Year 7

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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Year 7 KO Autumn Term - Origins

Greek Mythological Characters

Gaia The mother of Earth
Uranus The father of sky
Cronus The father of Zeus, leader of the first generation of Titans.
Zeus Olympian god of the sky and thunder, king of all gods and men, son of Cronus
Achilles A demi-god – the bravest, most handsome and greatest warrior in the Trojan War
Athena Goddess of War
Midas A king who was granted his wish for everything he touched to turn to gold
Dionysus God of wine, excess, theatre and festivity
Prometheus Gave fire to man and was punished by Zeus by having his liver pecked out each day by an eagle for eternity
Artemis The goddess of wild animals and the hunt as well as chastity and childbirth.
Pygmalion A sculptor who falls in love with a with a statue that he carved
Icarus Son of the master craftsman **Daedalus**, he died after flying too close to the sun where his wax wings melted
Pandora Opened ajar after being told not to and released all the evil into the world.
Narcissus Fell in love with his own reflection, pined away and died.
Echo- A nymph, expelled from Olympus by Hera, Zeus' wife who was unable to say her own words. She fell in love with Narcissus and died.
Minotaur mythical beast, half man half bull who lived in the labyrinth, in Crete, created by Daedalus and regularly ate sacrificed Athenians
Theseus – Athenian prince and slayer of the Minotaur
Pyramis and Thesbe - Tragic lovers of opposing families who died as a result of their devotion to each other.

Brooker's Seven Stories

Rebirth The hero 'falls under a dark spell' (sleep, sickness or enchantment) before breaking free and being redeemed. E.g – The Fall of Man, A Christmas Carol
Rags to Riches At the beginning, the hero is insignificant and dismissed by others, but something happens revealing them to be exceptional. E.g - Cinderella, Pygmalion.
Comedy A story made up of comedic events, normally involving mistaken identity, misunderstanding or confusion. E.g A Midsummer Night's Dream
Tragedy A story with an unhappy ending, especially one concerning the downfall of a main character. Stories usually end with loss or death. E.g – Icarus, Pyramus and Thisbe.
Overcoming the Monster There is an evil force threatening the hero/their world/mankind. The hero must fight and slay this monster, which often isn't easy, but they come out triumphant, and receive a great reward. Eg – Beowulf
Voyage and Return The hero travels out of their 'normal world' into the overwhelming and unknown, before escaping back to the safety of their home. This is different to the Quest. E.g – Alice in Wonderland
Quest In the quest, the hero must set out on a long, hazardous journey, and will battle all obstacles until they are triumphant. E.g – The Odyssey

Key Vocabulary

Allusion An indirect or passing reference to something else (Latin – allusionem – a reference to/playing with)
Idiom A well-known saying (Latin – idioma – peculiarity, peculiar phrasing)
Protagonist Principal character in a story (Greek – protagonists – actor who plays the chief part)
Antagonist The opponent or rival to the protagonist (Greek – antagonists – competitor, opponent, rival)
Lament An expression of grief or sorrow (French – lamenter – to moan, bewail)
Hubris Excessive pride – (Greek – hybris – wonton violence, insolence, outrage, presumption towards gods)
Hamartia Fatal flaw of a character leading to his/her downfall.
Defiant Not willing to accept criticism (French – defiant – to challenge, defy, provoke)
Solace Comfort in grief (Latin – solacium – to console, soothe)
Venture A risky or daring journey or undertaking (French – aventure – adventure, fortune, chance)
Deceitful To lie (Latin – decipere – to ensnare, take in, cheat)
Irrevocably Unable to be changed, reversed (Latin – irrevocabilis – that cannot be recalled, unaltered)

Key terminology

Noun - the name of a thing, person, place or object
Concrete noun – something you can touch
Abstract noun – a concept or idea (can't touch!)
Common noun – any noun that isn't 'proper'.
Proper noun – the name of a person or place, needs a capital letter
Adjective – describes a noun
Adverb – describes a verb
Verb – describes an action
Tense – describes when a verb is done e.g. past, present or future
Simile- compares something using like or as
Metaphor – describes things in terms other than what it is
Pathetic fallacy – uses weather or nature to describe human emotions

Y7 Autumn Knowledge Organiser

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

Number sense

Topics

- Using number lines (M763)
- Integer place value (M704)
- Decimal place value (M522)
- Ordering negative numbers (M527)
- Rounding integers (M111)
- Rounding decimals (M431)

Keywords

Integer - whole-valued positive or negative number or 0.

Place Value - the value represented by a digit in a number on the basis of its position in the number.

Negative numbers - numbers that have a value less than zero.

Decimals - are numbers that consists of a whole and a fractional part.

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

Adding and subtracting

Topics

- Adding integers (M928)
- Adding decimals (M429)
- Subtracting integers (M347)
- Subtracting decimals (M152)

Building Blocks

- Integer place value (M704)
- Decimal place value (M522)

Keywords

Integer - whole-valued positive or negative number or 0.

Multiplying

Topics

- Multiplying and dividing by 10, 100 and 1000 (M113)
- Multiplying using place value (M911)
- Using a written method to multiply integers (M187)
- Using a written method to multiply decimals (M803)

Building Blocks

- Times tables
- Integer place value (M704)
- Decimal place value (M522)

Keywords

Place Value - the value represented by a digit in a number on the basis of its position in the number.

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Dividing

Topics

- Dividing numbers into equal groups (M462)
- Using a written method to divide integers (M354)
- Dividing with a remainder (M873)
- Using a written method to divide with decimals (M262)

Building Blocks

- Times tables
- Integer place value (M704)
- Decimal place value (M522)

Keywords

Integer - whole-valued positive or negative number or 0.

Place Value - the value represented by a digit in a number on the basis of its position in the number.

Decimals - are number that consists of a whole and a fractional part

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

Remainder - the amount "left over" after performing some calculation.

Negative numbers

Topics

- Adding and subtracting with negative numbers (M106)
- Multiplying and dividing with negative numbers (M288)

Building Blocks

- Times tables
- Using number lines (M763)
- Ordering negative numbers (M527)

Keywords

Negative numbers - numbers that have a value less than zero.

Order of operations

Topics

- Calculating with roots and powers (M135)
- Using the correct order of operations (M521)
- Using the commutative laws (M952)
- Using the associative laws (M409)

Building Blocks

- Times tables
- Adding (M928, M429)
- Subtracting (M347, M152)
- Multiplying (M187, M803)
- Dividing (M354, M262)
- Calculating with negative numbers (M106, M288)

Keywords

Roots - a number which produces a specified quantity when multiplied by itself.

Powers - the small floating number that appears after a number or letter.

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

Expressions

Topics

- Algebraic notation (M813)
- Algebraic terminology (M830)
- Simplifying expressions containing a single variable (M795)
- Simplifying expressions containing multiple variables (M531)
- Simplifying expressions containing non-linear terms (M949)

Building Blocks

- Times tables
- Using the correct order of operations (M521)
- Using the commutative laws (M952)
- Using the associative laws (M409)
- Calculating with negative numbers (M106, M288)

Keywords

Variable - is a symbol that represents a mathematical object.

Simplify - to make it easier to understand.

Expression - a structure with a minimum of two numbers or variables and at least one math operation.

Commutative - gives the same result whatever order the values are.

Associative - when more than two numbers are added or multiplied, the result remains the same, irrespective of how they are multiplied.

Substitution

Topics

- Substituting into expressions with one operation (M417)
- Substituting into expressions with multiple operations (M327)
- Substituting into algebraic formulae (M208)
- Substituting into real-life formulae (M979)

Building Blocks

- Times tables
- Using the correct order of operations (M521)
- Calculating with negative numbers (M106, M288)
- Algebraic notation (M813)

Keywords

Operation - A mathematical process. The most common are add, subtract, multiply and divide (+, −, ×, ÷).

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

Multiple - is a number that is in a particular times table.

Expression - is a sentence with a minimum of two numbers or variables and at least one math operation.

Formulae - A formula is a statement linking two or more variables.

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

Solving equations

Topics

- Solving equations with one step (M707)
- Solving equations with two or more steps (M509)

Building Blocks

- Function machines (M175, M428)
- Algebraic notation (M813)
- Substituting into expressions with one operation (M417, M327)
- Using the correct order of operations (M521)
- Calculating with negative numbers (M106, M288)

Keywords

Equation - an equation is a mathematical formula that expresses the equality(=) of two expressions.

Time

Topics

- Converting units of time (M515)
- Using clocks (M892)
- Calculating with time (M627)
- Using timetables (M963)
- Using calendars (M747)

Keywords

Time - is the ongoing sequence of events taking place. The past, present and future.

Calendar - is a system for dividing time over extended periods, such as days, months, or years.

Measures

Topics

- Estimating and measuring length, mass and capacity (M828)
- Converting units of length, mass and capacity (M774)
- Using appropriate units(M487)

Building Blocks

- Multiplying and dividing by 10, 100 and 1000 (M113)
- Using number lines (M763)

Keywords

Estimating - Use approximation through rounding to estimate answers to calculations.

Length - How far from one point to another.

Mass - how much something weighs.

Capacity - is the amount something can hold, most commonly liquids.

Year 7 Knowledge Organiser - Working scientifically page 1

Box 1 - Hypothesise and Variables

- A hypothesis is a predication made about an experiment based on some previous scientific knowledge.
- The hypothesis is then tested by carrying out the experiment.
- When designing experiments, there are three types of variable that we need to consider:

1. The independent variable (what we change)
2. The dependent variable (the result of the experiment)
3. The control variables (what we keep the same).

Box 2 - Methods

When writing a method you should include:

1. A clear sequence
2. Information on which equipment to use
3. Volumes and masses for reagents
4. Scientific language

Sequencing

Precision

Firstly, 25cm^3 sulphuric acid was added to a small beaker. Using a spatula, excess insoluble base (copper oxide powder) was added to the acid. Check the base is in excess by looking for remaining powder in the beaker. Next, the excess base was filtered out using filter paper in a funnel. The filtrate was allowed to filter into a conical flask. When filtration was complete, the filter paper was discarded and the filtrate solution was poured into an evaporating dish. The solution was left for a few days or the evaporating dish heated for the dissolved salt to crystallise.

Equipment

Scientific language

Key Terms	Definitions
Independent variable	The variable you change to find out its effect on the dependent variable
Dependent variable	The variable that changes because of the change to the independent variable – the result of the experiment
Control variable	Any variable that you must keep the same to ensure it doesn't affect the dependent variable
Mean	An average calculated by: The total of the values divided by the number of values
Anomalous data	Data that does not fit the expected pattern

Box 3 - Results Tables

- In a results table the independent variable should always go.
- When drawing a results table the following things are good practice:

1. Show all repeat measurements
2. Include the units in the headings
3. Circle anomalies
4. Discount these when calculating a mean.

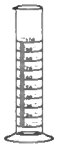
For example:

Concentration of acid (M)	Time taken for reaction to complete (s)			Mean (s)
0.1	102.1	105.6	103.4	103.7
0.2	88.8	86.5	87.2	87.5
0.3	69.1	67.3	64.2	66.9
0.4	56.2	40.1	53.3	54.8
0.5	32.1	30.1	33.2	31.8

Year 7 Knowledge Organiser - Working scientifically page 2

Box 4 – Scientific Equipment for use in experiments

Equipment	Picture	Use
Beaker		For pouring and transferring liquids and solutions
Conical Flask		For carrying out reactions
Bunsen Burner		To heat substances
Tripod		To support
Gauze		To place an object on for example conical flask that you are going to heat
Heatproof mat		To protect the desk from the heat produced by the Bunsen Burner and any spillages from the substances which are being heated
Evaporating basin		To evaporate the water from solutions. Leaving behind the solute

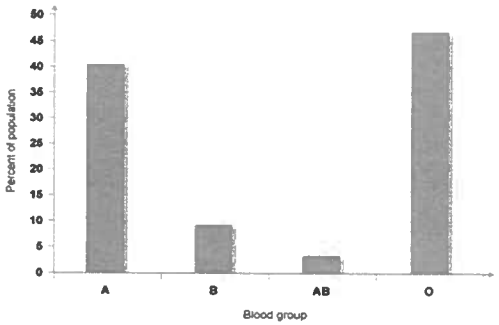
Equipment	Picture	Use
Test Tube		For carrying out chemical reactions with small amounts of liquid
Boiling Tube		A boiling tube is used to heat substances in a Bunsen Burner
Measuring Cylinder		To accurately measure out volumes of liquid
Spatula		To move small amounts of solid powders
Stirring Rod		To stir solutions
Thermometer		To measure the temperature of a substance
Tongs		To hold an move hot solids for example pieces of metal

This is some of the most common laboratory equipment that you will be using ensure that you learn each piece.

Year 7 Knowledge Organiser - Working scientifically page 3

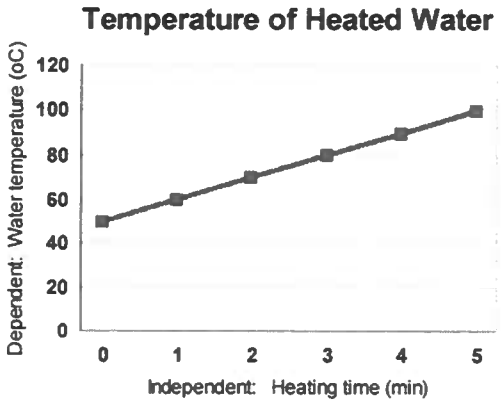
Box 4 - Discontinuous data

Discontinuous or categoric data can only take certain values fits into categories, for example eye colour and blood group. These should be plotted on a bar graph.



Box 6 - Continuous data

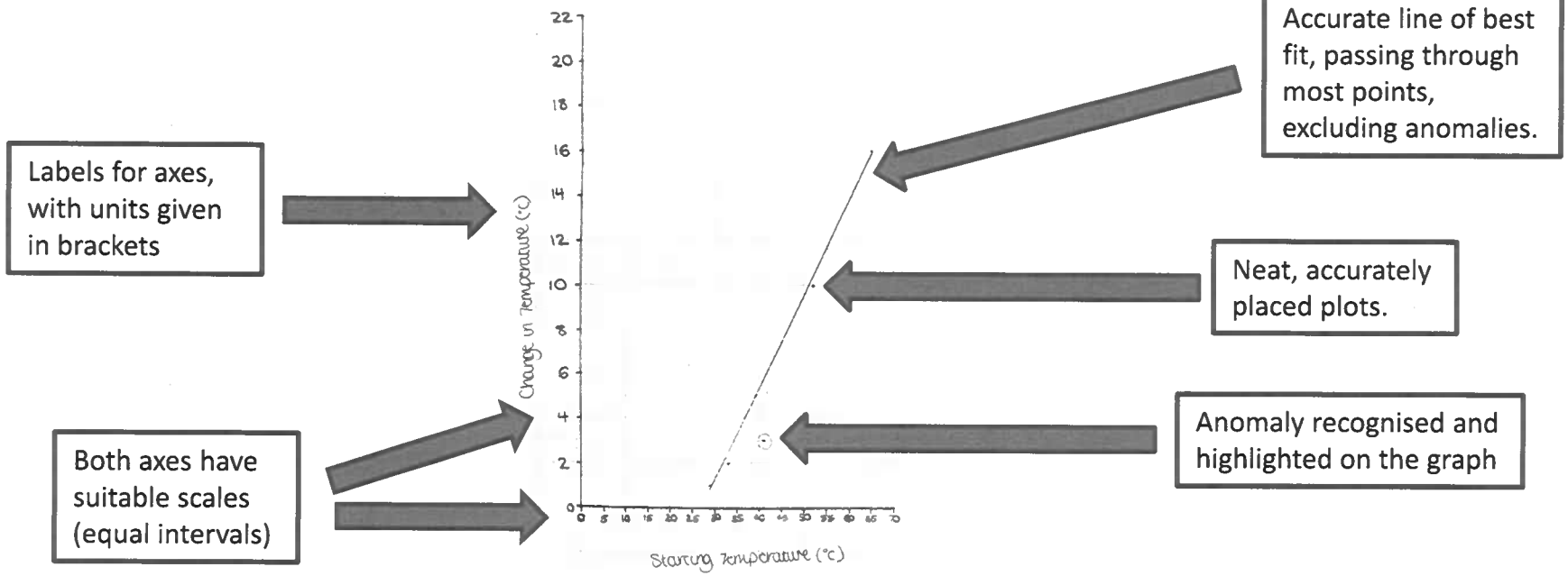
Continuous data can take any value, for example height or temperature.
These should be plotted on a line graph.



Box 5 - Drawing good line graphs

When drawing a graph you should:

1. Plot the dependent variable on the y axis and independent variable on the x axis.
2. Label axis and include units.
3. Use small precise crosses to mark your points.
4. Add a line of best fit which goes smoothly though as many points as possible (this does not have to be a straight line, it can be a curve but it is not a dot to dot exercise!).
5. Circle anomalies and don't include them when drawing the line of best fit.



Year 7 Physics Knowledge Organiser Energy

Box 1 – Conservation of Energy & Energy Stores

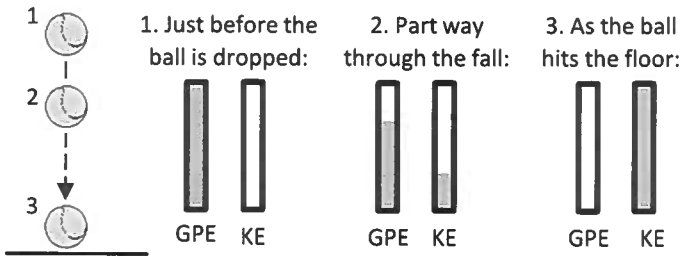
- Energy cannot be created or destroyed. It can be stored, transferred usefully between stores or dissipated (spread) to the surroundings and wasted via heat and sound.
- The total energy in a system before a change occurs equals the total energy in the system after the change.
- No energy transfer is 100% efficient. Some energy is always dissipated to the surroundings.

Energy can be located in the following stores:

1. Chemical store – in food and fuels
2. Kinetic store – in moving objects
3. Thermal store - in warm/hot objects
4. Nuclear store – in nuclear fuels
5. Gravitational potential store – in objects raised up from the ground
6. Elastic potential store – in stretched or compressed objects.

Box 2 – Energy Transfers: When work is done, energy is transferred or shifted between energy stores, eg:

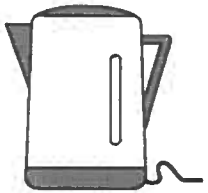
When a ball falls energy is shifted from the gravitational potential store of the ball to the kinetic store of the ball.



Box 3 – Power = the rate (how quickly) of transferring energy.

An object with a high power rating transfers a lot of energy every second.

E.g. an electric kettle with a power rating of 2400 W (2.4 kW) transfers 2400 J every second!



Equation	Meanings of terms in equation (units)
$power = \frac{energy}{time}$ $P = \frac{E}{t}$	*P = power (watts, W)* *E = energy (joules, J)* *t = time (seconds, s)*

Key Terms	Definitions
System	An object or group of objects
Transfer	Move from one energy store to another energy store
Dissipated	Where energy spreads out so it is no longer useful
Work	Shifting energy from one store to another
Renewable	A resource that can be replenished so it will not run out
Non-renewable	A finite resource that will run out one day

Box 4 – Energy Resources: used for heating, transport and electricity generation

Non-renewable resources include the three fossil fuels (coal, natural gas and oil) and nuclear fuel.

Fossil fuels: reliable, heat released when they are burnt is used to convert water to steam which turns turbines and generates electricity. Waste gas = CO_2 (global warming) and sulfur dioxide (acid rain)

Nuclear fuels when used produce radioactive waste.

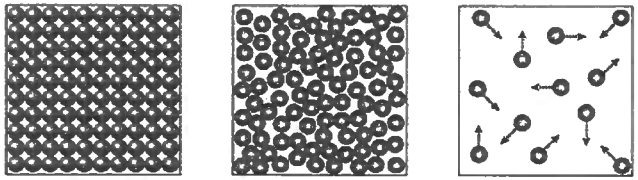
Renewable resources do not produce waste gases (positive)

Resource	Negative
Biofuel	Large areas of land needed to grow fuel crops. Habitats destroyed and food not grown.
Tides	Expensive to set up. A dam like structure is built across an estuary, altering habitats.
Waves	Can be unreliable and not currently large scale
Hydroelectric	Habitats destroyed when dam is built.
Wind	Unreliable – wind speed varies. Visual and noise pollution.
Solar	Making and installing solar panels expensive. Unreliable in the UK
Geothermal	Limited to a small number of countries. Geothermal power stations can cause earthquake tremors.

Year 7 Chemistry Knowledge Organiser Particles page 1

Box 1 - Particle Theory

- All matter is made up of particles.
- Particles are found in all three states of matter. Solids, liquids and gases. The properties of each state are summarised below.

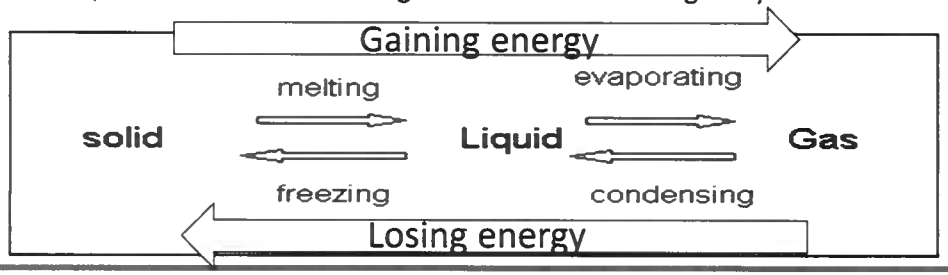


State of matter	Arrangement	Movement
Solid	Regular, in rows, with particles closely packed and touching each other	Vibrate around a point. Cannot move from place to place
Liquid	Irregular but particles are still touching	Particles can slide over one another
Gas	Irregular, random arrangement. Particles are far apart (not touching)	Move quickly, in all directions.

Box 2 - Changes of State

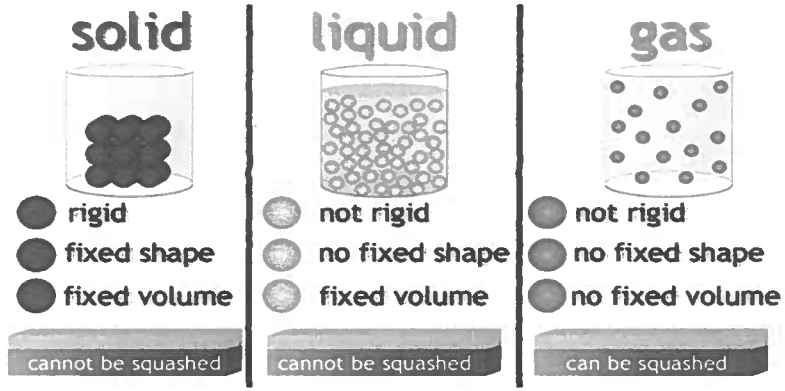
Changes of state take place when a substance is **heated or cooled**, and the particles **gain or lose energy.**

- When energy is transferred to the particles **(gained),** they move faster and move further apart.
- When energy is transferred away from the particles **(lost),** they become closer to each other, move slower and arrange themselves more regularly.



Key Terms	Definitions
Melting	Change of state from solid to liquid
Freezing	Change of state from liquid to solid
Evaporation	Change of state from liquid to gas
Condensation	Change of state from gas to liquid
Sublimation	Change of state from solid to gas
Deposition	Change of state from gas to solid
Regular arrangement	When particles are arranged in a fixed pattern e.g in rows
Irregular arrangement	When particles are not arranged in a fixed pattern.

Box 3 - Properties of Solids, Liquids and Gases



- Solids are rigid, have a fixed shape and a fixed volume because the particles are held together by **strong bonds and arranged regularly.**
- Liquids are not rigid and have no fixed shape, meaning they can flow to fill their container. This is because the **bonds are weaker**, so the particles can move. However, there is a fixed volume because the particles are **still close together.**
- Gases are not rigid, have no fixed shape or fixed volume because there is **so much space** between particles and the bonds holding them together are **broken.**

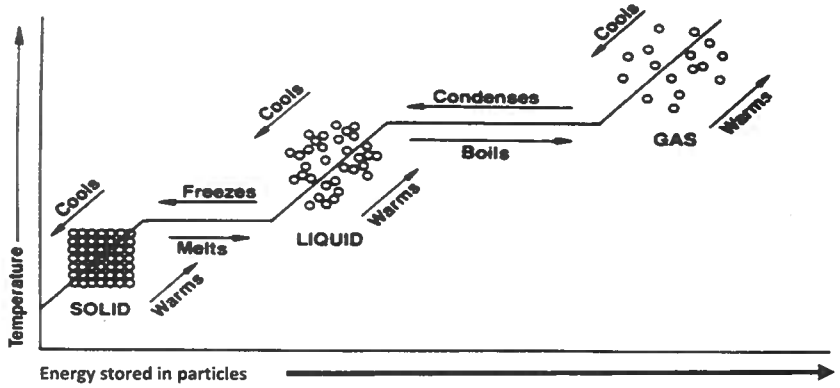
Year 7 Chemistry Knowledge Organiser Particles page 2

Box 4 - Interpreting the Temperature/Energy Graph

The link between changes of state and heating or cooling can be shown using a temperature/energy graph.

- When the line is sloped, the temperature of the substance is increasing.
- When the line is flat, the temperature stays the same even though heat is being applied.

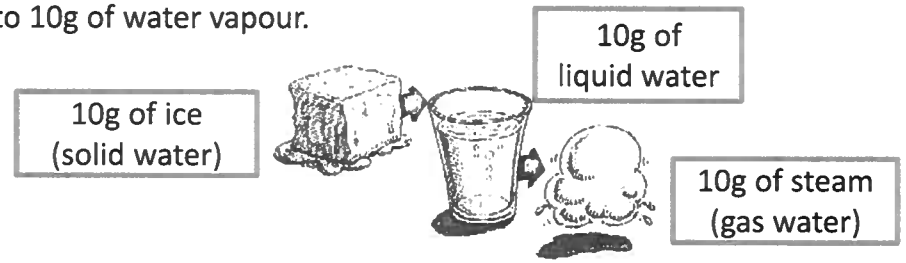
→ This is because the heat is **causing the particles to change state.** During the change of state, **the temperature will stay the same until the change of state is complete** e.g. all liquid has turned into gas.



Box 5 - Conservation of Mass

The Law of Conservation of Mass states that **mass cannot be created or destroyed.**

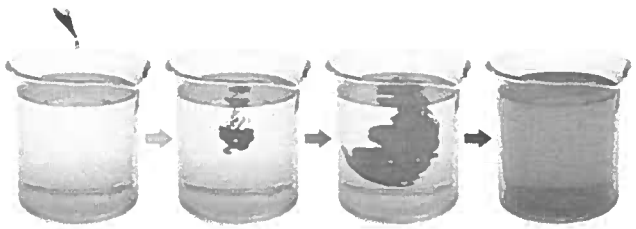
Therefore, mass stays the same before and after a change of state. For example, 10g of ice melts into 10g of water and 10g of water evaporates into 10g of water vapour.



Key Terms	Definitions
Diffusion	The movement/spreading out of particles from an area where they are at a higher concentration to an area where they are at a lower concentration
Rate	How quickly an event is happening
Concentration	The number of particles in a known volume
Particles	All matter is made up of tiny particles
Conservation of mass	A law which states that mass (matter or particles) cannot be created or destroyed

Box 6 - Diffusion and Factors Affecting Diffusion

- Diffusion is the **movement/spreading out of particles from an area where they are in a higher concentration to an area where they are in a lower concentration.**
- **Diffusion will stop when particles have spread themselves evenly.**
  → Diffusion occurs in liquids and gases but not in solids, because particles in a solid are not free to move.



Diffusion

There are **two factors** that affect the rate of diffusion:

1. **Temperature**: when temperature increases, particles gain more energy. They can then move more and spread out more quickly.
2. **Concentration**: when concentration increases, the rate of diffusion increases because there are more particles moving around.

Year 7 Physics Knowledge Organiser Forces page 1

Box 1 - Forces

A force can be a **push or a pull.** You can not see forces, you can only see the changes to objects that they cause.

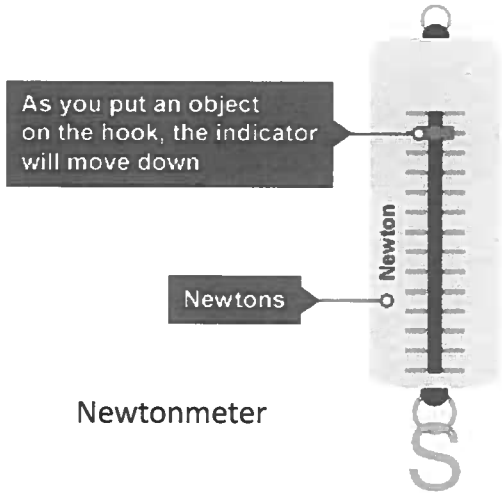
When a force is applied to an object it can lead to:

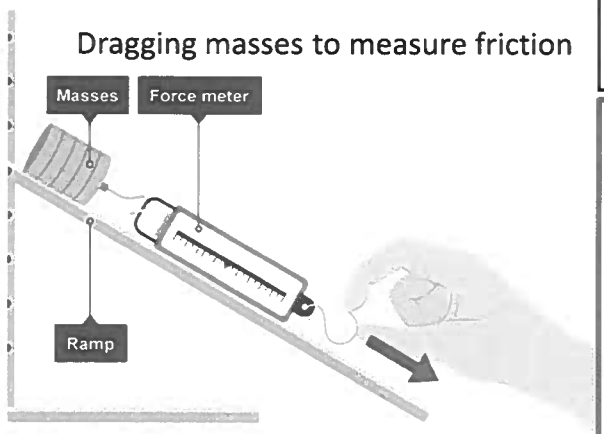
- **A change in speed (acceleration)**
- **A change in the object's direction of movement**
- **A change in the object's shape (squash or stretch the object)**

Forces can also be divided into two types, contact forces and non contact forces.

1. **Contact forces** act between objects that are touching. Examples: friction, normal contact force, thrust, upthrust, air resistance (drag). Friction acts whenever an object is moving through a fluid (a fluid is a liquid or gas), or when one solid surface is moving along another solid surface.
2. **Non-contact forces** act between objects even if they are NOT touching. Examples: gravity, weight, magnetic force.

The unit of force is the **newton (N).** A Newton meter is used to measure the size of a force.





Key Terms	Definitions
force	Pushes or pulls that act on an object, causing changes to the object's movement or shape
newton (N)	The unit for force
newtonmeter	A piece of equipment that can be used to measure the size of the force
contact force	A force acting between objects that are physically touching
non-contact force	A force acting between objects that don't need to be physically touching
weight	The force pulling an object towards the centre of the Earth, due to gravity.
gravity	The force between any two objects. We only notice gravity's pull if the objects are very large, like the Earth.
upthrust	The upwards force produced on an object that is in a liquid. The liquid pushes up on the object.
normal contact force	The push force produced on objects when they push on something solid. Also called 'reaction'.

Box 2 - Measuring the size of forces

The laboratory equipment for measuring forces is also named after Sir Isaac Newton: the newtonmeter (see diagram).

To measure the size of frictional forces on different surfaces you can drag masses along the different surfaces and record how much force is required.

For this experiment :

- Independent variable: Type of surface
- Dependent variable: Force
- Control variable: Mass

Year 7 Physics Knowledge Organiser Forces page 2

Key Terms	Definitions
Work done	The measure of how much energy is transferred when a force moves an object

Equation	Units
Work done = force x distance $W = F \times s$	*W = work done (joules, J)* *F = force (newtons, N)* *s = distance (metres, m)*

Box 3 - Forces and Work Done

When forces are acting on an object, it causes a transfer in the store of energy. In Physics we say that when we transfer energy we are doing **work.**

For example when an object is moving a long a surface it is doing work against frictional forces

- This causes an energy transfer of thermal energy to the surroundings
- The amount of work done depends on the size of the force and the distance the force has acted.
- For example, if a force of 1000 N makes this car move 200 m to the left…

Work done = force applied x distance moved
Work done = 1000 x 200
Work done = 200 000 J

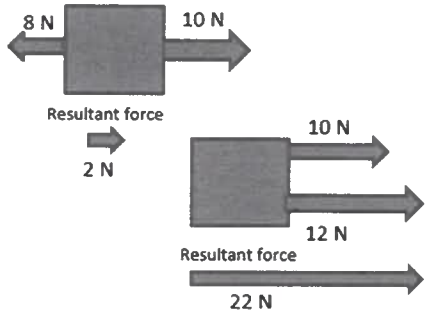
This mean that 200,000 J energy is transferred

Box 5 - 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 - Force Arrows

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

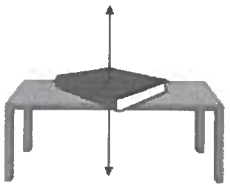
- The length of the arrows shows how large the force is
- The direction the arrow points shows the direction the force pushes or pulls

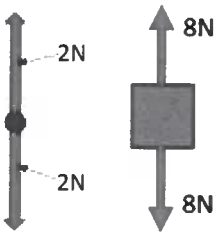
Diagrams that show the forces acting on objects, using arrows, are called **free body force diagrams**.

Box 4 - 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.



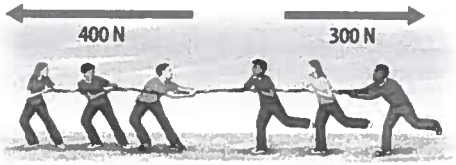


Box 6 - Balanced forces and Newton's First Law

- 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 7 - 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.



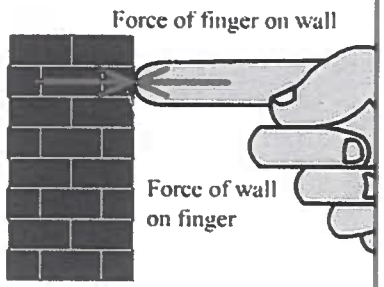
400 – 300 = 100N
Resultant force is 100N

- 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.

Box 8 - Newton's third Law

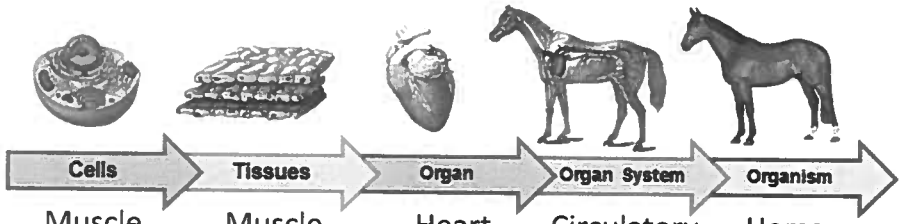
Newton's third law states that when two objects interact they apply equal and opposite forces on each other.

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 N.

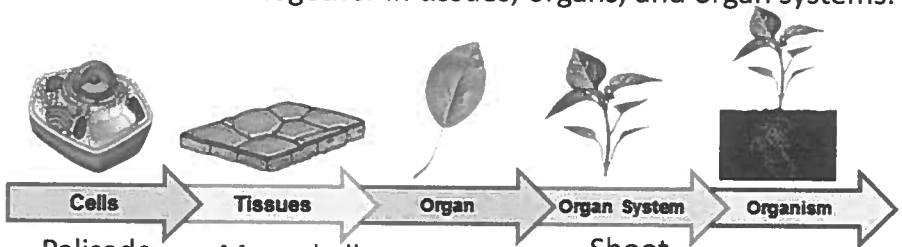


Year 7 Biology Knowledge Organiser Organisation 1 – Organ Systems page 1

Box 1 – Hierarchy All living things are made from cells. Cells are the smallest units of life. Cells work together in tissues, organs, and organ systems.



Muscle cells → Muscle tissue → Heart → Circulatory system → Horse



Palisade cells → Mesophyll tissue → Leaf → Shoot system → Plant

Box 2 – The digestive system

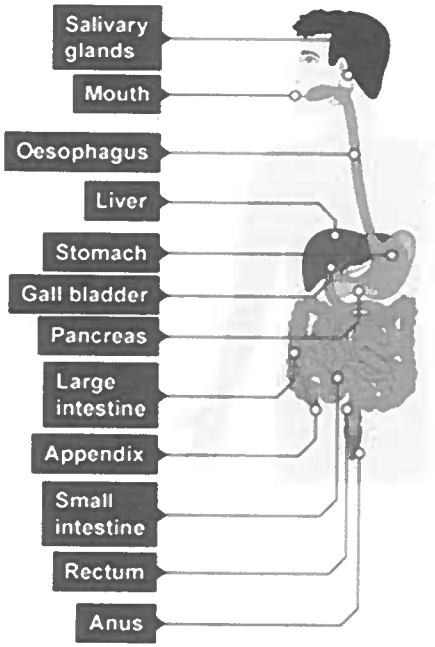
Food is digested in the digestive system, this is an organ system.
Digestion means that food is broken down and changed into a form that can be absorbed.
When food is eaten it passes through the organs of the digestive system as follows:
Mouth → Oesophagus → Stomach → Small intestine → Large intestine → Anus

Mechanical digestion

- The mouth has teeth that mechanically digest the food
- The oesophagus is a muscular tube that pushes the food into the stomach.
- The stomach churns the food up.

Chemical digestion

- The mouth has salivary glands that releases enzymes to break food down.
- The stomach adds acid and enzymes to break the food down.
- The small intestine is the main place chemical digestion occurs. Enzymes are released and break down food. The food molecules are then absorbed thorough the walls of the intestine into the blood.

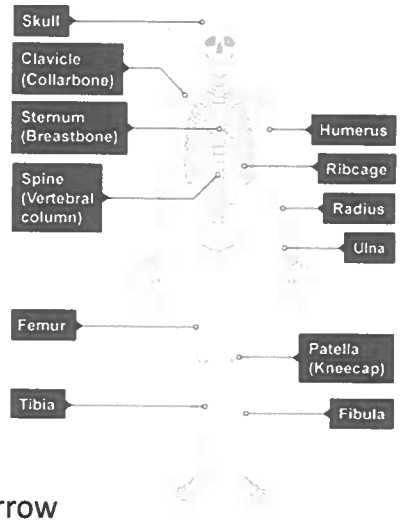


Key Terms	Definitions
Cell	The smallest unit of life, all living things are made of cells
Tissue	A group of cells working together to perform a particular function
Organ	A group of tissues working together to perform a particular function
Organ system	A group of organs working together to perform a particular function
Organism	An individual animal, plant, or single-celled life form
Digestive System	The organ system that breaks down food into small pieces that can be absorbed
Mechanical Digestion	When large pieces of food are broken down into smaller ones (e.g. by chewing)
Chemical Digestion	When food is broken down into small chemicals that can be absorbed, using enzymes
Enzymes	Chemicals that break down large pieces of food into smaller pieces during chemical digestion

Year 7 Biology Knowledge Organiser Organisation 1 – Organ Systems page 2

Box 3 – The skeletal system

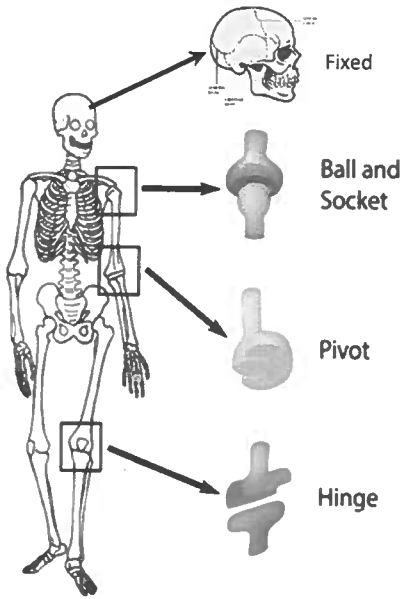
The skeletal system is made of bones that are joined together at joints. It is sometimes called the skeleton.



The skeletal system has 4 main functions:

- ❑ To provide support
- ❑ To allow movement (enabled by joints, and working with the muscular system)
- ❑ To protect organs
- ❑ To produce blood cells in bone marrow

Key Terms	Definitions
Connective Tissue	Tissue that connects or supports other tissues or organs e.g. ligaments, cartilage or tendons
Ligaments	Stabilises joints, connects bones to other bones
Cartilage	Connective tissue which is found at the end of bones to cover and protect them
Tendons	Connects muscles to the skeletal system
Antagonistic Pairs	Pairs of muscles where each opposes the movement of the other e.g. biceps and triceps
Stimulus	A specific event which leads to a reaction
Central Nervous System (CNS)	The brain and the spinal cord



Box 4 – Joints

Joints are the point at which two bones of the skeleton fit together.

The bones at a joint are held together by connective tissues (ligaments, cartilage and tendons). Joints often allow movement, so also have synovial fluid, which provides lubrication within the joint.

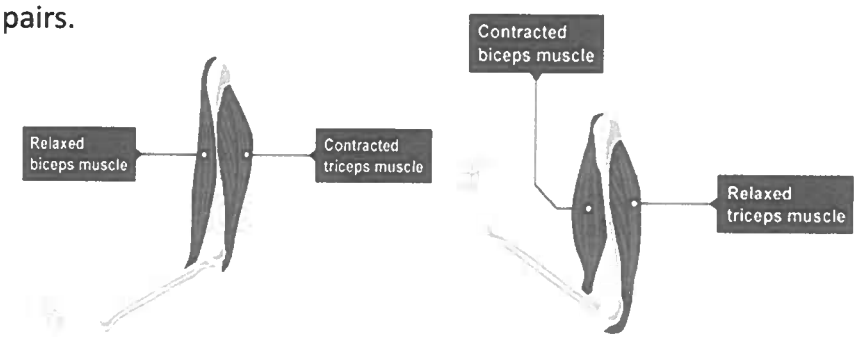
There are different types of joints, for example:

- ❑ Ball and socket joints (in your hip or shoulder)
- ❑ Pivot joints (let you turn your neck or rotate your forearm)
- ❑ Hinge joints (in your elbow or knee)
- ❑ Fixed joints (found in your skull)

Box 5 – Movement

The skeletal system and muscular system work together to enable movement. During a movement, a muscle contracts and pulls on a bone, which applies a force and causes the bone to move.

Muscles are only able to contract and get shorter, so muscles work in antagonistic muscle pairs.



Muscles are controlled by nerves. Nerve cells carry electrical signals to muscles from the central nervous system to produce a response to the stimulus. Some responses are automatic (reflexes) and others are conscious.

Year 7 Biology Knowledge Organiser – Interdependence

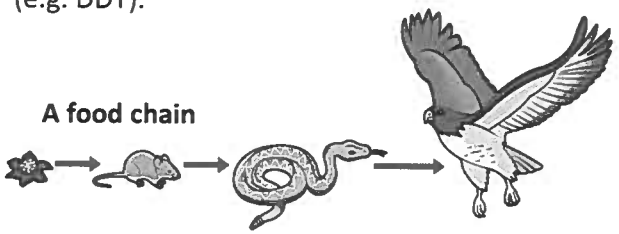
Box 1: Ecosystems

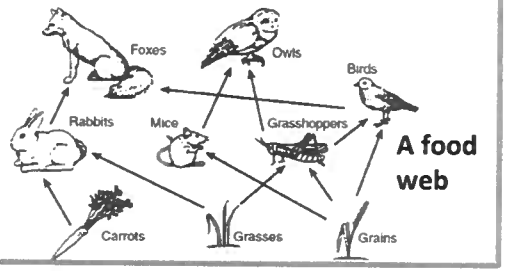
An ecosystem is the interaction between the living things and non-living things in an environment.

- Organisms within an ecosystem rely on each other for food, shelter, seed dispersal etc.
- Animals compete with each other for food, mates and territory.
- Plants within a habitat compete for light, space, water and mineral ions from the soil.

Box 2: Feeding Relationships (food chains and food webs)

A **food chain** shows the transfer of energy between organisms in an ecosystem:
e.g. lettuce → caterpillar → bird
Arrows show the transfer of energy from one organism to another.
A **food web** is used to show the feeding relationships within an ecosystem and is made of multiple food chains.
Energy for all food chains and food webs comes from the Sun.
All food chains and webs start with a producer. Consumers are animals that eat to get energy.
A top consumer is an organism that isn't eaten by any other, e.g. lion.
Populations of organisms within an ecosystem can be affected by numbers of other organisms within the ecosystem or by human behaviours such as hunting or poisoning (e.g. DDT).





Key Terms	Definitions
Organism	A living thing
Habitat	Area in which organisms live
Ecosystem	Interaction of a community of living organisms with the non-living parts of their environment
Predator	Organism that hunts and kills its food
Prey	Organism that is eaten by another organism
Scavenger	Eats food that has been killed by a different organism
Carnivore	Organism that only eats meat
Herbivore	Organism that only eats plants
Omnivore	Organism that eats plants and animals
Producer	Organism that produces its own food, e.g. a plant
Consumer	Organism that eats food to gain energy and biomass, e.g. an animal
Food chain/web	Diagrams to show the transfer of energy in an ecosystem
Classification	Grouping organisms based on their similarities and differences
Species	Organisms that are able to successfully reproduce
Adaptation	Feature or behaviour that increases the chances of survival: Structural (feature of an organism's body), Behaviour (response made by an organism), Functional (body process)

Box 3: Classification

Organisms are classified based on their similarities and differences. Classification allows organisms to be identified and enables scientists to identify new species.
Carl Linnaeus started the classification system as we know it today. Organisms are assigned a kingdom, phylum, class, order, family, genus, species.
When organisms are part of the same species they can successfully reproduce. Each species is given a Latin name.

Year 7 Biology Knowledge Organiser – Interdependence

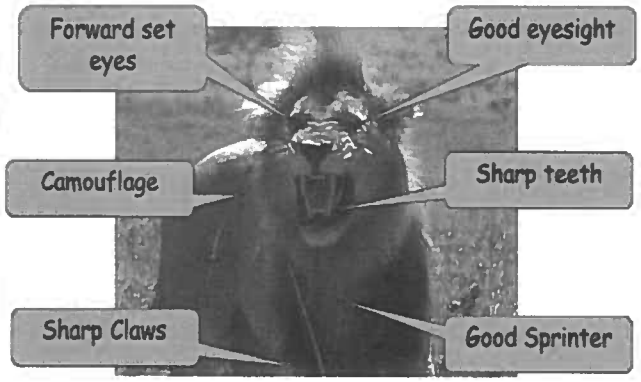
Box 4: Adaptation	Animal in cold climates	Animal in dry climates	Plants in Dry Climates (cactus)
Behaviour	Penguins huddle together to conserve heat	Often nocturnal when temperature is cooler	n/a
Structural	Thick fur and thick layer of body fat. Small SA : Vol ratio	Thin limbs giving a large SA : Vol ratio. Loses heat easily	Wide shallow or narrow deep roots No leaves and waxy cuticle
Functional	Hibernation: rate of reactions decreases for hibernation	E.g. Camel produces little urine/sweat to conserve water	Photosynthesis in stem as no leaves

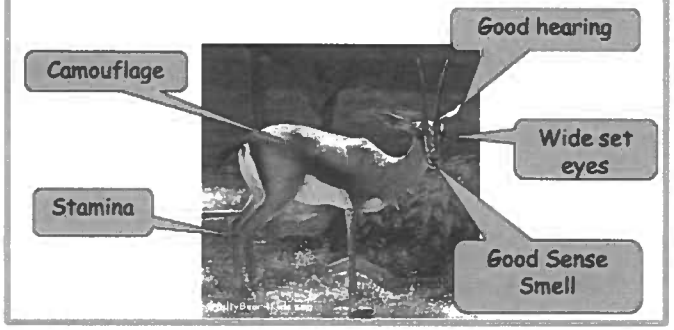
Box 5: Adaptations of desert plants

PLANT ADAPTATIONS

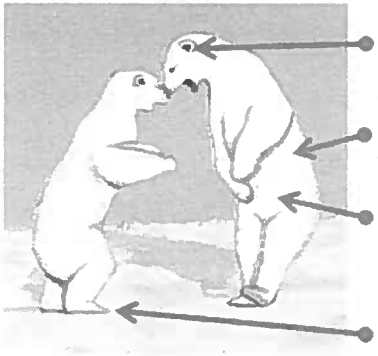
- **Structural:**
  - Shallow roots to soak up water over a large area
  - Deep roots to get to water stored underground
  - No leaves to reduce water loss
- **Functional:**
  - Photosynthesis in stems because no leaves
  - Flowers open at night when cooler

Box 6: Adaptations of predator and prey animals





Box 7: Adaptations of animals in cold regions



Small ears **help to reduce heat loss.**

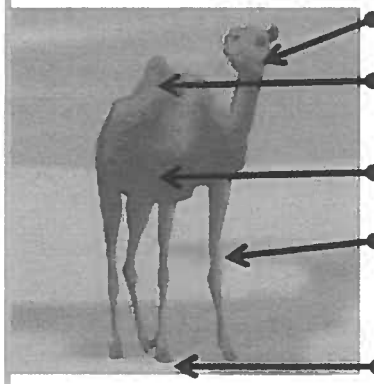
Thick fur **and a** thick layer of body fat **insulate from the cold.**

White fur **acts as camouflage.**

Large feet **to spread the body's weight. The wide paws act as good paddles and snow shoes.**

Small surface area:volume ratio

Box 8: Adaptations of Animals and Plants in Dry Climates



Brown coat **for camouflage.**

Fat is stored in the hump. **There is no other body fat to prevent overheating.**

Loses little water **through sweating or urine.**

Long, thin legs mean the body surface area is large **compared to volume to increase heat loss.**

Wide feet **for spreading body weight over soft shifting sand.**

Large surface area:volume ratio

Box 9: Surface area : Volume ratio

Surface area:volume ratio refers to how large the skin (or surface)
of the animal is compared to the body size (or volume). A large ratio is when there is a large difference in the numbers in the ratio (e.g. 6:1)

Y7 History: Long Term Changes, Early Middle Ages & Norman Conquest

Britain in the 1st Millennium

Archaeological evidence shows that some Romano-Britons were wealthy and connected to the rest of the world

Ivory Bangle Lady was buried in York in the 3rd Century with a variety of grave goods. Her grave gives us clues to what Roman Britain was like:

- Ivory Bangle Lady's African heritage and ivory bangle suggest that Roman Britain was closely connected to the Roman Empire
- The blue glass jug and yellow glass earrings found in the grave suggest that some people in Roman Britain were very wealthy
- The bone inscribed with 'Hail sister, may you live in God' suggests that some people who lived in Roman Britain were Christians

The Roman Empire collapsed in the 5th Century and Germanic peoples began to compete with British kingdoms for control

- The Roman Empire collapsed in the 5th Century and the Roman armies left Britain
- Various different British kingdoms fought for control
- Scots and Picts began to raid and settle areas near the coast
- Germanic peoples from northern Europe - including the Angles, the Saxons, and the Jutes - began to migrate and settle in southern and eastern Britain

By the 6th Century, seven Anglo-Saxon kingdoms dominated much of Britain

- Each kingdom was ruled by an Anglo-Saxon king
- Mercia and Wessex were the most powerful kingdoms
- In the 9th Century, the kingdoms were united under King Alfred of Wessex

Viking settlement in Britain began in the 9th Century

- In the 9th Century, Vikings from Scandinavia began to raid and then settle in northern and eastern England
- The arrival of the Vikings joined Britain to a vast network of Viking settlement stretching from North America to Baghdad
- In 878, King Alfred signed a treaty with the Vikings giving them control of the Danelaw in northeast England

Arabic World	**The Muslim empires in the Middle East that thrived in this period**
Archaeology	**The study of history through digging up physical remains**
Century	**A period of 100 years**
Cesspits	**Pits dug to store human waste**
Decade	**A period of 10 years**
Disrepair	**Poor condition**
Engineers	**People who design and build things**
Germanic	**From Germany / related to Germany**
Heritage	**Your background / where you are from**

The End of Roman Britain

LIVING CONDITIONS declined after the end of Roman rule

Roman towns

- The Romans built large towns with stone buildings, central heating, and sewers
- Roman engineers built roads to connect towns

Anglo-Saxon and Viking Britain

- After the Romans left, most buildings were made from wood
- Sewers disappeared and waste was stored in cesspits
- The Roman roads fell into disrepair

TRADE played an important role in connecting Britain to the world

Roman connections

- Goods such as wine, olive oil, and pottery were traded with the Roman Empire

Anglo-Saxon connections

- Anglo-Saxon kingdoms traded with France and Germany
- A coin showing both King Offa of Mercia and the words "There is no God but Allah" shows Britain traded with the Arabic World

Viking connections

- The Viking world offered new trading opportunities
- Viking Britain imported goods like walrus ivory from Greenland and silk from the Arabic World

LANGUAGE changed as different groups arrived

Latin

- Spoken in towns under Roman control
- British languages survived in the North and West and in rural areas
- Some Latin words remain: exit, pedestrian, enormous

Old English

- A Germanic language that arrived with the Anglo-Saxons
- Words like house, mother, and tomorrow still survive and are used today

Norse

- The Viking language
- Very influential in the Danelaw
- Words like dirt, daughter, and ball still survive

Emma of Normandy was queen of England from 1002 to 1035.

She linked together the three peoples trying to control England in the 11th Century.

- Norman Connections

Emma was born a Norman. She was the daughter of Richard I, Duke of Normandy. William the Conqueror was Emma's great-nephew.

- Anglo-Saxon Connections

In 1002 Emma married the English King, Aethelred. He was an Anglo-Saxon and Emma became Queen of England. Their son, Edward, would later become King.

- Viking Connections

In 1016, the Viking Cnut invaded England and Aethelred died. Cnut became King of England and decided to marry Emma. Their son, Harthacnut, would also later become King.

In 1066, Emma's son, King Edward the Confessor, died. He had no heir and three main contenders to the throne emerged:

Harold Godwinson (Anglo Saxon)

- A nobleman with the support of English earls
- Harold's sister - Edith of Wessex - was Edward's wife
- Edward had apparently promised him the throne as he lay dying
- Had been crowned king already after Edward had died

Harald Hardrada (Viking)

- King of Norway for 20 years
- A feared warrior who had won battles across Europe
- Claimed that Emma's son Harthacnut had promised his family the English throne

William, Duke of Normandy (Norman)

- Related to Edward through Emma
- His wife, Matilda of Flanders, was related to Edward
- Edward had apparently promised him the throne in 1051 and Harold had agreed
- Successful leader in battle and had been Duke of Normandy for 30 years

VOCABULARY	
Archers	Soldiers who fire arrows at the enemy from range
Anglo-Saxons	A people from Germany who settled in England
Barons	Wealthy landowners who control an army
Cannibalism	Eating humans
Cavalry	Soldiers who ride on horseback
Claim to the throne	A reason why someone should be King
Contenders	Challengers
Deter	Use a harsh penalty to stop someone doing something
Earls	Anglo-Saxon noblemen
Edwin	Anglo-Saxon earl of Mercia
Feudal System	William's system of giving out land
Feigned	Pretended
Harrying	Destroying
Heir	Someone to become king or queen after you, usually a son
Hierarchy	A system with the most important people at the top
Infantry	Soldiers who fight on foot
Knights	Loyal soldiers who fight for barons and the king
Matilda of Flanders	William's wife
Mercia	Part of central England
Military	The army
Morcar	Anglo-Saxon earl of Northumbria
Motte and Bailey	A wooden castle used by the Normans
Nobleman	A rich landowner
Normans	A people from northern France
Normandy	Part of northern France
Northumbria	Part of northern England
Peasants	Poor farmers who worked the fields
People	An ethnic group or tribe
Psychological	In the mind
Rebel	To fight back against the King
Rebellion / Revolt	When people fight back against the King
Vikings	A people from Scandinavia
Scandinavia	A northern part of Europe including Sweden and Norway
Starvation	Not having enough food
Shield Wall	Battle tactic involving linking shields together
Strategy	Plan

The Battle of Stamford Bridge

In September 1066, **Harald Hardrada** landed an army of 8,000 **Vikings** in the North of England. **Harold Godwinson** and his army marched 180 miles in 4 days to meet them.

Godwinson defeated the **Vikings** at the **Battle of Stamford Bridge. Hardrada** was killed. Almost as soon as the battle was over, **Harold** learnt that **William** had landed and he raced his exhausted army back to the south coast.

Harold's Anglo-Saxon Army

5,500 **fyrd**, untrained farmers fighting with wooden shields and farm tools. 3,000 heavily-armoured **housecarls** armed with battle axes.

William's Norman Army

3,000 well trained **infantry** with metal armour and swords. 2,000 **cavalry** on large warhorses. 800 **archers** who could fire over 100 metres

The Battle of Hastings

1. Harold took a strong position at the top of **Senlac hill**. **Fyrd** and **housecarls** linked shields to form a **shield wall**. 2. William placed his army in three rows: **archers** in front, followed by **infantry**, and **cavalry** protected behind. 3. William ordered attacks from his **archers** and **cavalry** but they failed because of the hill and **shield wall**. 4. After a break for lunch, William tried a new **strategy**. He attacked with his **cavalry** who then **feigned** to retreat. Some English soldiers followed the **cavalry**, breaking the shield wall. 5. With the shield wall broken, the Norman **cavalry** could charge at the **fyrd**. 6. **Harold** was shot in the eye and died. Without their leader, the English army was easily defeated. 7. **William** marched to London and was crowned king on Christmas Day 1066.

There were several reasons why William was able to win:

- Harold's men were exhausted from their march to Stamford Bridge and back. They were unable to fight effectively
- William's **strategy** to **feign** a retreat broke the shield wall and allowed the **cavalry** to charge at the **fyrd**
- The Norman soldiers were better equipped than the Anglo-Saxon **fyrd**. Norman **archers** could also attack over a long distance

William's wife, Matilda of Flanders, played a crucial role in ***securing Norman power***. In particular, Matilda:

- Ruled Normandy in William's absence, making sure there were no rebellions
- This allowed William to concentrate on securing control of his new territory: England
- Matilda had 10 children, making sure William would have an heir to continue Norman control

William took land from Anglo-Saxons earls and gave it out to loyal Norman barons. ***The Feudal System*** allowed him to keep control, This **hierarchy** helped William reward loyalty by granting land. He relied on his barons to control the country.

William and the French nobles built motte and bailey castles to protect his new lands:

Advantages

- Could be built quickly - in less than 6 days!
- Castles were visible for miles and provided a **psychological** reminder to the Anglo-Saxons that the Normans were in charge

Disadvantages

- Wooden structures could easily be burned down or would rot over time
- Stone keeps were safer and lasted longer but were more expensive and took a long time to build

The Anglo-Saxons did not want to be controlled by the Normans. There were several rebellions against William's rule.

Edwin and Morcar's Rebellion

William allowed Edwin and Morcar, two Anglo-Saxon earls, to keep their lands in Mercia and Northumbria if they agreed to support him as king. However, when Edwin and Morcar rebelled, William tried to put a Norman baron in charge of Northumbria. The baron was killed and the rebellion spread. William was forced to march north. He built Motte and Bailey castles to control the rebellion. ***The Harrying of the North***

In 1069, William punished the North harshly to deter future rebellions. He:

- Destroyed farms and villages, forcing Anglo-Saxons to flee
- Burned food stores and killed animals, leading to starvation and cannibalism
- Ploughed salt into the fields, meaning that crops could not be grown

Year 7 Term 1 Geography What is Geography?

Key words

Continent- a large mass of land

Ocean – a large expanse of sea water

Environmental -relating to the natural world

Relief -the shape of the land

Settlement -where people live

Vegetation -the plants

Work – What people do for a living

Communication – how people travel

Drainage -rivers or streams

Climate -the present and past weather

Location – where a place is

Population -the people

Latitude - how far north or south a place is from the Equator; it is measured in degrees

Longitude -how far west or east a place is from the Prime Meridian; it is measured in degrees

Equator - a line notionally drawn on the earth equidistant from the poles, dividing the earth into northern and southern hemispheres and constituting the parallel of latitude 0°.

Prime Meridian – a line of longitude where the longitude is defined as 0°.

KPI 1 What is Geography?

There are three main types of Geography

- Physical Geography – what our planet is like
- Human Geography – how and where we live
- Environmental Geography – our impact on our surroundings

Geography is linked to almost everything that is going on all over Earth.

KPI 2 How to describe places in Geography and ask Geographical questions?

Geographers ask questions around the world around them an example of some geographical questions include:

- How do clouds form?
- Where were my trainers made?
- What are the impacts of global warming?

KPI 3 What are the names of the continents and oceans?

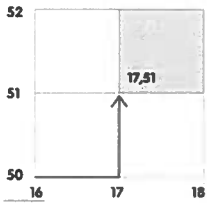
A continent is a large mass of land. There are 7 continents in the world they are: Africa, Europe, Asia, North America, South America, Antarctica and Oceania

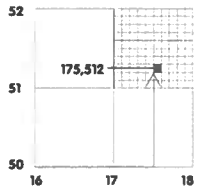
An ocean is a large expanse of sea water. There are 5 oceans in the world they are: Arctic, Indian, Pacific, Atlantic and the Southern.

A country is a nation with its own government that occupies a particular territory there are 195 counties in the world

KPI 4 How to measure places using grid references

Maps have grid lines on them – we use them to locate places by using grid references. A four-figure grid reference identifies any square on a map, whereas the six-figure grid reference gives an exact location.





KPI 5 How to measure distance on a map

There are two types of distances:

- Direct distance means the straight-line distance between two places
- Actual distance – means the route you would take e.g. along roads or pathways.

To work out distance you must use the scale of a map. The scale tells you the ratio of the distance on a map to the real distance Large scale maps have low number is the scale, such as 1: 1250. The features are shown are large. Small scale maps have a high number in the scale, such as 1: 250 000. Individual features shown

KPI 5 How to measure distance on a map continued

To work out distance you must use the scale of a map. The scale tells you the ratio of the distance on a map to the real distance

Large scale maps have low number is the scale, such as 1: 1250. The features are shown are large
Small scale maps have a high number in the scale, such as 1: 250 000. Individual features shown are small

High number = small scale

KPI 7 How to use an atlas

An atlas is a collection of thematic maps. The contents page is at the front of an atlas. It tells us the pages for general maps of countries and continents. If we want to find a map this is the page we look use.

The index is at the back of an atlas it helps us find exactly where a place is. The index tells us the correct page number, and even exactly where on that page it is by giving us the grid reference e.g. London 5 5F

KPI 8 How to locate places using longitude and latitude

The position of a point on the surface of the Earth, for example, can be described by degrees of latitude, measured north and south from the Equator, and degrees of longitude, measured east and west from the great circle passing through Greenwich, England, and the poles.

Year 7 Topic 2 - What is the difference between weather and climate?

Key words

- **Climate**: Climate is how weather behaves over at least a year. The averages of temperature and rainfall are taken over long periods of time to give an overall picture of the climate for a place or country.
- **Weather**: Weather is the day to day (short term) changes in the weather such as temperature, precipitation and cloud cover for a specific area over a day or week.
- **Coriolis effect** – an effect caused by the Earth's rotation, which causes winds and currents to follow a curved path across the Earth's surface
- **Altitude**: the height of the something above sea level. It is usually measured in feet or metres. Sea level is an altitude of 0 m.
- **Meteorology**: a science that deals with the atmosphere and its phenomena and especially with weather and weather forecasting
- **Prevailing wind**: a wind from the direction that is predominant or most usual at a particular place or season.
- **Rain shadow:** a region having little rainfall because it is sheltered from prevailing rain-bearing winds by a range of hills.
- **Water cycle:** The water cycle is the process by which water is continuously transferred between the surface of the earth and the atmosphere.
- **Droughts:** a period when an area or region experiences below-normal precipitation.
- **Heatwave:** is an extended period of hot weather relative to the expected conditions of the area at that time of year

KPI 1 What is the difference between weather and climate?

Weather is the day to changes in the atmosphere

Climate is the long-term changes in the atmosphere

Weather and climate are impacted by air pressure, wind and precipitation

- Air pressure is the amount of air in an area
- Wind is the air moving from areas of high to low pressure
- Precipitation is the rain, snow sleet or hail that falls to the ground

KPI 2 How to measure the weather?

Equipment	What does it do?
Anemometer	Measures the speed of wind.
Rain Gauge	Measures precipitation
Wind Vane	Measures wind direction
Barometer	Measures air pressure
Thermometer	Measures the temperature

Measuring wind speed – Beaufort Scale

The Beaufort scale categorises how fast the wind is blowing and the effects on the land without the use of an anemometer.

Beaufort Number	Wind Speed (mph)	Seaman's term	Effects on land
0	Under 1	Calm	Calm; smoke rises vertically
1	1-2	Light Air	Smoke drift indicates wind direction
2	4-7	Light breeze	Wind felt on face; leaves rustle; vanes begin to move
3	8-12	Gentle breeze	Leaves, small twigs in constant motion
4	13-18	Moderate breeze	Dust, leaves and loose paper raised up; small branches begin to move
5	19-24	Fresh breeze	Small trees begin to sway
6	25-31	Strong breeze	Large branches of trees in motion; whistling heard in wires
7	32-38	Moderate Gale	Whole trees in motion; resistance felt in walking against the wind
8	39-46	Fresh Gale	Twigs and small branches broken off trees
9	47-54	Strong Gale	Slight structural damage occurs; slate blown from roofs
10	55-63	Whole Gale	Rarely experienced on land; trees broken; structural damage occurs
11	64-72	Storm	Very rarely experienced on land; usually with widespread damage
12	73 or higher	Hurricane Force	Violence and destruction.

Measuring cloud cover: Cloud cover is measured in units called oktas. Each okta represents one eighth of the sky covered by cloud. 0 oktas = no cloud cover and 8 oktas = no visible area of sky, all sky covered in clouds.

Year 7 Topic 2 - What is the difference between weather and climate?

KPI 3 What is a climate graph?

Climate graph: Climate graphs use both a bar graph and a line graph. Temperature is shown on a line graph. Rainfall is shown by a bar graph. Months of the year are shown along the bottom.

- Rainfall is a bar graph and temperatures are shown as a line graph.
- Climate graphs can be used to work out annual rainfall and temperature range.

KPI 4 Why does it rain?

There are 3 types of rainfall they are:

Frontal Rainfall:

1. Frontal rainfall occurs when a warm front meets a cold front. The heavier cold air sinks to the ground and the warm air rises above it.
2. When the warm air rises, it cools.
3. The cooler air condenses and form clouds.
4. The clouds bring heavy rain.

Relief Rainfall:

1. Relief rainfall occurs when warm moist air from the Atlantic Ocean rises up over mountains.
2. When the warm air rises, it cools and condenses to form clouds, which bring rain.
3. Once the air has passed over the mountains, it descends and warms.
4. This creates drier conditions known as a rain shadow.

Convectional Rainfall:

1. Convectional rainfall usually occurs during the summer in the UK, when the sun heats the land.
2. This creates rising pockets of warm air, known as convection currents.
3. Warm air rises rapidly, where it starts to cool and condenses to form clouds.
4. These clouds can be large cumulonimbus clouds.
5. The clouds can produce heavy rainfall and thunderstorms.

KPI 5 What influences the weather in the UK?

Air masses - An air mass is a large volume of air in the atmosphere that is mostly uniform in temperature and moisture.

Different air masses bring with them different weather conditions. The UK experiences five different air masses. This is a lot and what explains why it makes out weather so changeable. Some air masses impact the UK more than others.

1. Tropical maritime: It approaches from the southwest and effects the UK weather often. In the winter it causes wet weather but more moderate temperatures. In the summer it causes warm and dry summers and there is very little cloud cover.
1. Polar maritime: It approaches the UK from the north and effects the UK weather often. In the winter temperatures range between 15-18 degrees Celsius and is the most common air mass to impact the UK. It causes frequent rain and cold morning fog. In the summer it causes occasional rain showers, but temperatures generally remain warm.
2. Tropical continental: It approaches from the south and effects the weather of the UK less often. In the winter it has no impact. In the summer it brings the warm weather over 30 degrees Celsius. Very little chance of rainfall.
3. Arctic Maritime: In the UK it approaches the UK from the North and effects the UK weather less often. In the winter it brings strong arctic winds from the Arctic bringing extremely cold temperatures. In the summer it can cause extremely low temperatures.
4. Polar continental: It approaches the UK from the East and effects the UK weather less often. In the winter it can cause snow showers and temperatures remain low. In the summer it can cause cloud and fog in the evenings and mornings. It causes clear skies and sunshine with temperatures over 25 degree Celsius.

KPI 7 What is a microclimate?

Microclimates occur when the climate in a small area is different to the general surroundings.

- **Physical features** such as water areas can have a cooling effect on the land. Trees can shade the land, also making it cooler.
- **Human features** such as walls and buildings will shelter against the wind, making it warmer. Buildings which are heated may also give out heat (radiate), which again makes it warmer than the surrounding landscape. Due to human activity, the temperature in an urban microclimate is higher than that of the surrounding areas. Urban areas are said to be urban heat islands as under calm conditions, temperatures are highest in the built-up city centre and decrease towards the suburbs and countryside.

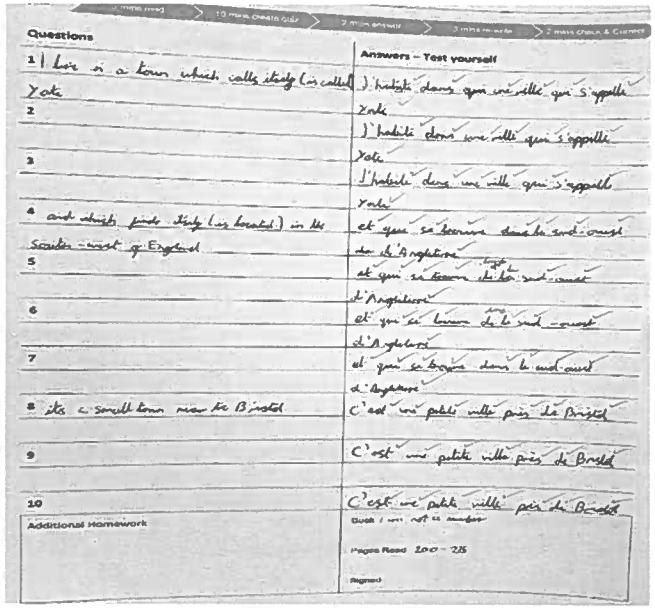
Year 7 Term 1 French – Moi et ma famille

1	Hello! I would like to present myself.	Bonjour! Je voudrais me présenter.
2	I call myself Françoise and I have (I am) fourteen years.	**Je m'appelle** Françoise et **j'ai** quatorze ans.
3	Now I have brown eyes and	Maintenant **j'ai** les yeux marron et
4	long, brunette hair	les cheveux longs et bruns
5	but when I was younger	mais quand **j'étais** plus jeune
6	I had blue eyes and blond hair.	**j'avais** les yeux bleus et les cheveux blonds.
7	I would say that I am quite shy,	Je dirais que **je suis** assez timide,
8	however I am also very sporty	cependant **je suis** aussi très sportive.

9	Before, I was more lazy.	Avant, **j'étais** plus paresseuse.
10	In my family there is	Dans ma famille **il y a**
11	my dad, my mum and my two sisters.	mon père, ma mère et mes deux sœurs.
12	I get on well with my dad	**Je m'entends bien** avec mon père
13	because he is funny.	parce qu'**il est** marrant.
14	I don't get on well with my sister,	**Je ne m'entends pas** bien avec ma sœur,
15	who is called Annabelle,	qui **s'appelle** Annabelle,
16	because she is sometimes mean.	car **elle est** parfois méchante.
17	My mum is really kind and pretty,	Ma mère **est** vraiment sympa et jolie,
18	she has curly, red hair.	**elle a** les cheveux bouclés et roux.

19	At the moment, I don't have an animal (pet)	En ce moment, **je n'ai pas** d'animal
20	But in the future I would like to have	mais dans le futur **je voudrais avoir**
21	a black dog and a white mouse.	un chien noir et une souris blanche.

Example of what LSQs for MFL should look like:



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

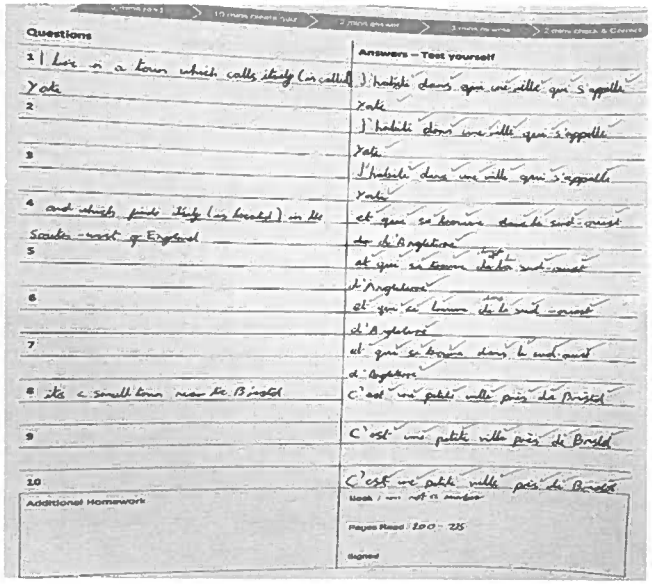
Year 7 Term 1 Spanish – Mi familia y yo

1	Hello! I would like to present myself.	¡Hola! Me gustaría presentarme.
2	My name is Henry and I am eleven years old.	**Me llamo** Enrique y **tengo** once años.
3	Now I have brown eyes and	Ahora **tengo los ojos** marrones y
4	I have long, brown hair	**tengo el pelo** largo y castaño
5	but when I was younger	pero cuando **era** más joven
6	I had blue eyes and blond hair.	**tenía** los ojos azules y el pelo rubio.
7	I would say that I am quite shy,	Diría que **soy** bastante tímido,
8	and I am very active.	y **soy** muy activo.
9	Before, I was more lazy.	Antes, **era** más perezoso.

10	In my family there is	En mi familia **hay**
11	my dad, my mum and my two sisters.	mi padre, mi madre y mis dos hermanas.
12	I get on well with my dad	**Me llevo bien con** mi padre
13	because he is funny.	porque **es** gracioso.
14	I don't get on well with my sister,	**No me llevo bien con** mi hermana,
15	who is called Anabelle,	que **se llama** Anabella,
16	because sometimes she is mean.	dado que a veces **es** antipática.
17	My mum is really kind,	Mi madre **es** verdaderamente simpática,
18	she has curly, red hair.	**tiene** el pelo rizado y rojo.
19	At the moment, I don't have a pet	En este momento, **no tengo** mascota

20	but in the future I would like to have	pero en el futuro **me gustaría tener**
21	a black dog and a yellow snake.	un perro negro y una serpiente amarilla.

Example of what LSQs for MFL should look like:



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

Knowledge Organiser- Year 7 Term 1 Belief in God

Key words

Influence	the capacity to have an effect on the character, development, or behaviour of someone or something, or the effect itself.
Theist	a person who believes in the existence of a god or gods, specifically of a creator who intervenes in the universe.
Agnostic	a person who believes that nothing is known or can be known of the existence or nature of God.
Atheist	a person who disbelieves or lacks belief in the existence of God or gods.
Belief	an acceptance that something exists or is true, especially one without proof.
Fact	a thing that is known or proved to be true.
Trinity	the three persons of the Christian Godhead; Father, Son, and Holy Spirit.
Monotheistic	relating to or characterized by the belief that there is only one God.
Omnipotent	(of a deity) having unlimited power.
Omnipresent	(of God) present everywhere at the same time.
Omniscient	knowing everything.
Omnibenevolent	(of a deity) possessing perfect or unlimited goodness.
Immanent	(of God) permanently pervading and sustaining the universe.
Transcendence	existence or experience beyond the normal or physical level.
Incarnate	(especially of a deity or spirit) embodied in human form.
Deity	a god or goddess (in a polytheistic religion).

KPI2: To be able to examine theist beliefs about what God is like

The nature of the Christian God

- Christians are **monotheists.** This means that they believe there is only one God. It is very difficult to describe God, because everyday language is always about ordinary things but God is not ordinary.
- God is 'holy', meaning special, separate and different.

Christians believe that:

God is eternal, beyond time and space

- God does not have a physical body, and is everywhere at all times **(omni-present)**
- God is the creator of the world and everything in it
- God has a purpose for the world
- God is completely good and completely loving
- God is interested in how people behave, and wants them to treat each other properly
- God is all-powerful (**omnipotent**) and all-knowing **(omniscient)**
- God judges each individual

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KPI1: To consider how things are proved to exist

How do we prove that things exist?

There are three main ways by which the existence of things is proved:

1- Personal experience- 'I have seen it, so I know it exist.'

2- Reliable evidence- 'I have not seen it but other people have convinced me that they have, so I accept its existence.'

3- Logic- Using a chain of reasoning to reach a conclusion.

KPI4: To apply key quotes to explain Christin beliefs in the characteristics of God.

-Deuteronomy 32:11-12 Like an eagle that stirs up its nest and hovers over its young

-Psalm 18:2 The Lord is my rock, my fortress and my deliverer

-Exodus 3:2-6 There the angel of the Lord appeared to him in flames of fire from within a bush.

-John 3:16 For God so loved the world that he gave his one and only Son

- Luke 1:37 Nothing is impossible for God

KPI3: To explain Christian belief in the trinity

The Trinity refers to the idea that God is one, but exists in three different Persons. The word 'trinity' comes from the word 'tri' meaning 'three' and 'unity' meaning 'one'.

Christians believe that there are three distinct Persons to this one God and that these three Persons form a unity. This belief is called the doctrine of the Trinity:

God the Father - the creator and sustainer of all things

God the Son - the incarnation of God as a human being, Jesus Christ, on Earth

God the Holy Spirit - the power of God which is active in the world, drawing people towards God

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Knowledge Organiser: Year 7 Term 1 Belief in God

Keywords:
Buddha: the enlightened one
Enlightenment:the realisation of the truth about life
Siddhartha Gautama: founder of Buddhism/ the Buddha
Meditation:thinking quietly as a spiritual or religious exercise.
Vihara: Buddhist monastery
Tripitaka:collection of Buddhist teachings/holy book
Dhammapada:collection of sayings from the Buddha
Eightfold Path: buddhists follow to end suffering
Four noble truths: buddhists follow to reach enlightenment.
Dharma:Buddhist teaching and practice
Five precepts:Moral guidance that Buddhists follow
Puja:ceremonies that involve offerings/gifts
Malas:prayer beads
Nirvana:the end of the cycle of death and rebirth
Temple: Buddhist holy building
dukkha: the suffering of life
samudaya: arising from suffering
nirodha: to stop craving and suffering
Magga:the route to wisdom following the Eightfold path
Cycle of samsara: Cycle of birth, death and rebirth

KPI5: To investigate Buddhist belief in God

- The buddha is not a god but someone they look up to and follow their teachings
- The Buddha was a man called **Siddhartha Gautama**, who is said to have lived nearly 2,500 years ago in India.
- his privileged life hid him from the sufferings of life; sufferings such as sickness, age and death.
- He abandoned the strict lifestyle of self-denial and natural beauty, but did not return to the pampered luxury of his early life.
- He finally achieved Enlightenment and became the Buddha.

KPI6: To explore how Buddhist worship

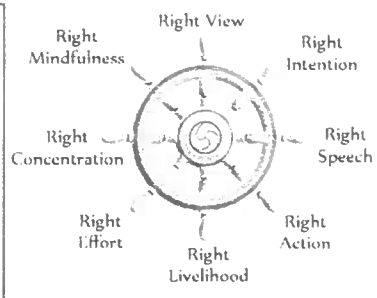
- **Beliefs:** Buddhism focuses on personal spiritual development, and Buddhists try to live a good life by following the Buddha's teachings, called the **Dharma**. In the **Four Noble Truths** the Buddha taught that life is full of suffering.
- **Holy book:** The Buddhist scriptures are known as the **Tripitaka** which means 'three baskets'.The Tripitaka contains the teachings of the Buddha and his companions, comments on those teachings, as well as rules for monks.
- **Food:** Buddhists follow rules known as the **Five Precepts**.
- **Worship:** Buddhists do not worship in the traditional sense, but they show their devotion by a ritual called **puja**, either at home, in a temple or a vihara
- **Dress:** Buddhist monks and nuns wear simple robes, and the colour often depends on the denomination - or branch - of Buddhism they belong to. Typically, the colours will be autumn colours such as yellow, orange, brown or maroon.

KPI7: To investigate the features of a Buddhist temple.

- Statues of **The Buddha** - Sometimes these are small, but they can be enormous.
- Should take your **shoes off** when entering the temple and step over any doorsteps.
- Visitors may **burn incense** and bring **flowers or gifts**.
- May involve **meditation and chanting.**
- People will often **sit on the floor.**
- **Family of gatherers** and it helps them to gain a deeper understanding of their religion.
- **Shrine in their own home** where they can go to meditate. Just like in the temple, shoes are removed. It is respectful to sit with legs crossed on the floor, to burn incense and candles and have offerings, such as flowers.

KPI8: To be able to explain the Four Noble Truths and consider the importance of the Eightfold path.

- **Dukkha:**Life involves suffering. In Buddhism there are <u>three</u> main types of suffering: Painful experiences, Constant change, Unsatisfied.
- **Samudaya:** Suffering is due to having desires. The three causes of suffering are:Greed, Ignorance, Hatred.
- **Nirodha:**Buddhists can break the cycle of craving and arising. They will no longer be reborn into another life of suffering.
- **Magga:** Siddhartha learnt that the best way to end suffering and leave the cycle of Samsara to achieve **enlightenment** is to follow the set of guidelines called the Eightfold Path.



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Year 7 - Food Technology

Hygiene, Health and Safety

To be ready to cook you need to:	Remove blazer, tie up hair, wash hands, put on an apron, remove watch, have clean nails. Collate your equipment and ingredients. Quality check the equipment - is it clean? Quality check the use by date. If beyond best before date, is the product still fit for use? Does it smell sour/off, does it look mouldy?
When should you wash your hands?	Before putting on your apron, when you change jobs in the kitchen. After handling raw meat/fish, going to the toilet, coughing/sneezing/blowing your nose, touching rubbish, touching hair or face. Wash hands for 15-20 seconds, use soap and hot water. Dry on blue roll - use the blue roll to turn off the taps - do not touch them again.
The importance of washing up:	Washing up correctly is particularly important for food safety. Cutlery, pans, and dishes which are not washed and rinsed properly provide the ideal conditions for bacteria to grow. This could lead to food poisoning. Move dirty equipment to the dirty side of the sink, run a bowl of hot soapy water, knives are washed, dried, and put away first. Turn dishes and pans upside down on the draining board. Boards stand behind the tap/back of the sink area.. Ensure you have a clean area to put your clean dry equipment.
Safety Rules	No silly behaviour - running/pushing/being immature. Always ensure your oven is switched off after use. Knives are held down by your side when carrying them. Use a tea towel as a heat mat for hot pans on the side. Place hot trays from the oven on top of the cooker providing the hob is not hot - use a cooking rack if it is. Use the bridge or claw hold when chopping. Place a tea towel underneath your chopping board if needed. Always use the correct colour chopping board.

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. **Cross Contamination** – the process by which bacteria or other items are unintentionally transferred from one substance or object to another, with harmful effects
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

Eatwell Guide / Use the Eatwell Guide to help you get a balance of healthier and more sustainable food.	**Carbohydrates**: 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. **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. **Dairy and Alternatives**: Milk, yoghurt, cream, cheese, alternative milks: almond, rice, coconut, hazelnut, soya. Choose lower fat and lower sugar options. **Fats**: Choose unsaturated oils and use in small amounts – sunflower, olive, rapeseed. Sugary foods/crisps/ketchup – eat less often and in small amounts. **6-8 cups of water:** lower fat milk, sugar-free drinks including tea and coffee all count. Men: 2500 kcal per day/Women 2000 kcal per day = All food and drinks

Glossary of Terms

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.. **Pathogenic Bacteria** - Bacteria that does the body harm. **Hob** – top of the oven used to boil, simmer and fry. **Grilling** – to cook with heat that does not directly touch the food. **Rubbing In** – to combine fat with flour to make a breadcrumb-like consistency. **Crimping**: to seal two pastry edges together.. **Boiling** – to bring water to 100 degrees C. **Simmering** – to heat liquids to just below the boiling point. **Baking/Roasting**: to cook with a dry heat in the oven cavity. **Glazing**: To coat with egg/milk to give texture and colour. **Rolling**: To evenly stretch (pastry) using pressure via a rolling pin

Design & Technology
Year 7

1. Woods

Man-Made Woods

	Description	Uses
Medium density fibreboard (MDF)	•Has a smooth, even surface •Easily machined and painted •Available in water and fire-resistant form •Often veneered or painted to improve its appearance	•Furniture and interior panelling
Chipboard	•Made from chips of wood glued together with urea formaldehyde (glue) •Usually veneered with an attractive hardwood or covered in plastic laminate	•Kitchen and bedroom furniture •Shelving and general DIY Work
Plywood	•A very strong board, constructed of layers of veneer or piles, which are glued together with the grains at 90° to each other •Interior and exterior grades available.	•Furniture making •Boat building and exterior work
Hardboard	•A very cheap particle board •Can have a laminated plastic surface	•Kitchen unit and furniture back panels

Hard Woods

	Description	Uses
Oak	•A very strong, light-brown wood •Open grained •Very hard, but quite easy to work with	•High quality furniture •Beams used in building •Veneers
Mahogany	•Reddish-brown in colour •Easy to work with	•Indoor furniture •Shop fittings •Bars •Veneers
Beech	•A straight- grained hardwood with a fine texture •Light in colour •Very hard but easy to work with •Can be steam bent	•Furniture •Toys •Tool handles
Ash	•Open grained •Easy to work with •Pale cream colour, often stained black •Can be laminated (i.e. sliced into veneers which are glued together)	•Tool handles •Sports equipment •Furniture •Ladders •Veneers

Soft Wood

	Description	Uses
Pine	•Pale-yellow coloured with dark lines and a fine, even texture. •Medium in weight •Stiff and stable •Inexpensive	•Readily available for DIY work •Mainly used for constructional work and simple joinery •Furniture

2. Plastics

Acrylic		Properties: • Hard wearing • Will not shatter • Can be coloured • Bathtubs, School Projects, Display signs
Polypropylene		Properties: •High impact strength •Softens at 150°C •Can be flexed many times without breaking •School chairs, Crates
High Impact Polystyrene (HIPS)		Properties: •Light but strong •Widely available in sheets •Used for casings of electronic products
Polythene (LDPE)		Properties: • Weaker and softer than HPDE. • Lightweight • Carrier Bags + Squeezy Bottles
Polythene (HDPE)		Properties: •Stiff strong plastic •Used for pipes and bowls •Buckets
Urea formaldehyde		Properties: •Colourless plastic •Can be coloured •Door and cupboard handles, Electrical fittings

3. Material Properties

Strength
The ability of a material to stand up to forces being applied without it bending, breaking, shattering or deforming in any way.

Elasticity
The ability of a material to absorb force and flex in different directions, returning to its original position.

Ductility
The ability of a material to change shape (deform) usually by stretching along its length.

Malleability
The ability of a material to be reshaped in all directions without cracking.

Hardness
The ability of a material to resist scratching, wear and tear and indentation.

Toughness
A characteristic of a material that does not break or shatter when receiving a blow or under a sudden shock.

3. Metals

Aluminium	Properties: •Light Weight •Light grey in colour •Can be polished to a mirror like appearance •Rust resistant	
Mild Steel	Properties: •Heavy •Dark grey in colour •Rusts very quickly if exposed	
Stainless Steel	Properties: •Heavy •Shiny appearance •Very resistant to wear / rust.	
Cast Iron	Properties: •Re melted pig iron with some quantities of other metals •Strong in compression. •Brittle	
Copper	Properties: •Reddish brown metal. •Soft •Excellent conductor of heat and electricity	
Brass	Properties: •Yellow metal •Hard •Alloy	

4. Composites

Carbon Fibre	GRP Fibreglass
Expensive in comparison to other materials. Very good strength to weight ratio. Used in the manufacture of high end sports cars and sports equipment.	GRP is composed of **strands of glass which are woven to form a flexible fabric. The fabric is normally placed in a mould and <u>polyester resin</u> is added.** **Glass reinforced plastic is lightweight** and has **good thermal insulation properties.** It has a **high strength to weight ratio**

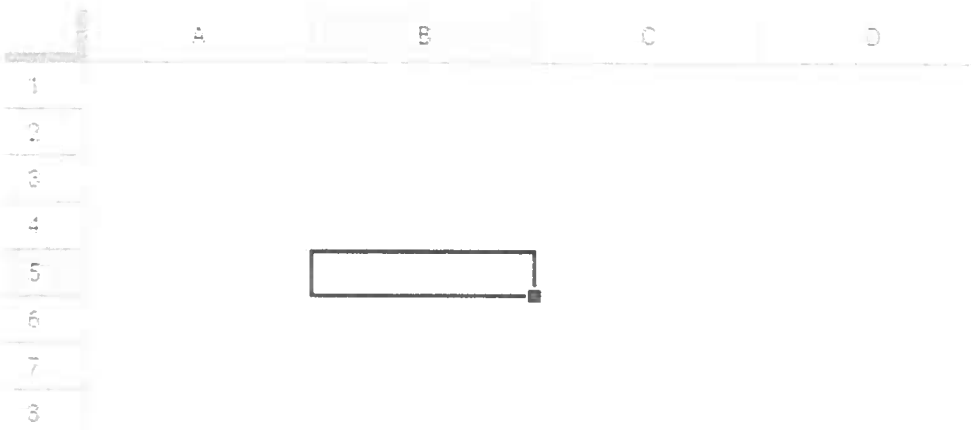
Art Year 7 - Term 1 - Formal Elements

Formal Elements	Colour Theory	Definition	Examples
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 feels e.g. fluffy, rough, smooth etc. **Pattern** A symbol, shape or colour that repeats. Man-made patterns are designed by humans, natural patterns are formed by nature. **Shape/Form** Shape is 2D e.g. rectangles. Form is 3D e.g. cubes, spheres etc.	Primary Colours	Colours that can't be mixed/ made from other colours.	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.	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.	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.	Tint of blue = light blue Shade of blue = dark blue

Tips, Tools & Techniques	Other Keywords	Key Artist
Blender Stick A paper stump that allows you to blend tones. **Blending** The smooth transition between tones. **Graded Pencils** On the side of your pencil you will find letters e.g. H, B or HB. H = Hard led and B = Black which means it has a softer led to give you darker tones, therefore a HB is a good standard drawing pencil. **Mark-Making** To make your drawings more realistic, you should try to use different marks to show textures and surfaces. You can do this by changing the direction, pressure or length of your marks. **Proportion** The size and relation of objects to one another. Using the grid-method is one way of helping you draw using accurate proportions.	**Observational Drawing** Drawing something from real life in front of you. **Composition** This is where you place objects on a page. **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. **Landscape Painting** Landscape art is the depiction of landscapes in art—natural scenery such as mountains, valleys, trees, rivers, and forests. Landscapes are usually wider in layout.	**Georges Seurat (1859-91)** French painter who was part of the Neo-Impressionist art movement and used pointillism as a technique within his work. **Art Movement** An art movement is a tendency or style in art with a specific common philosophy or goal, followed by a group of artists during a specific period of time. **Neo-Impressionist Aim:** Applying dots/daps of pure colours (primary colours) straight onto a surface rather than mixing them. The idea is that when you place dabs of blue and yellow close to one another, your eyes then merge these colours together due to their proximity. This technique is called **Pointillism.**

Year 7 Unit 1 - Impact/Hit/effect of Technology		
Lesson 1	**Why do we need a memorable/unforgettable and secure password for an account on the school network?** Memorable/Unforgettable password is required/needed/demanded so that we can remember it and do not need to write it down. A secure password is required/needed/demanded so that it cannot easily be guessed by someone else. **What are the rules of a computer lab?** • Tuck backpacks under chairs. • No food or drink on the tables. • No charging phones • No standing on chairs • Don't leave loose cables on the floor • No unplugging keyboards or mice • No littering • Move objects (eg plant) blocking signs such as the emergency exit signs • Don't overload electrical sockets	**Keywords** **Memorable/Unforgettable password** - A password that is easy to remember but difficult/hard for someone else to guess **Secure password** - A password that is difficult for someone else to guess **Respectful email** - Show consideration/(serious thought/something to think about/respect) and regard for someone or something **CC** - Carbon Copy **BCC** - Blind Carbon Copy **Digital footprint** - A digital footprint is the information about a particular person that exists on the internet as a result of their online activity. **Collaborate/Work together** - Working together /jointly with another person **Sandwich Technique/ Way of doing things-** Positive (reactions or responses to something/helpful returned information) feedback then negative(reactions or responses to something/helpful returned information) feedback then another positive comment to finish **Audience** - The group of people listening to or viewing a public
Lesson 2	**Why is it important to be respectful when communicating with people?** You do not want to be rude and hurt people's feelings. You don't want people to think you are impolite/rude. **Why does being respectful look different depending on who you are communicating with?** We talk to people in authority differently than we would talk to our friends. It is showing respect for those in authority. **What is the difference between CC and BCC and when should they be used?** CC is carbon copy and is when you want someone to see that you have sent an email. Everyone who receives the email will know you have copied that person to the email. BCC is blind carbon copy and is when you want someone to see that you have sent an email but you do not want the other people to know that you have copied someone into the email. **What a digital footprint is and what is included in it?** Your digital footprint includes all the information you share or that's collected about you online, and there can be a lot of it.	
Lesson 3	**Why are the following tips important when communicating online?** -Keep it friendly -stick to the facts - remember your tone can sound different to the reader -be specific -avoid sarcasm/insulting language (that says the opposite of what's meant) -use the 'sandwich way of doing things'	

		event **Media** - Form of communication **Cyberbullying/ Computerbullying** - The use of electronic communication to bully a person **Electronic presentation -** An electronic document used to aid a presentation.
Lesson 4	**What is an audience?** A subselection of the wider public that you are trying to engage with. **Give examples of different types of audiences.** Age, Gender/(male/female status), Hobbies, Nationality/(state of belonging to a certain country) **What are the 5 forms of media? Give examples for each type.** Text -newspaper Images - WWW, magazine Sound - Podcast/(set of audio/video files) Video - Youtube video Animation - cartoon on television **What are the different ways that cyberbullying happens? Give examples of each method.** Threatening someone to make them feel scared - Sending anonymous text message Harassing someone by repeatedly sending them messages - sending anonymous/unnamed whats app messages Ruining somebody's reputation - writing untrue stories about them on facebook. Excluding/Leaving out/keeping out someone from a group - Removing someone from a discord group Stealing someone's identity and pretending to be them - Using their password to log into their social media/(reports on news web sites) accounts. Publicly displaying private images or messages - emailing embarrassing images of them to everyone they know.	
Lesson 5	**What is cyberbullying/computerbullying?** Bullying can be described as repetitive/repeating, malicious/evil and cruel behaviour that tries to establish dominance/control over a person or group of people. Cyberbullying/Online bullying is bullying using electronic methods. (social media, text messages, email, chat rooms etc) **Explain the effects of cyberbullying.** Depression Isolation/(being completely separate from others) Anger Illness Humiliation/Embarrassment (in front of many people)	

Year 7 Unit 2 -Getting to know a spreadsheet		
Lesson 1	**What are columns, rows, cells, and cell references in spreadsheet software?** A column is a collection of cells aligned vertically in a table. A row is a horizontal line of cells. Cells are spaces that hold data A cell reference tells you the location of a cell. It will have a column reference followed by a row reference. (B5 which means column B and row 5.)  	**Keywords** **Column -** a collection of cells aligned vertically in a table. **Row -** A row is a horizontal line of cells. **Cells -** spaces that hold data. **Cell reference -** tells you the location of a cell. It will have a column reference followed by a row reference. **Formula** - A formula is a calculation in a spreadsheet. A formula is written using cell references and must begin with an equal sign "=" to distinguish it from a label. e.g. =A5 * B5 * 45 **Function** - Functions are predefined formulas that perform calculations by using specific values, called arguments **Autofill -** A function that allows the user to automatically populate cells given values that have been entered in adjacent cells. **Data -** Data is raw facts and data. It has no context. **Information** - Data that has been put into context. **Primary data** - Data collected by yourself.
Lesson 2	**What is a formula?** A formula is a calculation in a spreadsheet. A formula is written using cell references and must begin with an equal sign "=" to distinguish it from a label. e.g. =A5 * B5 * 45 **What are the basic operators that can be used in a formula?** + (add), - (subtract), * (multiply), / (divide) **What are some of the basic functions that can be used in a spreadsheet?** Sum - Will add the values in a range of cells. Count - Will count the number of cells selected Max - Returns the highest value from a range of cells. Min - Returns the lowest value from a range of cells. Average - Returns an average from the values in a range of cells. **What is autofill?** If you are entering a predictable series (e.g. 1, 2, 3...; days of the week; hours of the day) you can use the AutoFill command to automatically extend the sequence.	

Lesson 3	**Explain the difference between data and information.** Data is raw facts and data. It has no context. **13, 170, Blue, Black** are examples of data. Information is when the data is put into context. "I am **13** years old, **170** centimetres tall, I have **Blue** eyes and **Black** hair. **Explain the difference between primary and secondary sources of data.** Primary data refers to the first hand data gathered by the researcher himself. Secondary data means data collected by someone else earlier.	**Secondary data** - Data that has been collected by someone else. **Chart** - A chart is a visual representation of data, in which the data is represented by symbols such as bars in a bar chart or lines in a line chart. **Filter -** A filter helps you see only what you want to see by hiding everything else.
Lesson 4	**What types of charts are available in a spreadsheet?** Column charts Bar charts Pie charts Line graphs ·	
Lesson 5	**Describe the purpose of a sort in a spreadsheet.** When sorting information in a worksheet, you can rearrange the data to find values quickly. You can sort a range or table of data on one or more columns of data. For example, you can sort employees —first by department, and then by last name. **Describe the purpose of a filter in a spreadsheet.** Filters allow you to sort and filter the data that you see when you view a spreadsheet. Filters don't change the data values in your spreadsheet. You can use filters to temporarily hide or sort information. Data that matches the specified filter criteria doesn't appear while the filter is on.	

Drama y7 Term 1

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,

Key Drama Terms

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.

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.

Role Play: Using all of your acting skills to become somebody else.

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

Characterisation: Using a variety of skills, improvisation techniques and background information to become your character.

Key Drama Terms

Performance Discipline: Maintaining extremely high and professional levels of focus and concentration throughout rehearsals and performance.

Co-Operation: Working respectfully with peers throughout rehearsals and performances, allowing each other's voice to be heard and adapting your ideas to best suit the success of the performance.

Ensemble: A group of performers all working together in a performance for the best possible outcome.

Monologue: When an actor is performing a speech and they are not talking to anyone else.

Soliloquy - the act of speaking one's thoughts aloud when by oneself regardless of who is listening, usually for the benefit of the audience (a Shakespearean version of thought tracking)

Duologue: This is speech or conversation between two characters in a performance.

Dialogue: This is speech or conversation between three or more characters in a performance.

Example of how to self evaluate in Drama.

STRENGTH During my performance, I wanted to show how my character was really happy to see someone. To do this, I waved my hand violently and erratically to express how overjoyed I was at seeing the other character. I also had a very big smile and wide open eyes whilst making a high pitched noise to display my excitement. This was successful because the audience could clearly see how happy I was as my character was about to see his friend after a long time apart.

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

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.

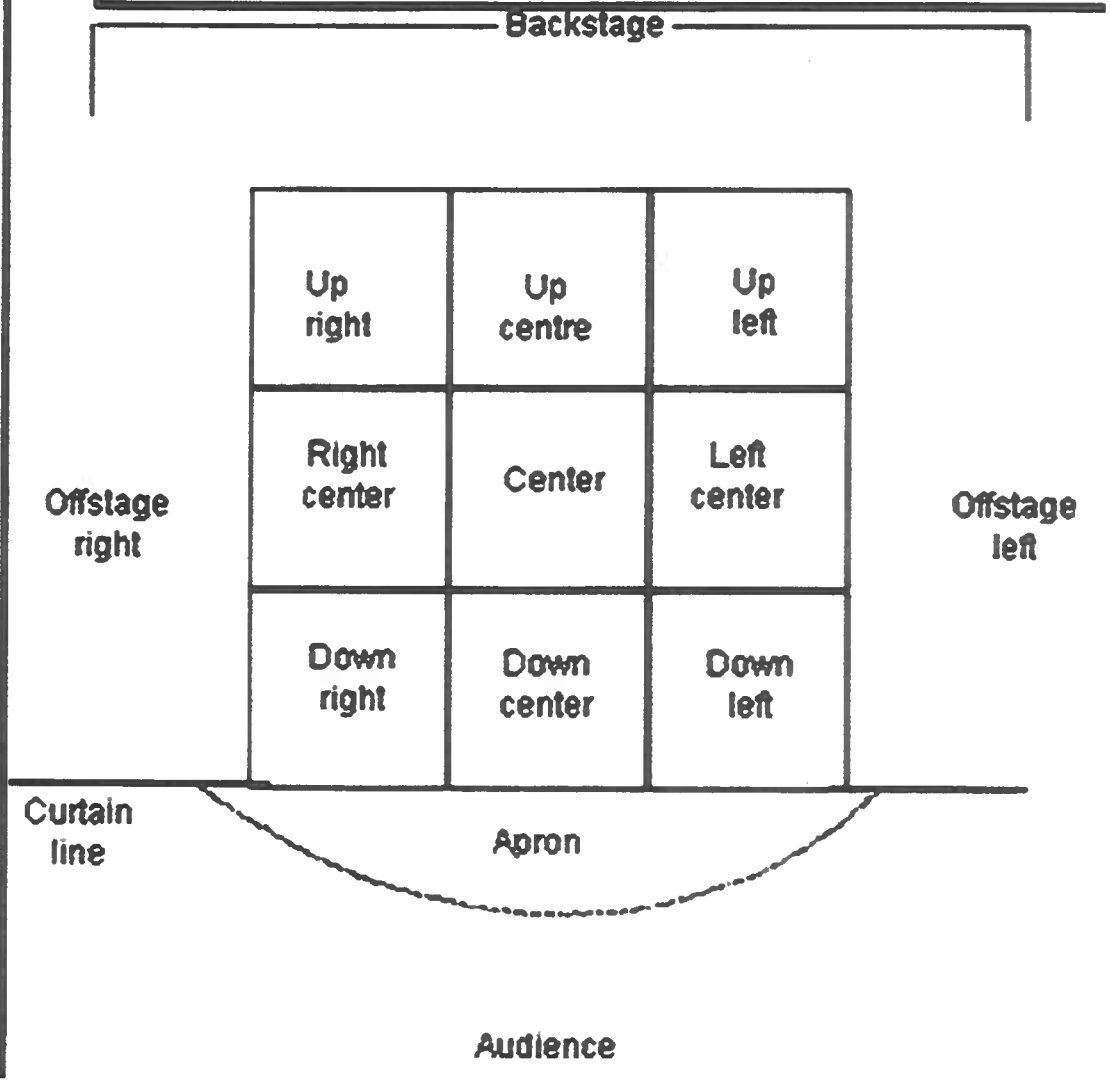
How to create tension in performance.

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.

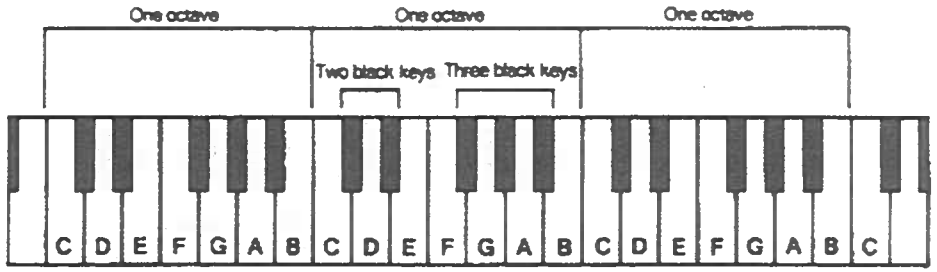
These are the areas of the stage. Directors and Actors use them when creating performances. It is crucial that performs know where on the stage they need to be standing at each point of the performance. Often the areas are abbreviated, E.g Downstage Centre would become; DSC

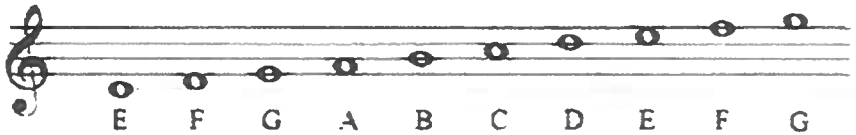


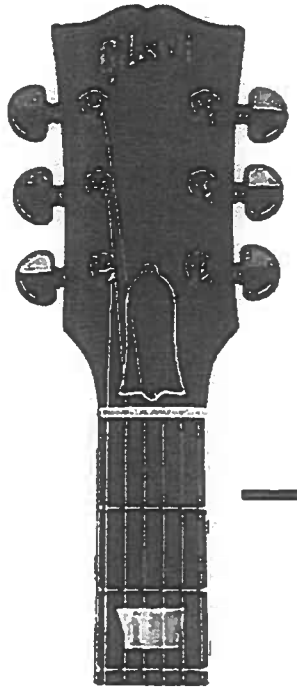
MUSIC - The Elements of Music

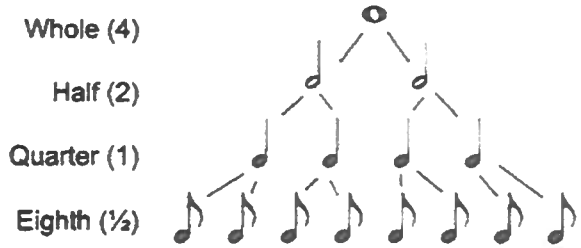
Key Terminology

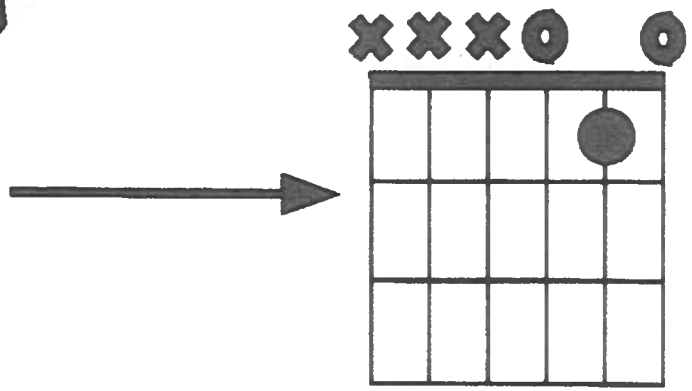
Conductor - A person who directs the performance.
Note - A singular sound.
Chord - A group of three or more notes played at the same time.
Harmony - Different notes played or sung together.
Melody - A small arrangement of notes that make a tune.
Scale - A series of eight notes starting somewhere between 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 7 Term 1 – Resilience and Self-Esteem

KPI1 – Key terms

- **Resilience**: the capacity to recover quickly from difficulties.
- **Self-esteem**: thoughts about yourself and what you are like as a person.
- **Identity**: the fact of being who or what a person or thing is.
- **Unique**: being one of a kind.
- **Coping strategies**: Specific actions that people use to master, tolerate, reduce or minimise stressful events.

KPI2 – What influences our identity?

Different aspects can make up our identity including:

- Personality
- Hobbies
- Appearance

What can influence our identity?

- Family
- Race
- Fashion
- Music
- Sports Teams
- Sexuality
- Gender
- Social Class

KPI3 – What are the British Values?

Another potential influence can be the British values which are part of all of our lives and influence them in different ways. Fundamental British Values underpin what it is to be a citizen in a modern and diverse Great Britain valuing our community and celebrating diversity of the UK.

These values are **Democracy, Rule of Law, Respect** and **Tolerance, Individual Liberty.**

Democracy: A culture built upon freedom and equality, where everyone is aware of their rights and responsibilities.

- **Examples:** Leadership and accountability, Joint decision making, the right to protest and petition, receiving and giving feedback.

Rule of Law: The need for rules to make a happy, safe and secure environment to live and work.

- **Examples:** Legislation (law making), codes of conduct

Respect and Tolerance: Understanding that we all don't share the same beliefs and values. Respecting the values, ideas and beliefs of others whilst not imposing our own others.

- **Examples:** Embracing diversity, the importance of religion, traditions, cultural heritage and preferences, stereotyping, labelling and prejudice, tackling discrimination.

Individual Liberty: Protection of your rights and the right of others you work with.

- **Examples:** Equality and Human Rights, respect and dignity

KPI4 – What is self-esteem?

- **Self-confidence:** Having self confidence means that you believe that you are able to do and achieve things. It means that you're willing to try new things because you know you are capable of making a success of it.
- **Low self-confidence:** Doubting your ability to do things
- **Self-esteem** is **important** because it heavily influences people's choices and decisions. In other words, **self-esteem** serves a motivational function by making it more or less likely that people will take care of themselves and explore their full potential.

KPI5 – How can you be more resilient?

1. Develop a positive sense of self by focusing on strengths and accomplishments
2. Making meaningful connects i.e. with friends/family.
3. Maintaining a positive outlook i.e. always focusing on the positive aspects of life.
4. Developing a sense of purpose by supporting your community/moving towards goals.
5. Gaining self-confidence by embracing new challenges.
6. Taking care of yourself by: journaling, meditating, exercise etc.

KPII6 – Helpful coping strategies.

1. Breathe deeply and/or step away.
2. Gain perspective – how will this disappointment impact on life tomorrow, new week, next year?
3. Recognise the strength even when things go wrong.
4. Remember a time when a similar problem worked out fine.
5. Can help or speak to someone who might know how to manage it in a different way.
6. Reframe the negatives and turn them into positives – i.e. look for the silver lining.
7. Make an achievement or positive qualities log which can be read as a reminder of the positives when things go wrong.

If you need any support…

Home/school support:

- A friend
- A teacher
- Your tutor
- Parents/carers
- Mrs Loveridge
- Mrs Jones
- Mr Hayward.

Reputable organisations:

- Young Minds - www.youngminds.org.uk
- Childline - www.childline.org.uk Phone: 0800 1111
- Samaritans - www.samaritans.org Phone: 116 12
- Young Mind Matters – Text 07480635723
- Kooth – Kooth.com
- TIC+ - online text chat - 07977334433

Self-help apps

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

PCSHE – Year 7 Topic 2 – Diversity and Relationships

Definitions:

- **Stereotypes:** thinking all people who belong to a certain group are the same and labelling them, for example all young people who wear hoodies are thugs.
- **Prejudice:** judging someone without knowing them, on the basis of what they look like or what group they belong to, for example all black people are good dancers.
- **Equality:** the state of being equal, especially in status, rights, or opportunities
- **Protected Characteristics:** Protected characteristics are specific aspects of a person's identity defined by the Equality Act 2010. The 'protection' relates to protection from discrimination.
- **Discrimination**: The unfair treatment of someone because of their particular characteristics e.g. race, religion, gender etc.
- **Hate crime**: Any crime can be prosecuted as a hate crime if the offender has either: demonstrated hostility based on race, religion, disability, sexual orientation or transgender identity OR been motivated by hostility based on race, religion, disability, sexual orientation or transgender identity
- **Gender stereotypes:** a generalised view of the characteristics or role that should be held by either gender.
- **Bullying**: Bullying is the repeated and intentional behaviours which cause harm to another person, either physically, emotionally or psychologically.
- **Banter** is the playful exchange of teasing remarks and jokes between friends where all are in on the jokes and enjoy the exchange.
- **Bystander**: A person who doesn't actively engage in the bullying but watches and doesn't do anything to prevent it.
- **Bully:** A person who engages in bullying type behaviour towards one or more people.

The Equality Act

The **Equality Act 2010** aims to prevent discrimination or ill treatment. This act was introduced in 2010 to replace all previous equality laws. The new law was intended to help make equality law easier to understand and simpler to use. It is illegal to discriminate against anyone based on nine protected characteristics:

- Age
- Disability
- Gender reassignment
- Marriage and civil partnership
- Pregnancy and maternity
- Race: can refer to colour, nationality, ethnic or national origins
- Religion or belief: can refer to religious or philosophical beliefs, including a lack of belief
- Sex: refers to a person's gender
- Sexual orientation

Importance of the Equality Act:

- The Act makes it law that every private, public and voluntary organisation must not discriminate against their employees or the people that use their services because of their characteristics.
- The Equalities Act has a huge impact on sentencing in courts.
- It is used to make vulnerable groups feel safe.
- It is used to help convince people to report crimes and know that the police must take them seriously.
- The Equality Act 2010 allows Positive Action so that public bodies (such as schools) can provide additional benefits to some groups to help tackle disadvantage.

Bullying

There is no legal definition of bullying. But it is usually defined as repeated behaviour which is intended to hurt someone either emotionally or physically and is often aimed at certain people because of their race, religion, gender or sexual orientation or any other aspect such as appearance or disability.

Types of Bullying:

- **Physical**: The victim is physically and violently assaulted by the bully. This can include being beaten up, pushed and shoved or the physical taking of items from the victim. This sort of bullying is against the law and should be reported to the police.
- **Verbal**: This can include name calling, snide comments and the spreading of rumours; it can also constitute harassment in some cases which is illegal and should be reported to the police.
- **Emotional**: Psychological and emotional bullying s difficult to see but can include the ostracization of the victim from a particular group, tormenting and humiliating the victim.
- **Cyber**: Cyberbullying is the use of electronic communication to bully a person, typically by sending messages of an intimidating or threatening nature but can also include setting up of malicious websites or posting personal and embarrassing images and videos without the persons permission.
- **Specific**: This the term used to describe bullying based on a specific aspect of the victim's identity such as homophobic, transphobic, Bi-phobic bullying but can also include racist bullying and bullying based on religion. All these types of bullying are illegal.

Dealing with Bullying:

- Remember that it is the victim that determines if they believe the behaviour is bullying not the bully.
- **Tell someone** – don't keep it to yourself, find a trusted adult who you can talk to.
- Don't retaliate, try and ignore them if you can.
- Try not to react in front of the bully.
- Stay with trusted friends who will support you.
- If it is cyber bullying - Screenshot evidence of the bullying. Report the bullying to the website and block the user.

For further support:

- Your tutor
- Mr Hayward
- Parents or trusted family members
- Another teachers or school staff.
- Pastoral Team: Mrs Toulson Mrs Aston
- Safeguarding Team: Mr Ogden, Mrs Jones, Mrs Loveridge
- The Police
- NSPCC Helpline 080 800 5000 www.nspcc.org.uk
- Childline: Helpline 0800 1111 https://www.childline.org.uk
- National Bullying Helpline: https://www.nationalbullyinghelpline.co.uk
- CEOPS - https://www.ceop.police.uk/safety-centre/