not less than or equal to 5 then we display this message.

count is increased by 1

```
import random
count = 0
while count < 10:
  a = random.randint(1,10)
  if a < 5:
    print("A is less than 5.")
  elif a == 5:
    print("A is equal to 5.")
  else:
    print("A is greater than 5.")
  count = count + 1
```

Lesson 6

Combine iteration/cycle and selection to control the flow of program execution

Use Boolean variables/(numbers that change/things that change) as flags

We need to tell the computer we are using a library of ocde called random

loop controls the while loop and is set to **True**

The while loop will continue as long a loop = True

If a < 5 then we display a message saying that.

If a = 5 then we display a message saying that. We then set loop to False to stop the loop.

If a is not less than or equal to 5 then we display this message.

```
import random
loop = True
while loop == True:
    a = random.randint(1,10)
    if a < 5:
        print("A is less than 5.")
    elif a == 5:
        print("A is equal to 5.")
        loop = False
    else:
        print("A is greater than 5.")
```

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

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.

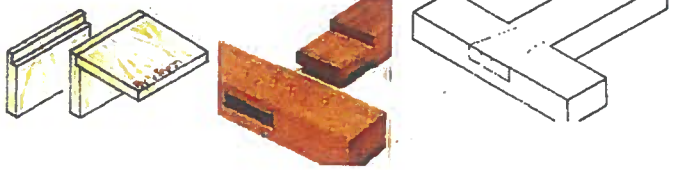
Design & Technology
Year 8

1: Joining Methods

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

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

1.1Wood joints



Lap Joint | Mortise + Tennon Joint | Dovetail Joint

2. Scales of Production

<u>One off</u>: when you make a unique item

<u>Batch</u>: when you make a few/set amount

<u>Mass</u>: when you make thousands

<u>Continuous</u>: open ended production

3. Adhesives

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

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

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

4: Materials

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

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

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

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

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

5: TOOLS

Try square

Bench Hook

Vice

Router Table

Mallet

PVA Glue

Chisel

Laser Cutter

Tenon Saw

6: Surface Finishes

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

<u>Some examples:</u>

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

7: KEY WORD FOCUS

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

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

ART Year 8 - Term 1 - Cultures Project

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:

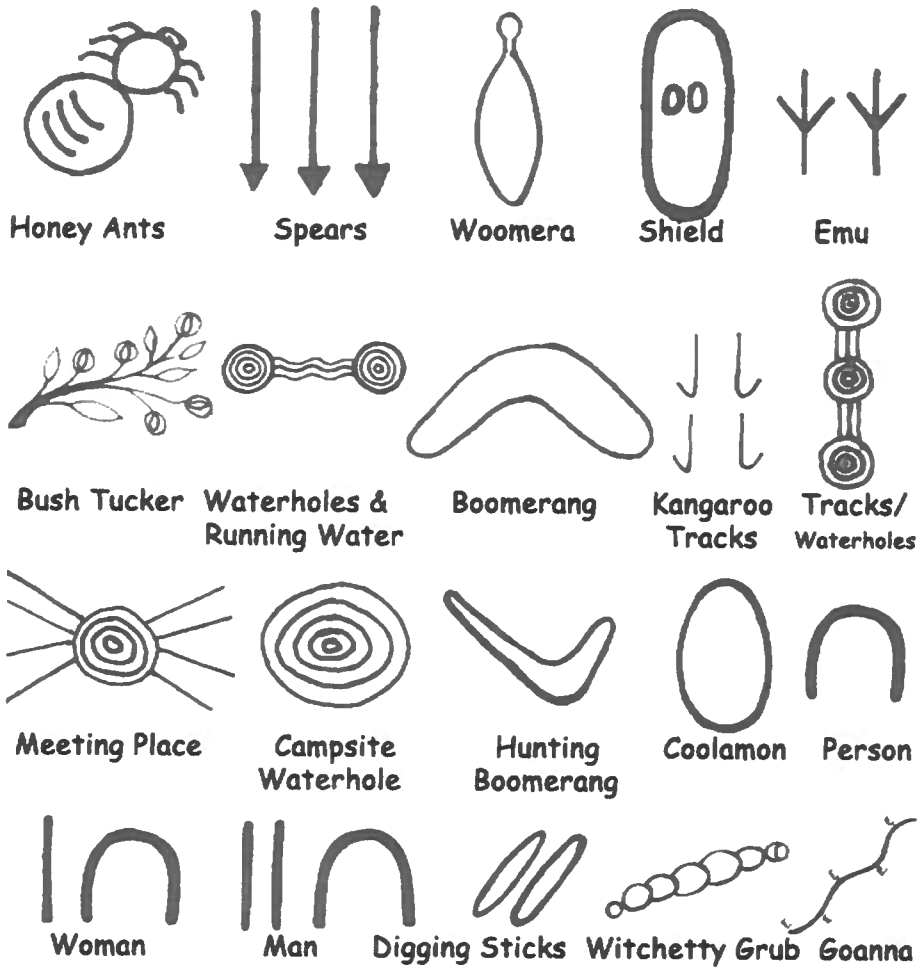
Foreground = closest thing to a viewer
Midground = section in between the fore- and background.
Background = the furthest thing in the distance to a viewer.

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.

Aboriginal Symbols



Drama Y8 Inequality as a stimulus

5 Key acting skills

Voice: This is how you use your voice in performance. You can change your voice using your; Tone, pitch, pace, emotion, volume, projection, dialogue, dialect, accent, intonation, whistling, SFX, interjection.

Facial Expression: They are used to show the audience how a character is feeling through; Eye contact, eye brows, straight, emotions, gritting teeth, tense, relaxed, wrinkled, creased, staring, twitching.

Posture: This can also be called body language. This is how a character/actor holds their body. For example; Bad posture would mean someone is hunched over.

Gestures: Gestures are movements that have a meaning. For example; if you wave at someone you would be saying hello to them. Gestures can be performed by; Hands, arms, speed, clicking, rubbing, waving, mannerisms.

Movement: This is any movement that does not have a meaning. For example; Walking. Speed, pace, acceleration, gait,

Using inequality as a Stimuli

This term we will be focusing on how we can use Inequality as a Stimulus. Throughout history there have been many types of inequality. The key types of inequality we are going to be focusing on are:

Racism - The mistreatment of a group or an individual based on their back ground, ethnic or racial group. It can lead to groups being marginalised and treated differently. Racism can be a one off event or can be systemic. Systemic meaning that it is part of the way we live. E.g Black people losing out on a job due to the colour of their skin.

Sexism - The stereotyping and prejudice of people based on their gender/sex. Typically this happens more towards females, however this can affect both sexes and all genders. This can be a one off event, such as telling a girl they cannot play rugby or a boy that they cannot do ballet. However similar to racism that can be something which is systemic. Such as, women typically earning less money than men even when they do the same job.

Homophobia - This is the mistreatment and dislike of anyone who is part of the LGBTQ+ community. This is not just prejudice against gay people. This could be seen through negative comments towards people, or could be something more extreme such as physical abuse.

These types of inequality have been around for hundreds of years and continue to be an issue in today's society. Despite slavery being abolished in 1834, black people still face being treated as second class citizens. Same sex marriage was only legalised in the UK in 2013, despite the fact that non-heterosexual relationships have been a thing for thousands of years and have been seen throughout history.

Using a Stimuli

A stimulus is anything that provokes an emotion, feeling or thought in somebody.

In drama we can use a stimuli to help us create performance. Some examples of this could be; A picture, a piece of music or a story.

There are many examples of a Stimulus being used in professional performance. One example is the play, 'Blood Brothers'. Writer Willy Russell used his own life as his stimulus. He based the play in Liverpool, where he is from, and used stories and pictures from his past past to create the script.

Another playwright who used a stimuli is William Shakespeare. He took inspiration from stories of Mark Antony and Cleopatra when creating the play Antony and Cleopatra. His story is not 100% accurate and thats because he used a stimuli and took inspiration, rather than just copying.

Drama Y8 Inequality as a stimulus

More Drama Terms

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.
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
Stage directions: These are lines of text in a script which are used to inform the actors of what they need to be doing in a scene.

Physical Theatre: Using your body to create objects and portray emotions.

How to create tension in performance.

Eye contact – Maintaining eye contact with the person you are in direct conflict with will increase the tension dramatically. It connects you to each other in a non physical way but still very personal.

Pauses – Arguably the most important of the three. Moments of silence are essential when building tension as not only do they show that each character is carefully weighing up their next move but it allows the audience to take some time to absorb the situation and keep them guessing what is going to happen next.

Volume and pace – speaking at a natural volume and pace lulls the audience into a false sense of security. By slowing decreasing both, the audience naturally begin to feel tension building. This can then be increased to a quicker pace and louder volume until the scene reaches a climax.

Key Drama Techniques

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: This is similar to a freeze frame, however it is a collection of still images created by the performers rather than just one.

Role Play: Using all of your acting skills to become somebody else. You need to fully, 'Step into' the character's shoes and become someone that you are not.

Angel vs Devil: One character is struggling to make a decision. They have two people stood on either side of them representing the 'angel' and the 'devil'. The job of the 'angel' is to persuade them to do the right thing. The job of the 'devil' is to persuade them to do the wrong thing. This is a non-naturalistic technique meaning that we would never see this is real life.

Key Drama Terms

Parallel scenes: Two scenes that have similarities but different outcomes.

Split staging: Two scenes happening at the same time on opposite sides of the stage.

Thought tracking: When in a freeze frame, a character will vocally express their inner thoughts to help the audience get a better understanding of their character.

Mime: Communicating emotion or meaning using only physical movements, no words or sound.

Narration: When a character or character's talk directly to the audience about the story. They could either be telling the story, or explaining to the audience what is happening.

Direct Address: This is where a character will talk directly to the audience. They are NOT explaining the story. They are talking to the audience as if they are another character.

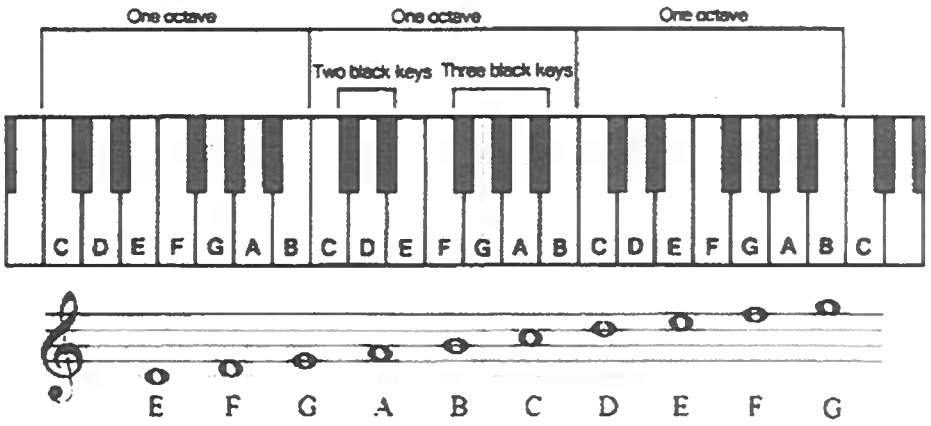
MUSIC - The Elements of Music

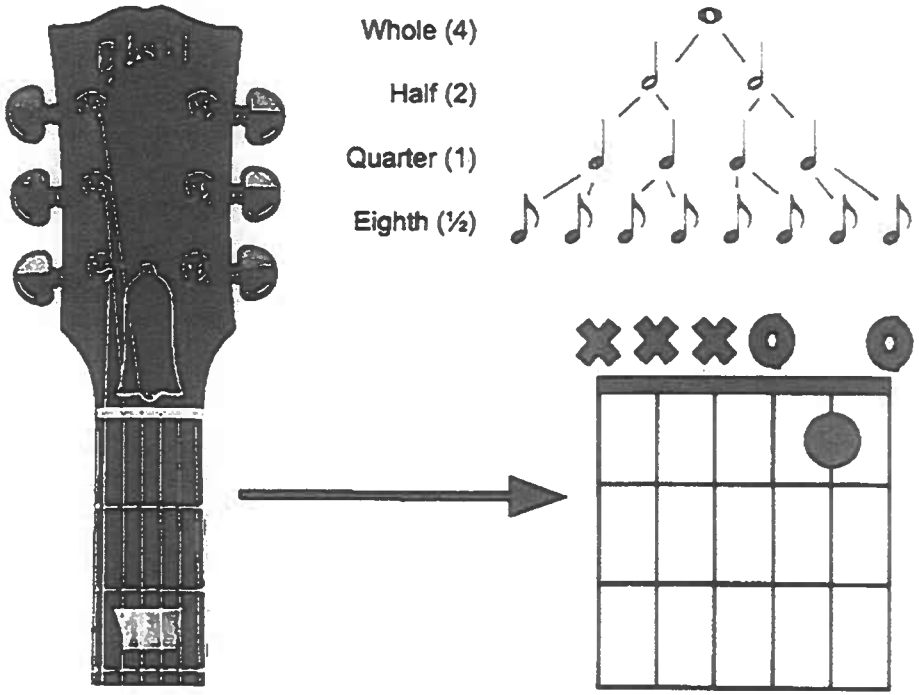
Key Terminology

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...***





PCSHE – Year 8 Term 1 – Drugs and Alcohol

KPI 1 – Key terms

- **Nicotine:** A toxic colorless or yellowish oily liquid which is the chief active constituent of tobacco. It acts as a stimulant in small doses, but in larger amounts blocks the action of autonomic nerve and skeletal muscle cells.
- **Vaping:** The action or practice of inhaling and exhaling the vapor produced by an electronic cigarette or similar device.
- **Smoking:** The action or habit of inhaling and exhaling the smoke of tobacco or a drug. Usually through Cigarettes or Cigars.
- **E-Cigarette:** E-cigarettes are electronic devices that heat a liquid and produce an aerosol or mix of small particles in the air. Which is then inhaled.
- **Alcohol**: The alcohol in all alcoholic drinks is the same – called ethanol. It is a colourless, odourless and inflammable fluid.
- **Inhibition**: a feeling that makes someone self-conscious and unable to act in a relaxed and natural way.
- **Licensed premises**: a place that can sell alcohol.
- **Discretion**: decision
- **Private Premises**: Privately owned land.
- **Alcoholism**: addiction to the consumption (drinking) an alcoholic drink
- **Alcoholics**: Someone who is addicted to alcohol.
- **Intoxicated**: affected by alcohol or drugs to the point where a person is potentially not able to control their body/
- **Confiscate:** to take away.
- **Underage**: Under the age of 16 in the UK.
- **Enclosed**: surrounded or closed off on all sides.
- **Prohibit**: to not allow.
- **Aerosol**: a substance that is under pressure and released as a fine spray.
- **Bystanders**: a person who is present at an event or incident but does not take part.
- **Sedative**: something taken for its calming and sleep creating effect.
- **Stimulant**: a substance that creates increased amounts of nervous activity in the body.

KPI2 – How does alcohol effects you?

Based on a standard (175ml) 13% volume glass of white wine or 4% strength pint of lager,

- **1 glass of white wine or a pint of lager (just over 2 units):** You're talkative and feel relaxed; Your self-confidence increases; Driving ability is already impaired, which is why it's best to drink no alcohol if you're driving.
- **2 glasses of white wine or 2 pints of lager (just over 4 units):** Your blood flow increases; You feel less inhibited, and your attention span is shorter; You start dehydrating, one of the causes of a hangover.
- **3 glasses of white wine or 3 pints of lager (just under 7 units):** Your reaction time is slower; Your liver has to work harder; while your judgement may decrease.
- **4 glasses of white wine or 4 pints of lager (just over 9 units):** You're easily confused; You're noticeably emotional; and you may become less capable

KPI3 - Alcohol and the Law

It is against the law

- To sell alcohol to someone under 18 anywhere.
- For an adult to buy or attempt to buy alcohol on behalf of someone under 18.
- For someone under 18 to buy alcohol, attempt to buy alcohol or to be sold alcohol.
- For someone under 18 to drink alcohol in licensed premises,
- For an adult to buy alcohol for someone under 18 for consumption on licensed premises,
- To give children alcohol if they are under five.

It is not illegal:

- For someone over 18 to buy a child over 16 beer, wine or cider if they are eating a table meal together in licensed premises at the discretion of the manager.
- For a child aged five to 17 to drink alcohol at home or on other private premises

KPI4 – Signs of Alcohol Addiction:

It can be tricky to spot the signs of alcoholism as alcoholics can be secretive about it and can become angry if confronted. Some signs and symptoms can include:

- A lack of interest in previously normal activities
- Appearing intoxicated more regularly
- Needing to drink more in order to achieve the same effects
- Appearing tired, unwell or irritable
- An inability to say no to alcohol
- Anxiety, depression or other mental health problems
- Becoming secretive or dishonest

PCSHE – Year 8 Term 1 – Drugs and Alcohol

KPI 5: Smoking and the Law

- You must be over 18 to buy cigarettes in the UK. If you're under 16 the police have the right to confiscate your cigarettes.

It's illegal:

- For shops to sell you cigarettes if you are underage
- For an adult to buy you cigarettes if you are under 18
- To smoke in all public enclosed or substantially enclosed area and workplaces
- To smoke in a car with a child

KPI6 - Vaping and the Law

- You must be 18 or over to purchase e-cigarettes or e-liquids in the UK. It also became illegal for an adult to buy e-cigarettes for someone under the age of 18.
- Although there is no legal restriction on where you can vape in the UK there are local laws in force that prohibit the practice. The choice of whether to allow vaping is that of the property owner.
- Vaping generally is not allowed on the underground, planes, buses or trains and train stations in the United Kingdom.
- Vaping while you drive may not seem like such a big deal, but it could land you with up to nine penalty points and a fine of £2,500.

KPI7: Effects of Nicotine

- **Nicotine is both a sedative and a stimulant.**
- When a body is exposed to nicotine, the individual experiences a "kick." This is partly caused by nicotine stimulating the adrenal glands, which results in the release of adrenaline.

Nicotine can affect various systems throughout the body and may cause:

- dizziness and light-headedness.
- sleep disturbances.
- changes in blood flow.
- headaches.
- increased risk of blood clotting.
- increased blood pressure.
- changes in heart rhythm and rate.
- shortness of breath.

KPI8: How do E-cigarettes work?

E-cigarettes produce an aerosol by heating a liquid that usually contains nicotine, flavorings, and other chemicals that help to make the aerosol. The liquid used in e-cigarettes often contains nicotine and flavorings. This liquid is sometimes called "e-juice," "e-liquid," "vape juice," or "vape liquid." Users inhale e-cigarette aerosol into their lungs. Bystanders can also breathe in this aerosol when the user exhales it into the air. E-cigarette aerosol is NOT harmless "water vapor." The e-cigarette aerosol that users breathe from the device and exhale can contain harmful and potentially harmful substances, including:

- Nicotine
- Ultrafine particles that can be inhaled deep into the lungs
- Flavoring such as diacetyl, a chemical linked to a serious lung disease
- Volatile organic compounds
- Cancer-causing chemicals
- Heavy metals such as nickel, tin, and lead

It is difficult for consumers to know what e-cigarette products contain. For example, some e-cigarettes marketed as containing zero percent nicotine have been found to contain nicotine.

If you need any support:

Please speak to:

- A friend
- A teacher
- Tutor
- Parent
- Mr Ogden
- Mr Hayward
- Mrs Loveridge
- Mrs Jones

Reputable Organisations:

- ChildLine: www.childline.org.uk, contact number – 08001111; Visit www.nhs.uk;
- Visit: www.talktofrank.com, Live Chat: 2pm-6pm, Phone: 0300 123 6600 Text: 8211

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**