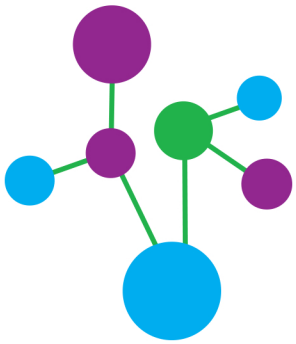
NAME: _____

TERM 1&2

YEAR 7



PLYMPTON ACADEMY

HANDBOOK

TERM 1&2

Year 7 Autumn Half Term 1 - Heroes & Villains

Keystone Vocabulary	Definition
Protagonist	The leading character in a film, play or novel etc.
Archetype	A very typical example of a person or thing.
Villain	A character whose evil motives or actions are important to the plot.
Hero	A person who is admired for their courage, outstanding achievements or noble qualities.
Characterisation	the creation or construction of a fictional character.
Untypical	Not having the distinctive qualities of a person or item.
Inference	A conclusion reached on the basis of evidence or reasoning.
Show not tell	Showing a reader actions, emotions and senses rather than just telling them.

Terminology	Definition
Simile	A comparison of two things using ‘like’ or ‘as’ to create a vivid image in the reader’s mind. E.g. the stars were sprinkled across the sky like salt and pepper.
Metaphor	A literal comparison of two unlike things. E.g. her eyes were waves of the ocean.
Personification	Humanising an inanimate object. E.g. the wind sighed.
Semantic Field	A group of words relating to the same theme. E.g. champion, play, referee, players all link to the semantic field of football.
Connotation	Other words, ideas and emotions that we link to a certain word. E.g. ‘red’ has connotations of danger.
Paragraph	The separating of ideas for structure throughout a piece of writing.
Quotation	Taking small parts of the text exactly as it is for evidence in our analysis.

Punctuation	Definition
Exclamation mark!	Used at the end of a sentence to show excitement, fear or volume.
Question mark?	Used at the end of a sentence to indicate that it is a question.
Full stop.	Used at the end of a sentence to mark it has finished.
Comma ,	Used to separate items in a list and to separate a subordinate clause.
Semicolon ;	Replaces a full stop when both sentences either side are related in topic.
Colon:	Introduces a list or expansion of an explanation.
Brackets (or parentheses)	Adds (extra) information in a sentence.
Ellipsis...	Indicates a cliffhanger or tailing off a train of thought...
Dash -	Indicates a range or a pause.

Punctuation Marks

! Exclamation	● Full Stop
, Comma	? Question Mark
; Semi Colon	: Colon
/ Slash	“” Quotation Marks
() Round Bracket	– Dash

Bonus: ellipsis

...

Punctuation	Example
Exclamation mark!	That was absolutely fantastic to see!
Question mark?	Why did you do that?
Full stop.	There was nowhere left to go.
Comma ,	I bought: fish, eggs, muffins and lettuce. Although I'd never been abroad, I was very excited.
Semicolon ;	I love to eat ice cream; I also love spicy food too.
Colon:	At the shop I purchased: bread and ham. We knew who would win the game: the Eagles.
Brackets (or parentheses)	His favourite team (who he'd followed since he was young) was Manchester United.
Ellipsis…	At that point she fell…
Dash -	I needed to breathe - there wasn't much time left to escape.

Punctuation Marks

! Exclamation	. Full Stop
, Comma	? Question Mark
; Semi Colon	: Colon
/ Slash	“” Quotation Marks
() Round Bracket	– Dash

Bonus: ellipsis

…

Year 7 Autumn Half Term 2 - The Hobbit

Keystone Vocabulary	Definition
Protagonist	The leading character in a film, play or novel etc.
Expedition	A journey undertaken by a group of people with a particular purpose.
Fantasy	The activity of imagining impossible or improbable things. A genre type.
Hero	A person who is admired for their courage, outstanding achievements or noble qualities.
Villain	A character whose evil motives or actions are important to the plot.
Imagery	The picture created within a reader's mind through vivid description.
Inference	A conclusion reached on the basis of evidence or reasoning.
Antagonist	Someone who works against the protagonist.

Synopsis

Bilbo Baggins lives a simple life with his fellow hobbits in the shire, until the wizard Gandalf arrives and convinces him to join a group of dwarves on a quest to reclaim the kingdom of Erebor. The journey takes Bilbo on a path through treacherous lands swarming with orcs, goblins and other dangers, not the least of which is an encounter with Gollum and a simple gold ring that is tied to the fate of Middle Earth in ways Bilbo cannot even fathom.

Terminology	Definition
Theme	The big ideas recurring in a literary piece.
Symbolism	When something is used to represent a bigger idea.
Language methods	Metaphor, simile, personification, repetition, triplet etc.
Semantic Field	A group of words relating to the same theme. E.g. champion, play, referee, players all link to the semantic field of football.
Connotation	Other words, ideas and emotions that we link to a certain word. E.g. 'red' has connotations of danger.
Pathetic Fallacy	When the weather/setting reflects the mood of the characters.
Single Word Analysis	Analysing a single word for its meaning or purpose.
Contrast	Two things that are strikingly different.

Contextual Information

The Hobbit is set in Middle-earth and is a fantasy greatly influenced by author J.R.R. Tolkien's love of Old English and the history and culture of the early English, Anglo-Saxons, and other groups that inhabited the rural area in which he grew up.

Key Characters

- Bilbo Baggins (Hobbit)
- Gandalf (Wizard)
- Thorin Oakenshield (Leader of Dwarves)
- Smaug (Dragon and villain)
- Elrond (Elven)
- Beorn (Shapeshifter)

Punctuation	Definition
Exclamation mark!	Used at the end of a sentence to show excitement, fear or volume.
Question mark?	Used at the end of a sentence to indicate that it is a question.
Full stop.	Used at the end of a sentence to mark it has finished.
Comma ,	Used to separate items in a list and to separate a subordinate clause.
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Bonus: ellipsis

...

Punctuation	Example
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Ellipsis…	At that point she fell…
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Punctuation Marks

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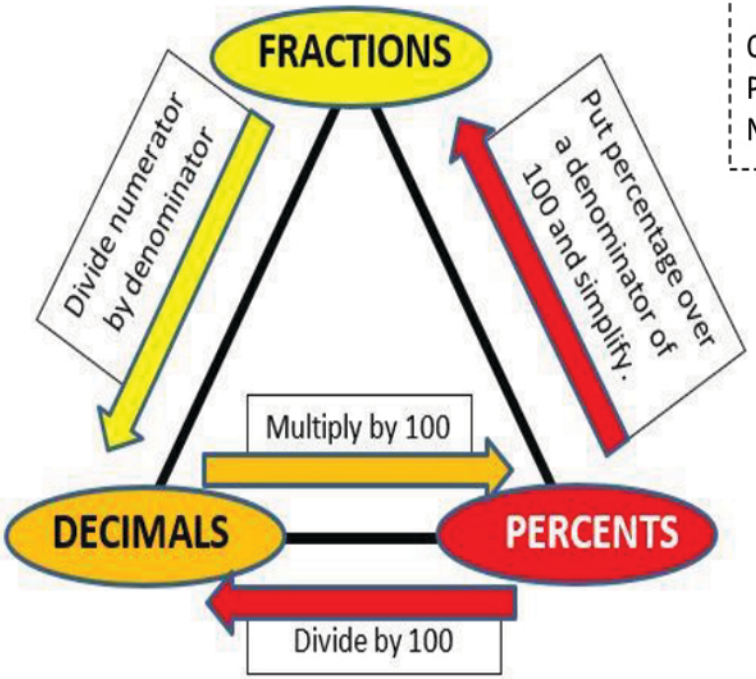
() Round Bracket	– Dash

Bonus: ellipsis

…

Maths Knowledge Organiser - Number

Stage 7



Percentages

OV x PM = NV

OV= Original value
PM= Percentage multiplier
NV= New Value

Stage 8

Numbers in standard form are written in this format:

$$a \times 10^n$$

Where **a** is a number **1 ≤ a < 10** and **n** is an **integer**.

$$\text{Speed (s)} = \frac{\text{distance (d)}}{\text{time (t)}}$$

$$a^x \times a^y = a^{x+y}$$

$$a^x \div a^y = a^{x-y}$$

$$\left(a^x\right)^y = a^{xy}$$

$$a^0 = 1$$

Stage 9

$$\text{Pressure (p)} = \frac{\text{force (F)}}{\text{area (A)}}$$

$$\text{Density (d)} = \frac{\text{mass (m)}}{\text{volume (V)}}$$

Higher

Compound interest-

OV x PM^n = NV

OV= Original value
PM= Percentage multiplier
n= number of percentage changes
NV= New Value

$$a^{-x} = \frac{1}{a^x}$$

$$a^{\frac{x}{y}} = \sqrt[y]{a^x} = \left(\sqrt[y]{a}\right)^x$$

Maths Knowledge Organiser – Geometry and Measure

Shape	Perimeter	Area
Triangle	$P = a + b + c$	$A = \frac{1}{2}(b \times h)$
Square	$P = 4b$	$A = b^2$
Rectangle	$P = 2(b + h)$	$A = (b \times h)$
Parallelogram	$P = 2(b + h)$	$A = (b \times h)$ b = the length
Rhombus	$P = 2(b + w)$	$A = (b \times h)$ b = the length
Trapezium	$P = a + b + c + d$	$A = \frac{1}{2}(a + b)h$

Stage 7

Volume of a cuboid
= length × width × height
= lwh

Surface Area of a Cuboid = $2(lw + wh + lh)$

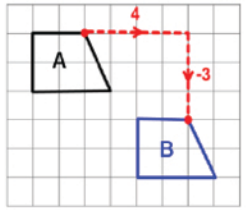
When a shape is **translated**, it is **moved to a different position**, without being turned or flipped.

Vectors such as $\begin{bmatrix} 4 \\ -3 \end{bmatrix}$ are used to describe translations.

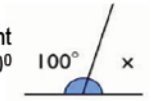
The **top** number is the **horizontal** movement:
← *left if negative* or *right if positive* →

The **bottom** number is the **vertical** movement:
↓ *down if negative* or *up if positive* ↑

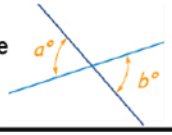
Translate shape A by the vector $\begin{bmatrix} 4 \\ -3 \end{bmatrix}$



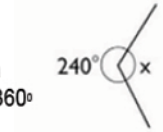
Angles on a straight line add up to 180°



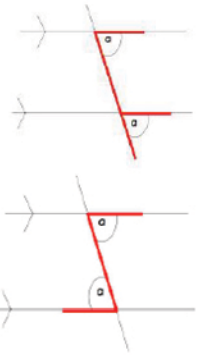
Vertically opposite angles are equal



Angles around a point add up to 360°



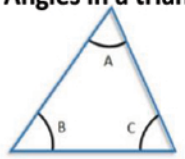
Stage 8



Corresponding Angles
F shape
Angles are equal

Alternate Angles
Z shape
Angles are equal

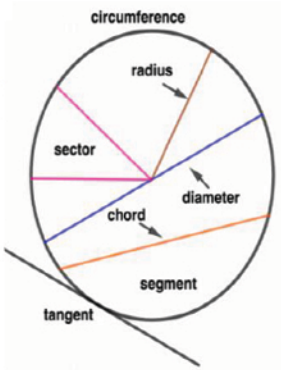
Angles in a triangle



$A + B + C = 180°$

Regular Polygons

	Interior	Exterior
Sum of all Angles	$(n-2)180°$	$360°$
Each Angle (Regular Polygon)	$\frac{(n-2)180°}{n}$	$\frac{360°}{n}$



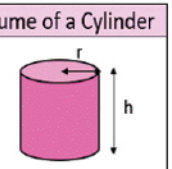
Circumference

$C = \pi D$

Area

$A = \pi r^2$

Volume of a Cylinder

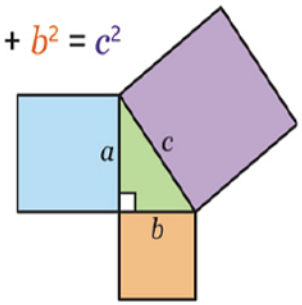


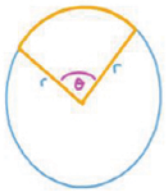
Volume = $\pi r^2 h$

Stage 9

Pythagoras Theorem

$a^2 + b^2 = c^2$





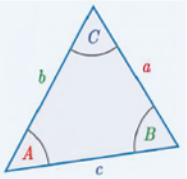
Arc length = $\frac{\theta}{360} \times \pi d$

Area of sector = $\frac{\theta}{360} \times \pi r^2$

Surface Area Cylinder
= $2\pi r^2 + \pi dh$

Describing transformations
Translation- vector
Enlargement – scale factor
- centre of enlargement
Rotations – Angle
- direction
-centre of rotation
Reflection – line of reflection

Higher



Area of a triangle: $\frac{1}{2}ab\sin(C)$

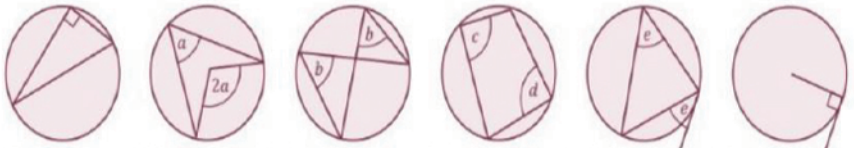
Sine Rule: $\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$

Cosine Rule: $a^2 = b^2 + c^2 - 2bc\cos A$

or

$\cos(A) = \frac{b^2 + c^2 - a^2}{2bc}$

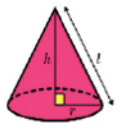
Circle theorems G10



Angle in a semicircle is 90°
Angle at the centre is double the angle at the circumference
Angles in the same segment are equal
Opposite angles in a cyclic quadrilateral total 180°
Alternate segment theorem
Tangent and radius are perpendicular

Volume of sphere = $\frac{4}{3}\pi r^3$

Surface area of sphere = $4\pi r^2$

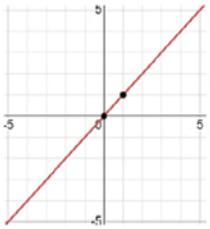


Curved surface area of cone = πrl where l is the slant height

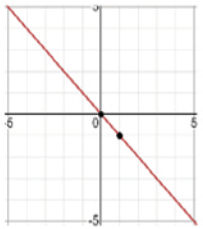
Volume of cone = $\frac{1}{3}\pi r^2 h$

Maths Knowledge Organiser - Algebra

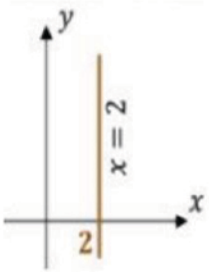
Stage 7

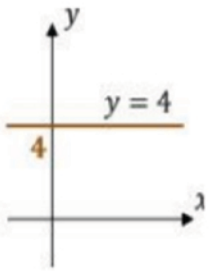


y = x



y = -x





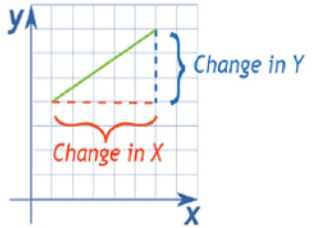
Stage 8

The general equation of any straight line is:

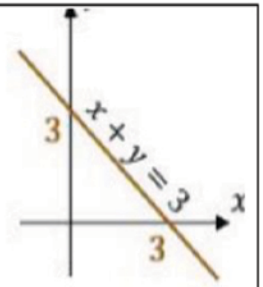
$$y = mx + c$$

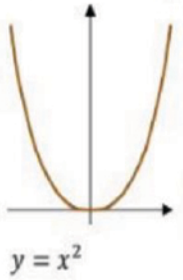
m is the **gradient** (steepness) of the line

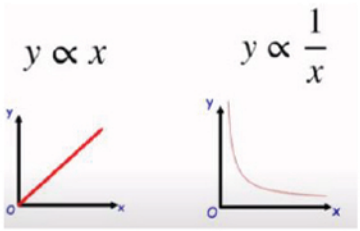
c is the **y-intercept** (where the line crosses the y-axis)

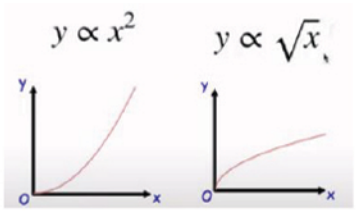


Gradient = $\frac{\text{Change in Y}}{\text{Change in X}}$

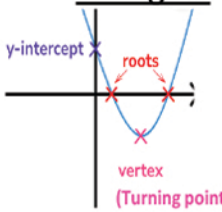




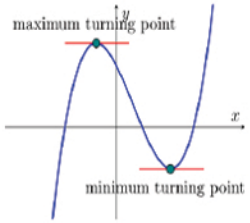


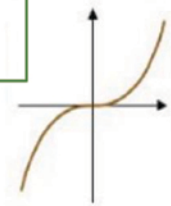


Stage 9



Straight line graphs-
Parallel lines have the same gradient
$m_1 = m_2$





Direct proportionality:
(y is proportional to x, x^2)

$$y \propto x \rightarrow y = kx$$

$$y \propto x^2 \rightarrow y = kx^2$$

Inverse proportionality:
(y is inversely proportional to x, x^2)

$$y \propto \frac{1}{x} \rightarrow y = \frac{k}{x}$$

$$y \propto \frac{1}{x^2} \rightarrow y = \frac{k}{x^2}$$

Quadratic Equation

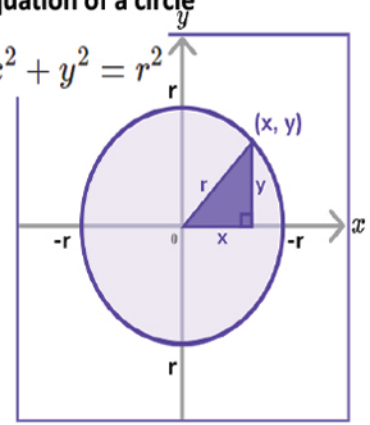
$$ax^2 + bx + c = 0$$

Quadratic Formula

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

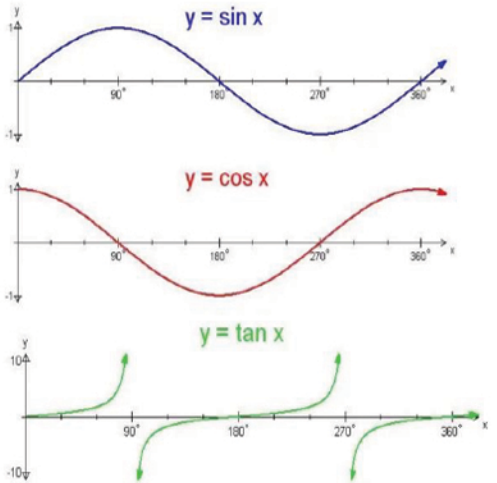
Equation of a circle

$$x^2 + y^2 = r^2$$



Higher

Straight line graphs-
Perpendicular lines have gradients that multiply to get –1 $m_1 \times m_2 = -1$



Maths Knowledge Organiser - Statistics

Stage 7

Pie Charts

$$Sector\ Angle = 360 \times \left(\frac{Category\ Frequency}{Total\ Frequency}\right)$$

The **mean, median and mode** in maths are averages

Mean

Find the total of the values and divide the total by the number of values

$$\text{mean} = \frac{\text{total}}{\text{number of values}}$$

Median

Arrange the values in numerical order and find the middle value

Mode

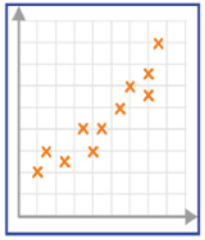
Find the most frequently occurring item in the data set

Range – Not an average – measures consistency

Biggest value - Smallest value

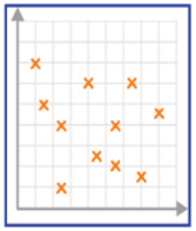
Stage 8

Positive correlation



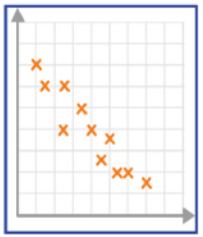
- As one variable increases so does the other
- Upward trend in the data

No correlation

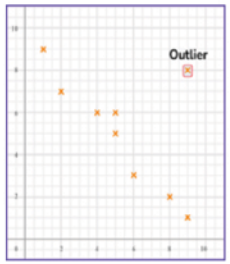


- No trend between the variable
- Plots are random and no linear pattern.

Negative correlation



- As one variable increases, the other decreases
- Downward trend in the data



Outlier

- A point that is 'far away' from the main group of data.
- They **lie outside** the other values

Stage 9

Independent events are events which are not affected by the occurrence of other events.

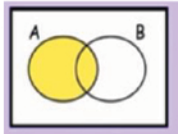
Dependent events are events which **are** affected by the occurrence of other events.

Higher

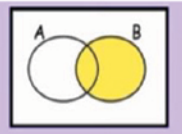
Interquartile Range
= Upper Quartile – Lower Quartile

$$Frequency\ Density = \frac{Frequency}{Class\ Width}$$

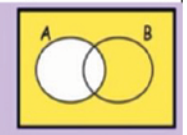
Symbol	Description
$\{\}$	Curly Brackets, contain all items in a set
,	Comma - separates all items in a set
'	Complement - the items not in a set
ξ	The Universal Set - contains all items in every set and subset required
ϕ	The Empty Set - contains no items



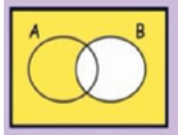
A



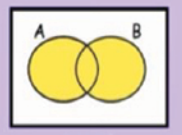
B



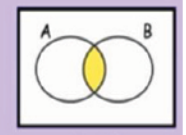
A'
Complement of A



B'
Complement of B

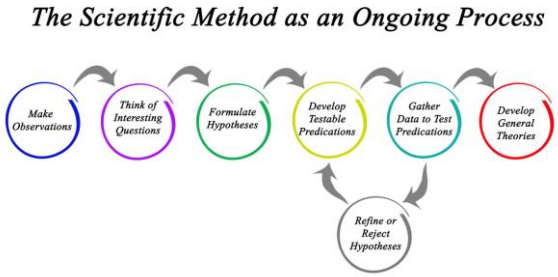


A ∪ B
A union B

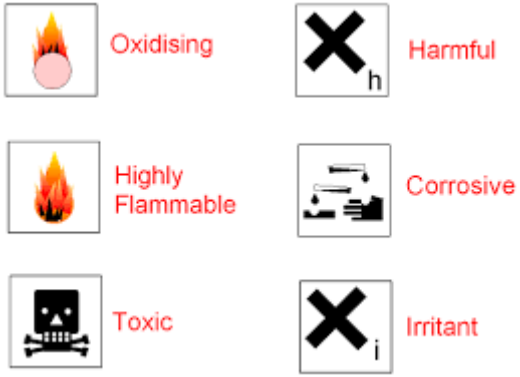


A ∩ B
A intersect B

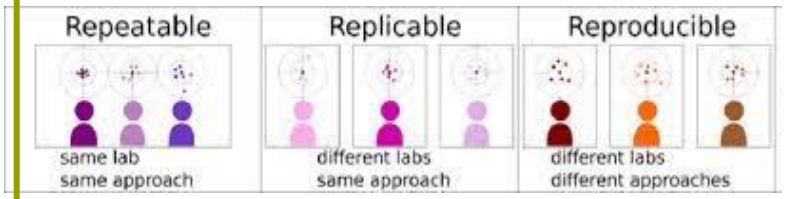
The Scientific method



Scientific models help scientists explain observations and make predictions.



Experiments



INDEPENDENT VARIABLE

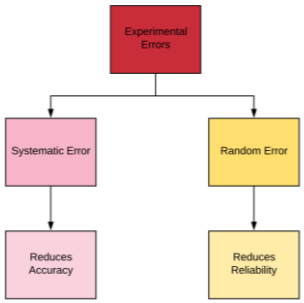
What I CHANGE

DEPENDENT VARIABLE

What I OBSERVE

CONTROLLED VARIABLE

What I KEEP THE SAME



Mean Formula

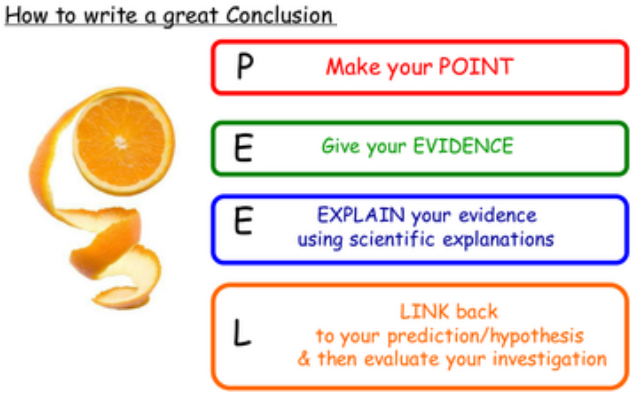
$$\text{Mean} = \frac{\text{Sum of All Data Points}}{\text{Number of Data Points}}$$

$$\text{Uncertainty} = \frac{\text{range}}{2}$$

Presenting data

Categoric data – Bar chart
Discrete data – Line graph

Conclusions and Evaluations

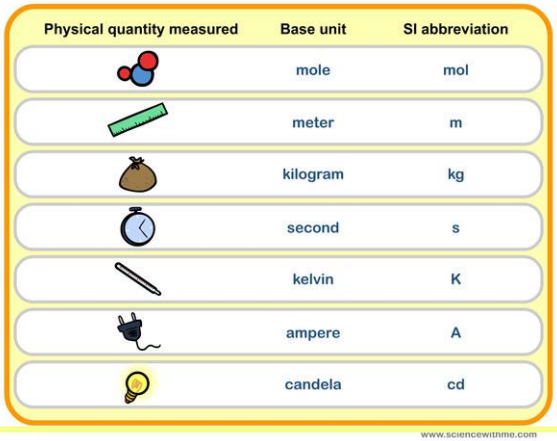


Link your variables ...er ...er statement

Writing an Evaluation

Here are some questions to help you structure a good evaluation.

1. Do you **trust** that the results from your experiment are correct?
2. Did you make it **fair**? *If so, how? If not, why not?*
3. Did you measure **accurately**? *If so, how? If not, why not?*
4. Did you **repeat** the experiment? *How does this improve it?*



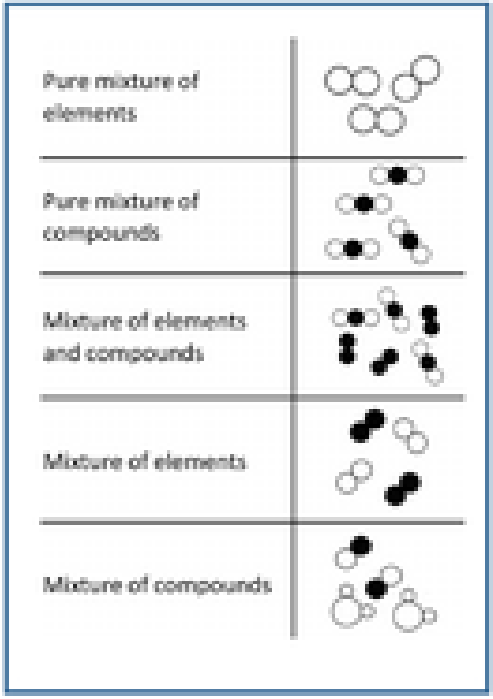
Science – Working Scientifically

Equipment

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

Key terms	Definition
Pure	Contains only one type of element or compound
Impure	Two or more pure substances (elements and/or compounds) mixed together.
Alloy	Mixture of two or more metals (and other elements).
Solution	Mixture formed when a solvent dissolves a solute.
Solute	A substance that can dissolve in a liquid.
Dissolve	When a solute mixes completely with a solvent.
Solvent	A substance, normally a liquid, that dissolves another substance.
Soluble (insoluble)	Property of a substance that will (will not) dissolve in a liquid
Filtration	Separating insoluble substances using a filter to produce a filtrate (solution) and residue.
Evaporation	Separates solvents (liquids) and solutes (soluble solids) by the liquid turning into a gas.
Crystallisation	The formation of crystals of solid solute after evaporation of solvent.
Distillation	Separating substances by boiling and condensing liquids.
Chromatography	Used to separate different coloured substances.



Key Facts:

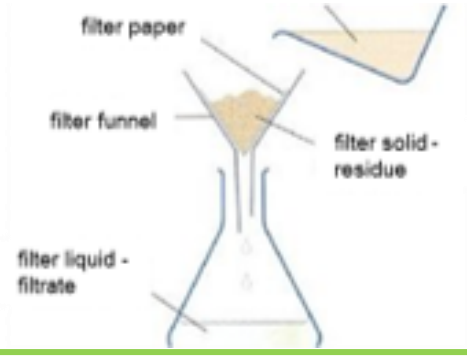
A pure substance is made of only one type of element or compound and **has a fixed melting and boiling point.**

Mixtures may be separated due to differences in their physical properties. E.g.:

- Solubility
- Boiling point

Filtration – to remove insoluble solids

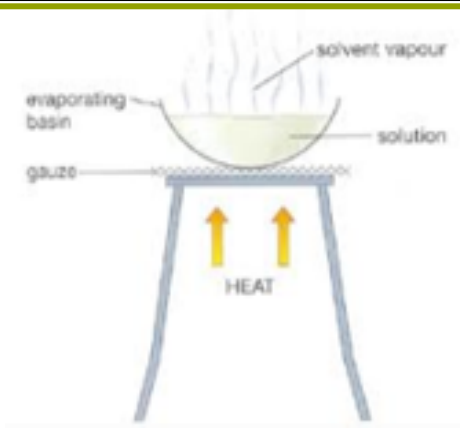
- Insoluble solid collects in filter paper = residue.
- Soluble solids pass through the pores (holes) in the filter paper = filtrate.

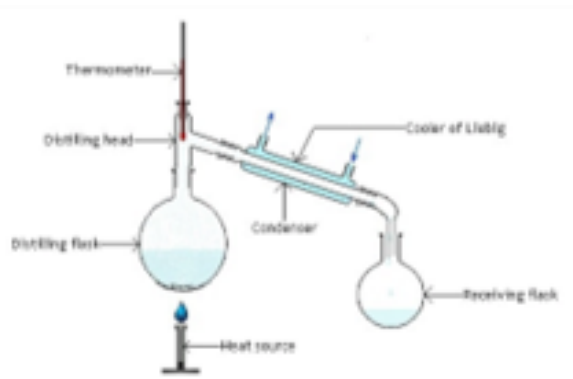


Evaporation and Crystallisation – when you want the solid from the mixture

- Heat the mixture.
- The substance with lowest boiling point **evaporates.** This is the liquid
- The solid **crystallises** in the dish.

Slow evaporation forms **big** crystals.
Fast evaporation forms **small** crystals.





Chromatography - separates soluble coloured substances

- Different substances have different solubility.
- They travel different distances depending on how soluble they are.
- The more soluble, the further the substance travels.

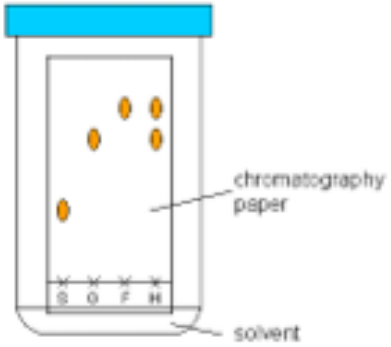
Rf values

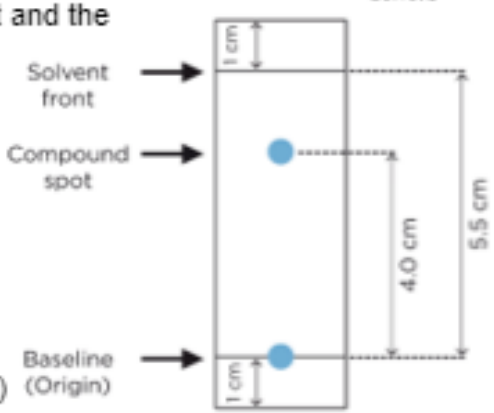
- Rf value - The retention factor.
- This is a ratio between the distance travelled by the solvent and the distance travelled by the compound.
- To calculate Rf value:

$$Rf = \frac{\text{distance travelled by compound (spot)}}{\text{distance travelled by solvent}}$$

$$Rf = \frac{4.0\text{ cm}}{5.5\text{ cm}}$$

Rf = 0.727272727 = **0.73** (always round to 2 decimal places)





Key terms	Definition
Particle	A very tiny object such as an atom or molecule, too small to be seen with a microscope.
Particle model	A way to think about how substances behave in terms of small, moving particles.
Regular arrangement	When particles are arranged in a fixed pattern e.g in solids
Irregular arrangement	When particles are not arranged in a fixed pattern.
Melt	Change from solid to liquid when the temperature rises to the melting point.
Freeze	Change from liquid to a solid when the temperature drops to the melting point.
Boil	Change from liquid to a gas of all the liquid when the temperature reaches boiling point.
Condense	Change of state from gas to liquid when the temperature drops to the boiling point.
Evaporate	Change from liquid to gas at the surface of a liquid, at any temperature.
Sublime	Change from a solid directly into a gas

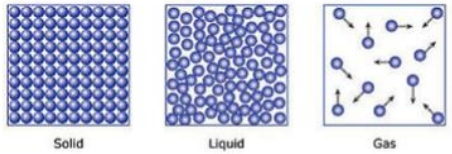
Changes of State

Changes of state take place when the particles **gain or lose energy.**

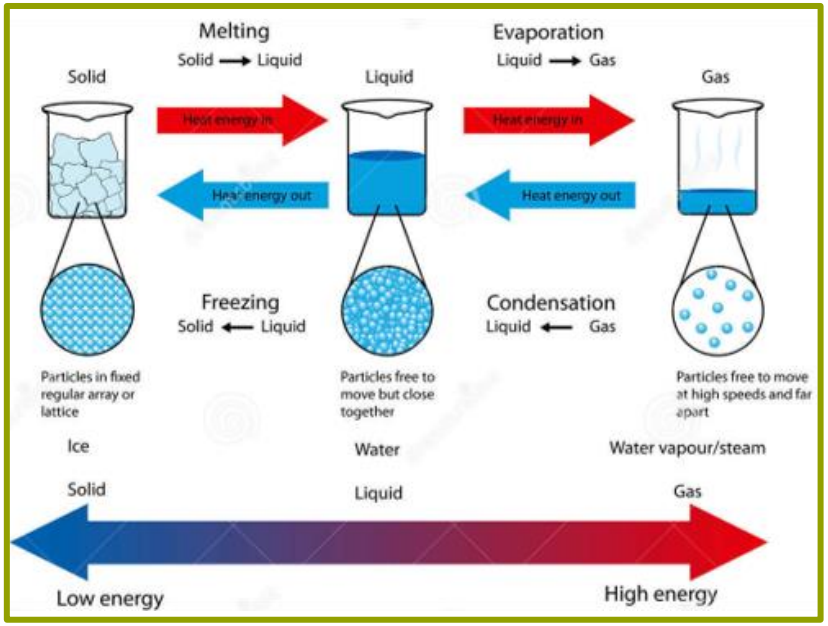
- When energy is applied, particles gain energy, move faster and move further apart.
- When energy is lost, particles become closer to each other, move slower and arrange themselves more regularly.

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.

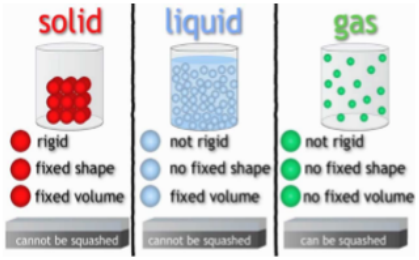


State of matter	Arrangement	Movement
Solid	Regular	Vibrate around a point. Cannot move from place to place
Liquid	Irregular but particles are still touching	Particles can slide over one another
Gas	Irregular, random arrangement. Particles are far apart (not touching)	Move quickly, in all directions.



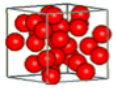
Science – Particle Model

Properties of Solids, Liquids and Gases



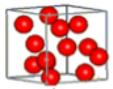
State of matter	Property	Reason
Solid	Rigid, have a fixed shape and a fixed volume	The particles are held together by **strong bonds** and arranged regularly.
Liquid	Not rigid and have no fixed shape, they can flow to fill their container.	The particles are held together by **weaker bonds**, so they can move. There is a fixed volume because the particles are **still close together.**
Gas	Not rigid, have no fixed shape or fixed volume.	The bonds holding the particles together are **broken** and there is a lot of space between the particles.

- Solids and liquids have **high density** - their particles are close together.



High density

- Gases have **low density** – their particles are far apart.

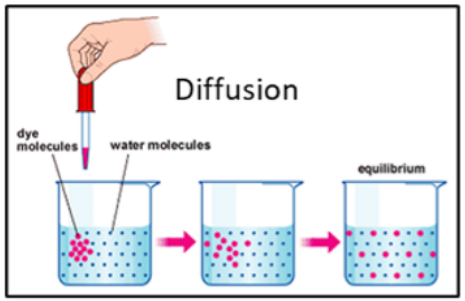


Low density

Key terms	Definition
Density	How much matter there is in a particular volume, or how close the particles are
Diffusion	The process by which particles in liquids or gases spread out through random movement from a region where there are many particles to one where there are fewer.
Conservation of mass	The Law of Conservation of Mass states that mass cannot be created or destroyed. The mass of a substance stays the same before and after a change of state.
Heating or cooling curve	Graph that shows the temperature changes as a substance melts or freezes

Diffusion and Factors Affecting Diffusion

- The movement of particles from a **higher concentration to a lower concentration.**
- Diffusion stops when particles have **spread themselves evenly**.

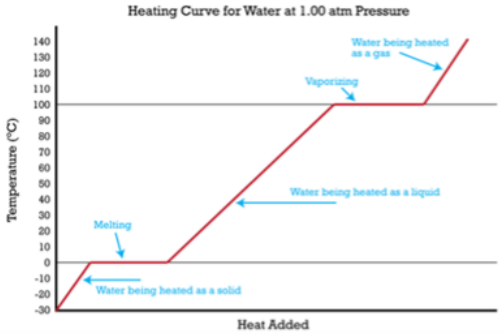


There are **2 factors** which affect the rate of diffusion:

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

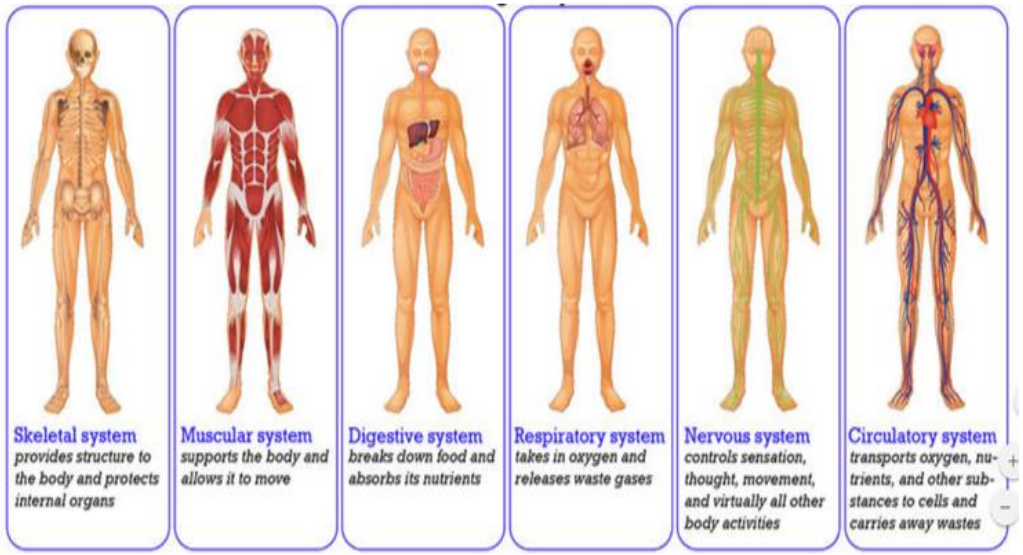
Heating and cooling curves

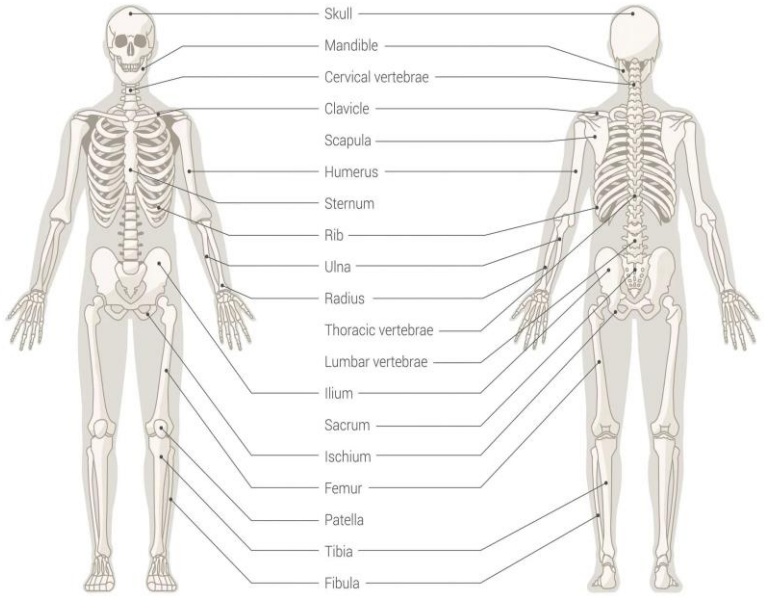
Show the temperature that a substance changes state.



- The **first straight line** shows the solid changing to a liquid – this happens at 0°C for this substance. This is its **melting point**.
- The **second straight line** shows the liquid changing to a gas – this happens at 100°C for this substance. This is its **boiling point**.
- 10g of ice melts into 10g of water and 10g of water evaporates into 10g of water vapour. This is **conservation of mass.**

Science – Particle Model





Key Words:

Immune system: Protects the body against infections.

Reproductive system: Produces sperm and eggs and is where the foetus develops.

Digestive system: Breaks down and then absorbs food molecules..

Circulatory system: Transports substances around the body.

Respiratory system: Replaces oxygen and removes carbon dioxide from blood.

Muscular skeletal system: Muscles and bones working together to cause movement and support the body.

Joints: Places where bones meet.

Bone marrow: Tissue found inside some bones where new blood cells are made.

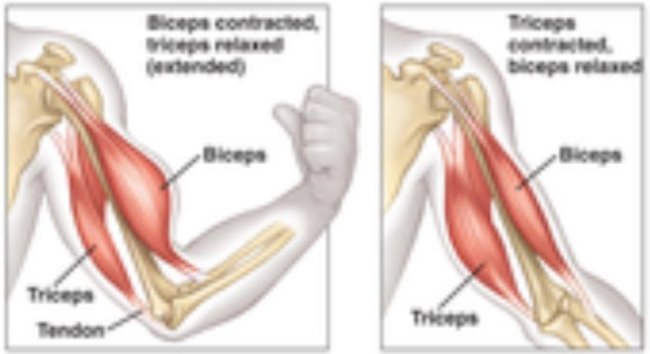
Ligaments: Connect bones in joints.

Tendons: Connect muscles to bones.

Cartilage: Smooth tissue found at the end of bones which reduces friction between them.

Antagonistic muscle pair: Muscles working in unison to create movement

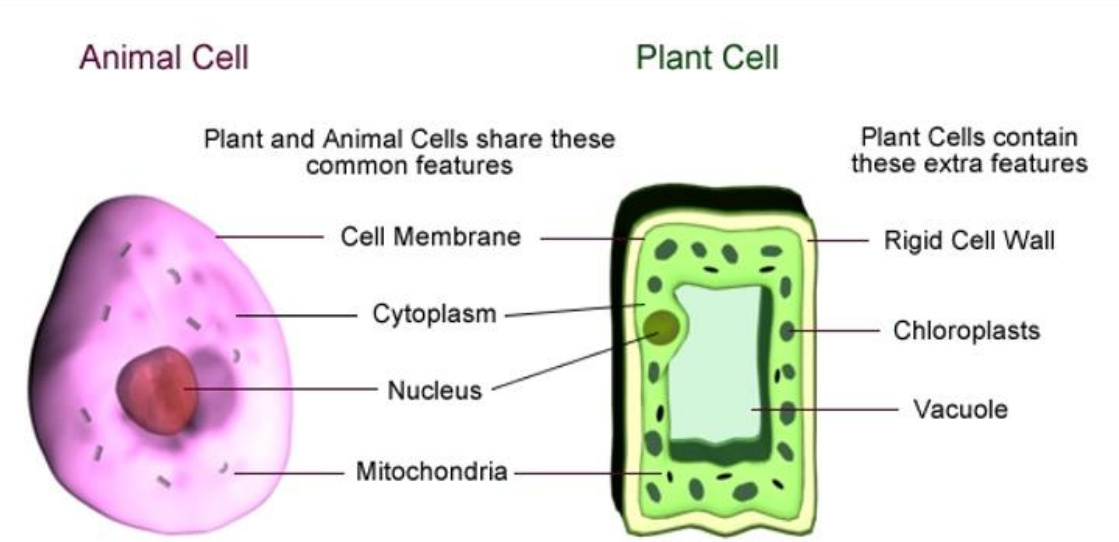
Muscles are attached to bones by **tendons**. When a muscle **contracts** it shortens and pulls on the bone. If the bone is part of a **joint** this will cause the bone to move. Pairs of muscles work together to control movement at a joint. They are called **antagonistic muscles**, this means when one muscle contracts the other muscle in the pair relaxes.



Key terms	Definition
Organelle	Small structures found inside cells, each with a specific job to do.
Cell membrane	Surrounds the cell and controls movement of substances in and out.
Cytoplasm	Jelly-like substance, where chemical reactions happen.
Nucleus	Contains genetic material (DNA) and controls the cell's activities.
Mitochondria	Where most respiration reactions happen (where energy is released from food molecules: glucose + oxygen → carbon dioxide + water)
Chloroplast	Where photosynthesis happens. Light is absorbed as energy for this.
Cell wall	Strengthens the cell. In plant cells it is made of cellulose.
Vacuole	Area in a cell that contains liquid, and can be used by plants to keep the cell rigid and store substances.

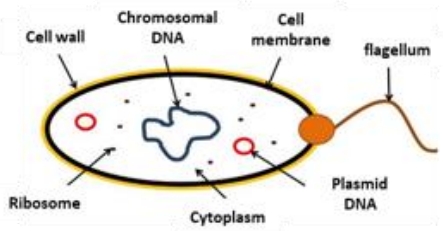
Cells

Cells are the building blocks of all living organisms



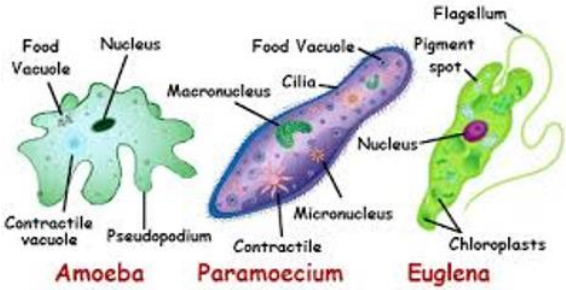
Key terms	Definition
Eukaryotic cells	Contains a nucleus with DNA
Prokaryotic cells	Has no nucleus
Unicellular	Living thing made up of just one cell

Prokaryotic unicellular organism:

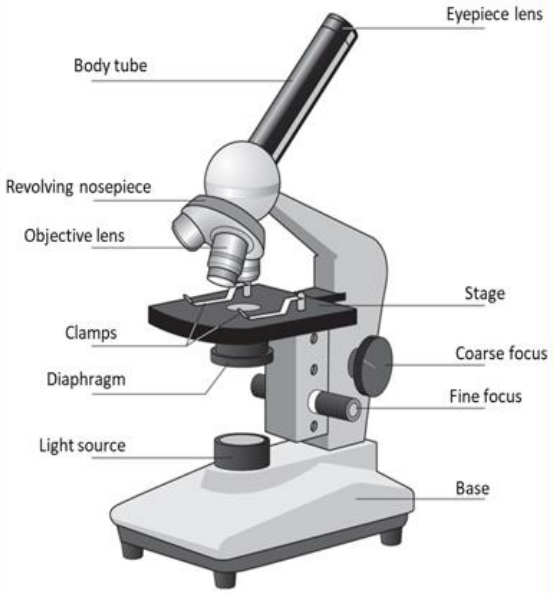


Prokaryotic **cells** are significantly smaller than **eukaryotic cells.**

Eukaryotic unicellular organisms:



Parts of a microscope



Key Skills:

- Identify different cells and name key structures using a microscope.
- Set up and use a microscope
- Calculate the magnification of an image

$$magnification = \frac{image\ size}{actual\ size}$$

Using a microscope

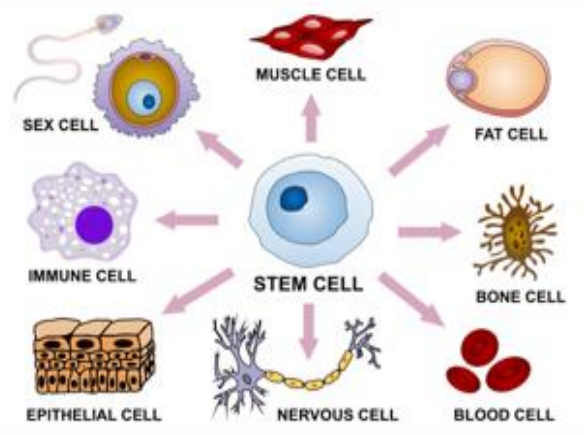
To view an object down the microscope we can use the following steps:

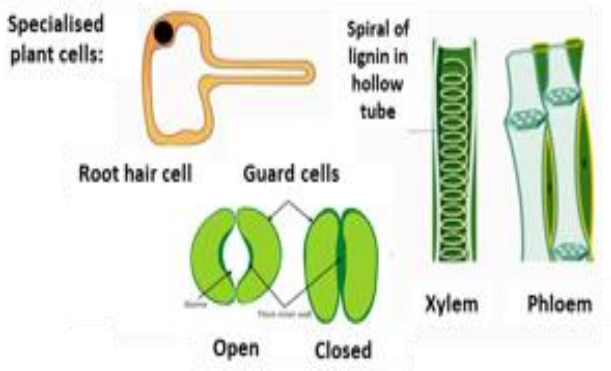
1. Plug in the microscope and turn on the power
2. Rotate the objectives and select the lowest power (shortest) one
3. Place the specimen to be viewed on the stage and clamp in place
4. Adjust the course focus until the specimen comes into view
5. Adjust the fine focus until the specimen becomes clear
6. To view the specimen in more detail repeat the process using a higher power objective

Specialised cells

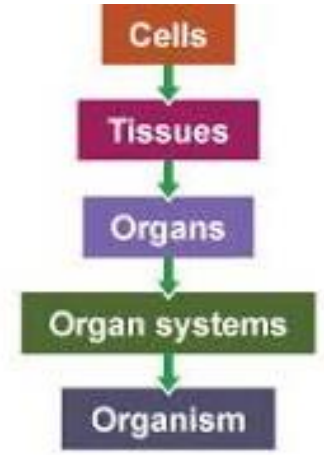
Specialised cells are found in multicellular organisms. Each specialised cell has a particular function within the organism.

	Type of cell	Function	Special features
Animal cells	Red blood cells	To carry oxygen	• Large surface area, for oxygen to pass through • Contains haemoglobin, which joins with oxygen • Contains no nucleus
	Nerve cells	To carry nerve impulses to different parts of the body	• Long • Connections at each end • Can carry electrical signals
	Male reproductive cell (sperm cell)	To reach female cell, and join with it	• Long tail for swimming • Head for getting into the female cell
Plant cells	Root hair cell	To absorb water and minerals	• Large surface area
	Leaf cell	To absorb sunlight for photosynthesis	• Large surface area • Lots of chloroplasts





Key terms	Definition
Organism	A living thing
Multicellular	Organisms that are composed of cells which are organised into tissues, organs and systems to carry out life processes.
Cell	The unit of a living organism, contains organelles to carry out life processes.
Tissue	Group of cells of one type.
Organ	Group of different tissues working together to carry out a job.
Organ system	Organs that coordinate with one another in body processes.



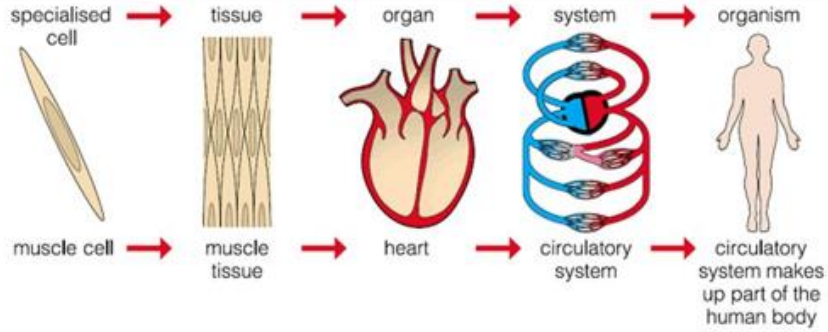
Key ideas:

Animals (including humans) and plants are multicellular organisms.

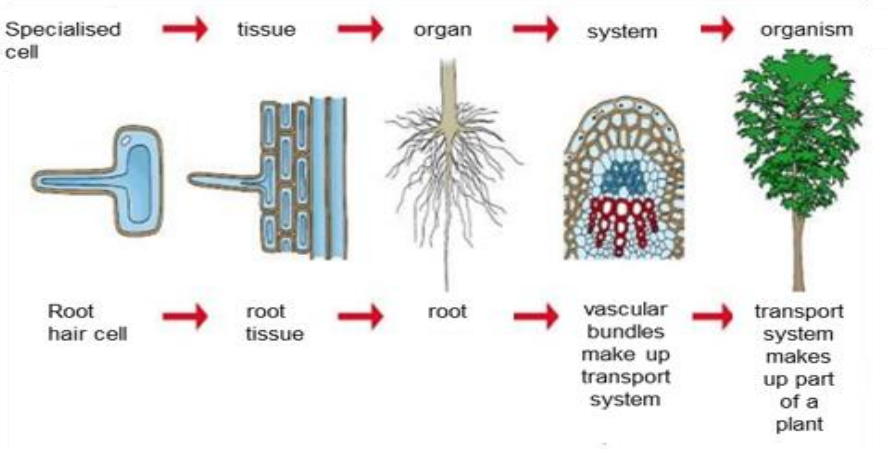
Specialised cells work together to make tissues, tissues work together to make organs, organs work together to carry out jobs within an organ system and the organ systems keep an organism alive.

You need to know the sequence of organisation and be able to identify some animal and plant organs and their systems.

Human example:

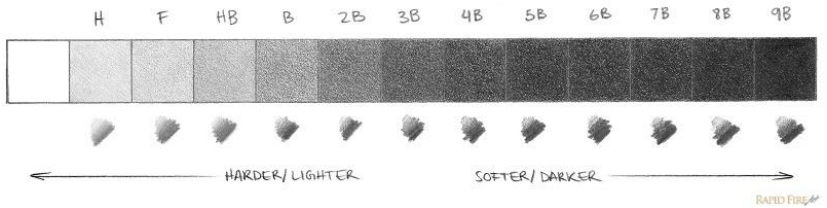


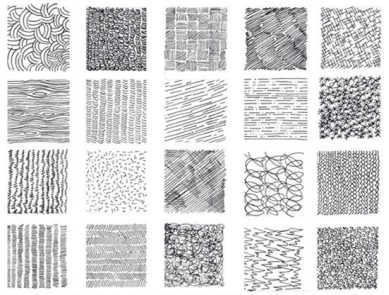
Plant example:



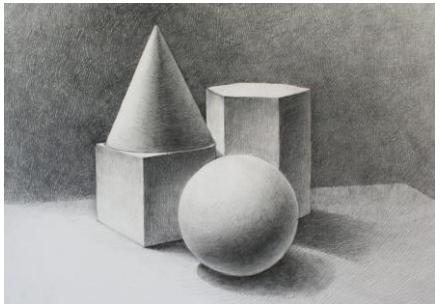
LINE	the path left by a moving point, e.g. a pencil or a brush dipped in paint. It can take many forms. e.g. horizontal, diagonal or curved.
TONE	means the lightness or darkness of something. This could be a shade or how dark or light a colour appears
TEXTURE	the surface quality of something, the way something feels or looks like it feels. There are two types : Actual and Visual
SHAPE	an area enclosed by a line. It could be just an outline or it could be shaded in.
PATTERN	a design that is created by repeating lines, shapes, tones or colours. can be manmade, like a design on fabric, or natural, such as the markings on animal fur.
COLOUR	There are 2 types including Primary and Secondary . By mixing any two Primary together we get a Secondary

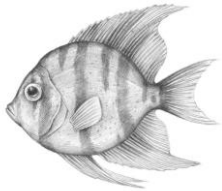
Kstg 3 Assessment areas
Generating Ideas
Making
Evaluating
Knowledge



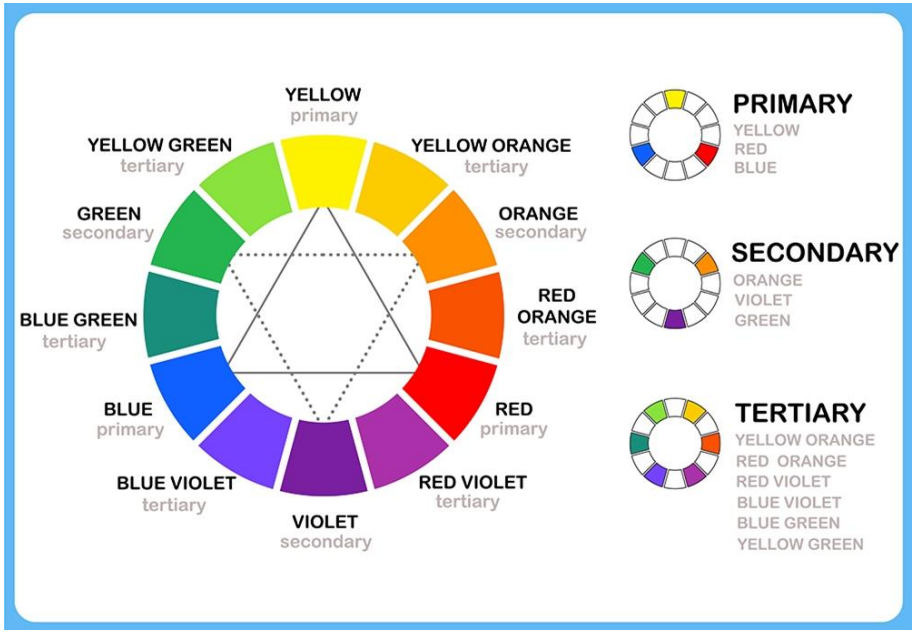


MARK MAKING IDEAS





Artist Reference
Scarpace
Jon Burgerman
Jason deCaires
Taylor



Key Words
Composition
Aesthetic
Sculpture
Landscape
Portrait
Abstract
Gallery
Media
Exhibition
Artist
Decorative
Scale
Form
Ceramics
Collage

ART & DESIGN - Sub Aqua

Duration:	12 weeks
Overview: 	During this project you will learn about the role of Art, Craft and Design in education and in wider society. You will explore the **Formal Elements** (**Line, Tone, Colour, Texture, Pattern, Space, Shape and Form**). You will develop your **mark making skills** using a fine liner pen and you will explore lines using a variety of **media**. You will learn about **graduating tone** and practise shading to make an object look textured and **3D.** You will explore texture by looking at the contemporary underwater sculptures of Jason DeCaires Taylor. You will develop an understanding of art in context. To conclude, you will look at the fish **illustrations** of Vincent **Scarpace** and create your own fish design in his style using a variety of **techniques**.
Key skills:	Drawing, Mark Making, Shading, Painting (line, tone, texture)
Careers:	Illustrator, Designer, Fine artist, Environmental sculptor

BY THE END OF THIS PROJECT....

Making	I can use a range of tones to give my drawing depth
	I can make marks to show texture
	I can use tools to make a range of interesting marks
Making	I can draw an object accurately from observation
	I can create a collage in response to an artist's work
	I can create an abstract painting in response to an artist's work
Knowledge	I can describe the 8 formal elements of Art
	I can use the formal elements to analyse the work of an artist
	I can describe mark making techniques such as stippling and cross hatching
Knowledge	I understand how tone can be used to create a sense of depth
	I understand the difference between visual and actual texture
	I understand how lines can suggest movement, mood and emotion in a work of art

USEFUL WEBSITES...

https://www.underwatersculpture.com/
https://jonburgerman.com/
https://j-vincent-scarpace.pixels.com/
https://www.bbc.co.uk/bitesize/topics/z9kmhyc

TERM 1

What is internet Safety?

eSafety is the process or steps that need to be taken to ensure you are safe while online.

Some of the possible dangers of being online are:

- Strangers
- Exposure to inappropriate / illegal content e.g. sexual materials, violence
- Fraud (identity / financial)
- Viruses
- Cyberbullying

What is Cyberbullying?

Cyber bullying is when someone uses the internet, mobiles or tablets to intentionally hurt someone.

Cyberbullying can include:

1. "Hate" speak
2. Racist messages
3. Homophobic messages
4. Sexual messages (Sexting)

Social Media

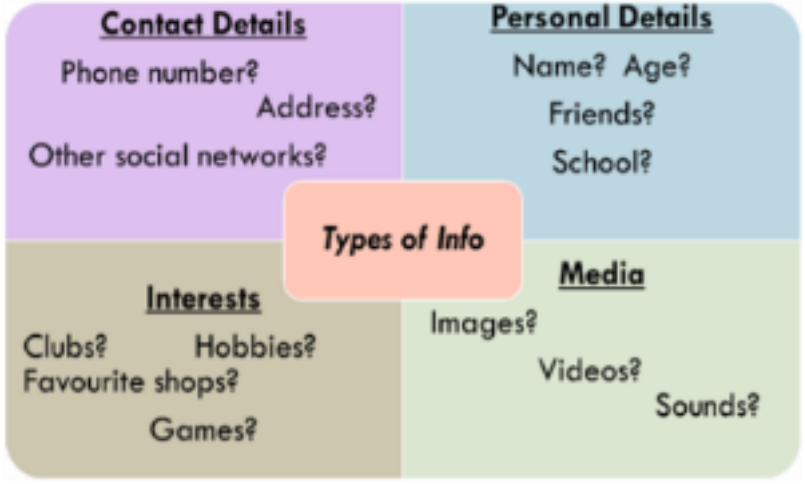
Social media are apps or websites that people use to communicate with others. Often the age limit for these websites / apps is 13 years old.

The information people share is often personal and to stop people seeing it they should change their settings to Private.

Features of a good website

When looking at a website we can evaluate it by looking at a number of key features such as:

Hyperlinks
Up to date
Writing
Content
Colour
Pictures



Key Words

eSafety	Social Media		Cyberbullying
Sexting	Fraud	Viruses	URL
Digital footprint		Internet	WWW

Digital Footprint

The things you share online will stay there forever and might be the first thing people notice about you, which is why it is known as a digital footprint.

With every new profile, tweet or photo you post online, you are adding to a digital footprint.
People that know you, and people who don't, can see it and learn a lot from it.

URL's

URL stands for Uniform Resource Locator.
It is the web address that is unique to a particular website or page. Each part of the URL can tell us information

Internet vs WWW

The internet is a Framework made up of a network of computers and cables.

The World Wide Web (WWW) uses this network to help share information in the form of webpages.

TERM 1

World Wide Web

Google can only search what is in its database or what it's spiders can find. Not all of the web can be accessed through a search engine.
The World Wide Web is often described as consisting of 3 layers:

The 1st layer is the "Surface Web" layer. When we look up the weather or read the news, we are using the surface web.

The 2nd layer, the "Deep Web" consists of protected web pages that are not indexed and therefore not publicly available for example academic databases, analytics dashboards, bank and user accounts.

The 3rd layer, the "Dark Web" consists of hidden websites often linked to illegal and criminal activities.
Special software is needed to access this content, and attempting to access this part of the web can be a crime in itself.

Copyright

Copyright is a law designed to help protect people's work and ideas.
If you:
Take people's work (download films / music). Use people's work (copy text/ images from the internet. Steal people's ideas (create a new product using someone else's technology).

Without permission and without acknowledging them, then you are breaking copyright law.

Typical punishments range from 6 months to 10 years imprisonment and also £5000 fine.

Boolean search

You can use Boolean operators (special words and symbols) to drill down and find the information you need.

Keywords	
Boolean	Index
Database	Reliability
Copyright	

Fact or Fake News

Sometimes people act too hastily – they respond in anger for example, or they share posts or tweets written by someone they don't know and cannot substantiate.
It's possible to accidentally post 'fake news' or rumours that might hurt someone or cause a problem somewhere.
"Fake News" is a type of journalism or propaganda that consists of deliberate misinformation or hoaxes spread via traditional print and news media or online through social media.

Advanced Tools

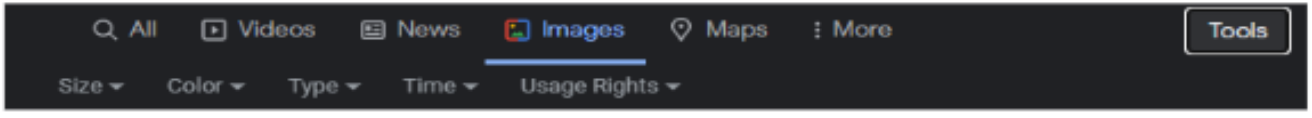
Advanced Tools are features that you can use within a search engine to find information /images more efficiently.

Size – changes the size of the image you are looking for

Colour – searches for images of particular colours

Type – change whether it is a jpeg, clipart or line drawing

Time- when it was uploaded



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Choreography

Key choreography terminology:

Stimulus: A starting point for a dance (main focus)

Motif: A short phrase of movement that reflects a stimulus.

Choreographic intention: What the choreographer would like the audience to learn about the dance

Balletboyz's piece Young Men

A group of young men brought together by the indiscriminate brutality of war struggle to maintain their humanity in an unending cycle of combat and death.

What do you think the choreographic intention of this piece is?

How do you know this?

Physical & Performance skills

Distinction/Merit

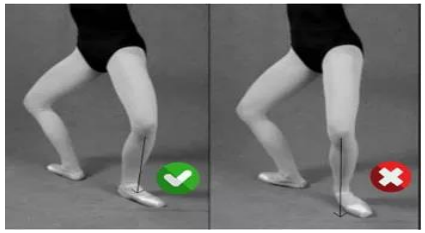
Projection	The dancer makes the movements look bigger to exaggerate the action.
Energy	The force applied to the dance weight, attack, strength, and flow of a dancer's movement
Musicality	How the movement and music connect
Facial Expression	Use of the face to show mood, feeling or character.
Flexibility	The range of movement in the joints (muscles, tendons and ligaments).
Alignment	Correct placement of body parts in relation to each other
Stamina	To maintain physical and mental energy over periods of time
Coordination	Multiple body parts moving at the same time
Extension	Lengthening one or more muscles or limbs
Posture	The way the body is held
Control	The ability to start and stop movement, change direction and hold a shape efficiently
Strength	Muscular power
Balance	A steady or held position achieved by an even distribution of weight.

Pass

Projection
The movements are made bigger.

See in the picture how the dancer is fully showing the movement.

Alignment
Correct placement of body parts in relation to each other. This prevents injury



Flexibility
The range of movement in the joints (muscles, tendons and ligaments).
This happens over time with constant stretching when warm.

Strength
Muscular power.
This helps dancers to hold more difficult positions and complete lift work

Extension
Lengthening one or more muscles or limbs. Creating lines that are straight.

Musicality
How the movement and music connect

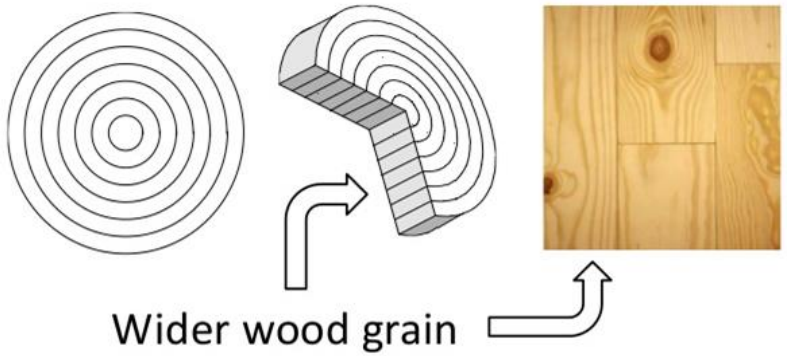
The dance could connect with:

the words in the song
the speed of the song
the layers in the music

Stamina
To not give up physically or mentally when dancing. It means that dancers can perform a dance full out all the way through!

Balance
A steady or held position.
You can do this by shifting and evening out weight in the body.

1. Brief - A set of instructions that your practical project must meet.
2. Aboriginal - Describes the indigenous australian people before australia was colonized
3. Culture - The ideas, customs, and social behaviour of a particular people or society.
4. Bench hook - A workbench accessory used in woodworking, to provide a stop against which the piece of wood being worked can be firmly held.
5. Try Square - A woodworking tool used for marking and measuring a piece of wood at a right angle to the edge
6. Hazard - A danger or a risk.
7. Deciduous - A tree or shrub that sheds its leaves annually.
8. Evergreen - A plant that retains green leaves throughout the year.
9. Butt Joint -A wood joining technique in which two pieces of wood are joined by simply placing their ends together.
10. Evaluation - An assessment of what has worked well or not so well.




Bench Hook


Tri Square


Cross Peen Hammer


Panel Pins


Tenon Saw

Wood Glue

1. What is wood? - The hard fibrous material that forms the main substance of the trunk or branches of a tree or shrub, used for fuel or timber.
2. **Hardwood** - Trees that are Deciduous lose their leaves. Hardwoods stop growing in the winter. These trees are native to places with a temperate climate like the UK and North America. **Slow growing/expensive.**
3. **Softwood** - Trees that are coniferous are known as Evergreen. Softwoods grow all year round. These trees are native to colder places like Scandinavia or Canada. **Faster growing/cheaper.**
4. Hardwood- Closer grain, the growth rings are closer together.
5. Softwood- Wider Grain, The growth rings are further apart.
6. Man-made boards - MDF, Plywood, chipboard.

Theatre Makers Stagecraft

Part 1) To understand **what** Theatre is about…

Page to Stage: Staging is the process of selecting, designing, adapting to, or modifying the performance space for a **play** or film. Putting the page to stage focuses on the directing, designing and producing of a play. Putting page to stage would look at how to set the space for a scene. It would then focus on the props and costume needed. It would then be important to cast the characters and work on the characterisation. The text would then be analysed and final all of this combined would be rehearsed to produce a performance.

Group roles: In drama you will work in groups. It is important that you remember to listen, to give ideas and to lead at times. Each group will need individuals to give feedback for improvements, try new ideas and remained focused.

Leader- To try all ideas and listen.
Time keeper- To keep everyone focused and on track.
Improvement officer- To watch and give feedback to improve.
Lead actor- To act out the roles and try ideas.
Technical director- To think about space, lighting etc.

Performance skills:

- Projecting your voices
- Focus in performance
- Don't perform with your back to the audience
- Be confident
- Rehease, rehearse, rehearse
- Don't laugh
- Exaggerate your physicality
- Engage with your audience

Feedback: In drama you will give lots of feedback to other groups (peer) and to yourself (self). You need to always think what works well and why, what could be improved and how and what skills have they used.

Collaboration: It is important when working with others to listen, give ideas and be respectful and kind to all. Everyone is trying their best!

Part 2) To understand **how** Theatre is made…

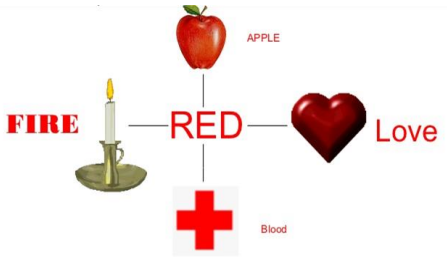
Semiotics: Everything on stage has meaning. Semiotics is the reading of signs and symbols on stage. The symbols and objects are used to represent ideas and meaning to an audience. For example, colour has meaning on stage such as red could mean anger or love. Colours can symbolise emotion, feelings, mood and atmosphere. Objects can represent time periods by using props on set. If an object or colour is on stage then it must have a meaning.

Interpretation: In drama we interpret the meaning of a thing, person, place and then show that meaning to the audience.

Performer: The role of the performer is to create a character and presence of stage to embody the interpretation.

Director: The role of the director is to ensure that meaning is created for the audience, the space and actors are correct and the performance is complete.

Audience: It is very important to always think about our audience. What do we want them to take away from the piece?



Mood and atmosphere: Both **atmosphere** and **mood** refer to feelings, but there's a small difference. The **atmosphere** is an external feeling coming from the physical environment. The **mood** is the internal feeling of the audience. The external feeling induces the excitement in the reader.
Atmosphere is created by objects, characters, props, background, setting and foreshadowing. Atmosphere shows the feeling and emotion of the scene. It is important to consider what atmosphere you want to create in performance.
Mood is the feeling or tone of a performance.The mood shows how you want the audience to feel.

Theater Makers Stagecraft

'Great Theatre is about challenging how we think and encouraging us to fantasize about a world we aspire to' - William Dafoe.

Part 3) To understand **how** Theatre is made…

Blocking: In theatre blocking is to set a scene. This means to decide on the staging of the scene and where the characters are going to move to and from. It is important to consider the props and set when blocking to know how the characters are going to move around and use the space. Blocking is at the beginning of the process.

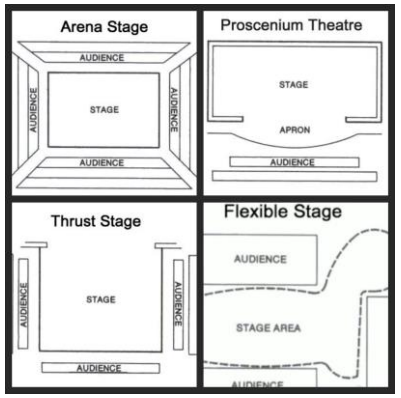
Rehearsal: To create great theatre it is important that you work on how to rehearse effectively. When rehearsing it is important to start by sharing ideas, then trying all ideas and then watching back to choose what works well and what does not. It is important to remain focused at all times and to set targets for your rehearsal.

Technical theatre:Technical theatre encompasses all that goes into making a staged production. The areas of **technical theatre** are scenery, lighting, properties, costuming and sound. All of these areas work together in a production to establish the place, time period, and mood of the production. Technical theatre is important to consider when staging and blocking a scene or production. It is important to think about the technical aspects of theatre (lighting, sound, costume, stage etc) to create the desired atmosphere to the scene and the meaning that is being created for the audience.

Costume: When considering the costume for a character think about their personality and important to the play. How are you going to create meaning with the costume? How will you show the audience what personality that character has with the costume?
Lighting: When choosing the lighting for your piece think about the colours and what they suggest to the audience, think about where you want the audience attention to be.
Staging: When blocking, rehearsing and performing always think about how you are going to set up the space. Where will the actors be placed? Where will the props and set be placed? What stage would work best for the production?

Key words…

Keywords:
Collaboration- To work with others towards a common goal.
Facial expressions- To use the face to show character, emotion or feeling.
Levels- To use height in performance.
Devising- To create your own performance.
Proxemics- To use space to show relationships in performance.
Body language- To use the body to show meaning to the audience.
Projection- To project the voice in order that the audience can hear.
Storytelling- the activity of telling or writing stories.
Semiotics- the study of signs and symbols and their interpretation.
Stagecraft- skills and experience in staging plays.
Gesture- a movement of part of the body to express an idea or meaning.
Proxemics- the space between performers, audience and staging.
Characterisation- the creation of a character.
Interpretation- the action of explaining the meaning of something.
Atmosphere- the tone or mood of a place or situation.
Mood- a state of mind or feeling.
Intention- a thing intended; an aim or plan.



Continents

The world has seven continents. Continents are a group of countries. Europe is a **continent**. It is an area on the Earth that contains many different **countries**, including the UK.

Grid References

A grid of squares helps the map-reader to locate a place. The horizontal lines crossing the map from one side to the other are called **northings**. They are numbered - the numbers increase to the north. The vertical lines crossing the map from top to bottom are called **eastings** as the numbers increase in an easterly direction.
On an OS map **each grid square** is 1 km x 1 km or **1 sq km**.
When you give a grid reference, always give the easting first: "**Along the corridor and up the stairs**".
Four-figure grid references can be used to pinpoint a location to within a square measuring 1 sq km. Sometimes it is necessary to be even more accurate. In this case you can imagine that each grid is divided into 100 tiny squares. The distance between one grid line and the next is divided into tenths. This is a **six-figure grid reference**

Map Symbols

Symbols help us to include lots of detail on maps that are drawn to **scale**. They include simple images, letters and abbreviations

Oceans

An **ocean** is a large area of salt water between continents. Oceans are very big and they join smaller seas together. Together, the oceans are like one "ocean", because all the "oceans" are joined. Oceans (or marine biomes) cover 72% of our planet. The largest ocean is the Pacific Ocean. It covers 1/3 of the Earth's surface.

Countries

A **country** is a political division. Some of the best-known countries are Germany, China, France, Russia, the United Kingdom, and the United States. There are 196 of them in the world,

Direction

Try to remember the main compass points by using a mnemonic, eg **N**aughty **E**lephants **S**quirt **W**ater

Height

Maps show height in a number of different ways:
Spot heights and triangulation pillars shows exact heights by a black dot with a number next to it. The number is the height above sea level in metres. The blue triangle represents a **triangulation pillar**; the networks of concrete pillars found in the UK that were used to make maps.
Contours are lines drawn on maps that join places of the same height. They are usually an orange or brown colour. Some contour lines have their height above or below sea level written on them. It is possible to use them to see the shape of the land - if contour lines are close together the slope is steep, if they are far apart the slope is gentle.

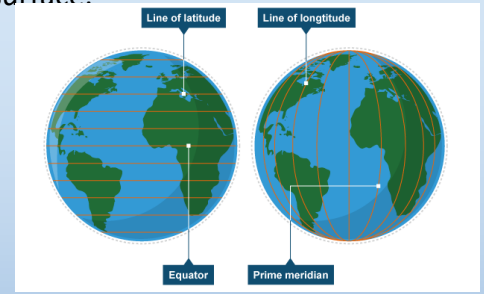
Scale and Distance

Most maps have a scale. These help us to work out distances on maps. This is given by the scale statement (eg 1:25,000) and/or by showing a scale bar.

The scale shows how much bigger the real world is than the map. If the scale is 1:50,000 it means that the map is 50,000 times smaller than the real world. For example, every 1 cm on the map represents 50,000 cm in the real world

Latitude and Longitude

Lines of **latitude** and **longitude** are used to locate places accurately on the Earth's surface.



Latitude

Lines of latitude circle the Earth in an east-west direction. They are parallel. They are different lengths, eg:
the equator is 40,075 km long, the Antarctic circle is 17,662 km long, the South Pole is 0 km long

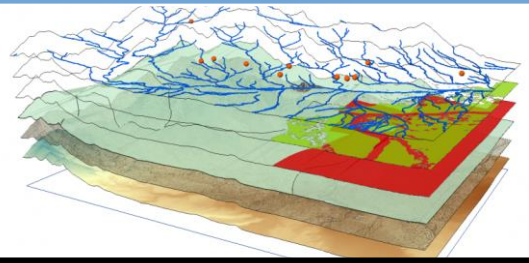
Longitude

Lines of longitude run from the top of the Earth to the bottom. They are not parallel as lines of latitude are - they meet at a point at the north and south poles and are called meridians. They divide the Earth into segments, like an orange

Geographers Toolkit

Geographical Information Systems GIS

GIS is a way of transfering data onto a map. An example might be a map of the world that shows the most recent earthquakes and how powerful they were, or a map of a city showing crime statistics.



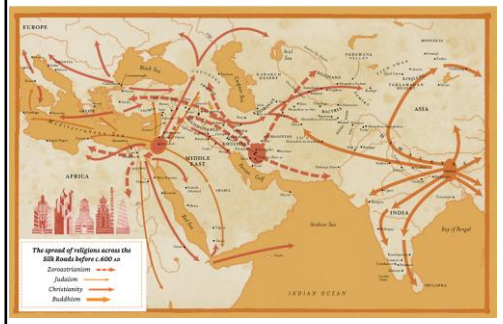
GEOGRAPHY

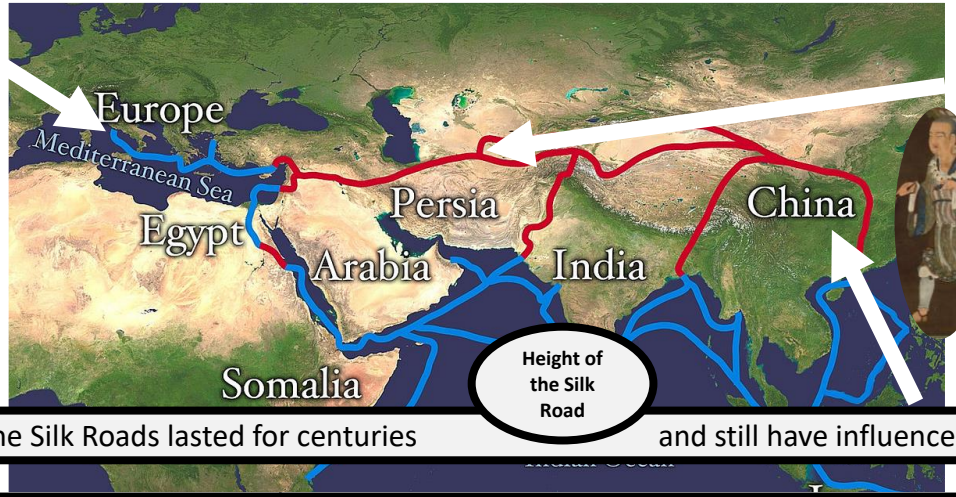
Our Country
The United Kingdom

- The United Kingdom is made up of 4 different countries: England, Scotland, Wales and Northern Ireland
- The capital city of England is London
- The capital city of Wales is Cardiff
- The capital city of Northern Ireland is Belfast
- The capital city of Scotland is Edinburgh
- Plymouth is located in the South West

Areas of Highland are found in the north
Areas of lowland are found in the south
Ireland is **not** part of the United Kingdom

In this unit we will study a key development in the history of the world: The Silk Roads. This is called a **breadth study** as it covers a large period of time**.** You will develop your skills as an historian, using primary sources and interpretations. You will investigate significance: why is something important?

What were the Silk Roads?	How did they begin?	What was traded on the Silk Roads?	What religious ideas spread?
The Silk roads were a network of routes that links people, trade, knowledge and religions. They stretched from Europe in the West to China in the East. They included some of the most important cities in the world such as Samarkand, Baghdad, Constantinople and Xian.	Persia was situation in the heart of the Silk Roads and first began expanding their network outwards. Alexander the Great continued expansion further, building roads and sharing ideas as he went! Zhang Qian, a Chinese diplomat, headed West and began the trade of horses, significant for Silk Road expansion.	Horses, silk, rhubarb, wool, spices, musk, gunpowder, paper, furs linen and silver were all traded on the Silk Roads. The Sogdians were the greatest merchants of the Silk Roads period, situating themselves along the Silk Roads and acting as translators. Their home was the ancient city of Samarkand. Items were transported on camels.	Buddhism, Islam, Zoroastrianism, Christianity were all spread along the Silk Roads. 



The Silk Roads lasted for centuries and still have influence today

Key Words	
Trade	the action of buying and selling goods and services
Merchant	a person who trades in items produced by other people
Religion	a system of belief, faith and worship
Caliphate	a state under the leadership of an Islamic ruler
Excavation	the exposure, processing and recording of archaeological remains

Ancient								Middle Ages						Renaissance			Enlightenment		Modern	
0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
C1st	C2nd	C3rd	C4th	C5th	C6th	C7th	C8th	C9th	C10th	C11th	C12th	C13th	C14th	C15th	C16th	C17th	C18th	C19th	C20th	C21st

HISTORY - Silk Roads

Baghdad: The jewel of the Silk Roads

Baghdad was the capital city of the Abbasid Muslim Empire. The town was built from scratch in 762AD.

It was built in the shape of a circle with an outer wall and two inner walls and a moat for defence.

It had a population of nearly 1 million.

It was a cosmopolitan city. People from Turkey, Persia, India and north Africa came to trade and live!

Misconceptions

- Western Europe is the centre of the world.
- Rome was the capital of the Roman empire.
- Women treated as second class citizens in the Ancient World.
- Christianity is European.
- Europeans successfully resisted the Mongols.
- Europe was superior academically and intellectually to the East.
- Islam, Christianity and Judaism have always been rivals.
- Globalization is a modern development.

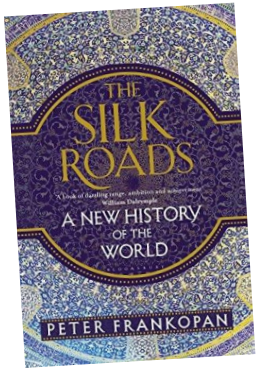
Awesome podcast and documentary links!
Type into the webpage search bar!

China history podcast on the Silk Roads and Buddhism
https://teacup.media/chinahistorypodcastepisodes/ep-76-buddhism-xuanzang-and-the-silk-road

BBC Radio 4: Silk Roads In Our Time podcast
https://www.bbc.co.uk/programmes/b00p315t

BBC Sounds: History of the World in 100 objects podcast:
https://www.bbc.co.uk/sounds/play/b00sl6f0

BBC Documentary with Dr Sam Willis:
https://www.bbc.co.uk/programmes/p03qb130



"For millennia, it was the region lying between East and West that was the axis on which the globe spun. It was in the Middle East (as we might call it now) that civilisation was born, the great religions burst into life and where empire rose and fell and clashes of cultures were felt thousands of miles away, all connected by the Silk Roads.

HISTORY - Silk Roads

Year 7 Knowledge Organiser

Food Technology

Topic: Introduction to Food & the Kitchen

1. Nutrition

The 5 Main Nutrients: Protein, Carbohydrates,
Fat, Vitamins and Minerals
Macro and Micro Nutrients
Fibre and Water
Sources of Nutrients Functions of Nutrients
Dietary Related Diseases : Diabetes, Coronary
Heart Disease, Obesity, Cancer, Malnutrition

2. Key Terms

5 A Day – Fruits and Vegetables Local and Seasonal Food Product Analysis Evaluation
8 Tips for Healthy Eating
Special Dietary Needs: Religion, Age, Ethical, Health, Social
Vegetarians and Vegans
Consistency and Consistency
Gelatinisation
Reduction

4 Influences that affect Food Choice:

Health Issues, Allergens, Religion, Lifestyle needs, Financial needs, Social, Moral and Ethical concerns.

5 Environmental Considerations

Local and Seasonal food, Food Miles, Organic, Fair Trade, Traditional foods, Packaging, Reducing Waste, Conserving energy, Recycling, Sustainability

3. The Eatwell Guide

6. Evaluations and Sensory Analysis

Appearance: flat, bright, burnt, cloudy, colourful, crunchy, decorated, dull, even, lumpy, patterned, smooth, undercooked, watery.

Taste: bland, meaty, spicy, salty, zesty, sweet, strong, creamy, sharp, mild, tasteless.

Texture (Mouthfeel):

chilled, firm, flaky, runny, sharp, sticky, tough, hot, juicy, rubbery, chewy, crumbly, crunchy, dry, soggy, brittle, natural.

Aroma: aromatic, scented, rancid, strong, spicy, savoury, weak, acrid, musty, pungent, floral, appealing, fragrant, scented, citrus, bland, tart.

7. Food Safety and Hygiene

Key Temperatures and the effect on bacterial growth
Oven Safety
Using electrical equipment safely Personal Preparation
Handwashing
Knife Safety – Bridge and claw techniques
Safe storage
Protecting the consumer
The 4 C's – Cleaning, Cooking, Chilling and Cross Contamination

8. Food Preparation Techniques

Rubbing-in-Method- Pastry, Crumbles, cakes All-in-One Method – Cake Making **Kneading and Proving** – Bread and Pasta
Knife Skills – Fruit and Vegetables, Meat and Fish **Presentation Techniques** – Garnish
Sauce Making – Gelatinisation and Reduction

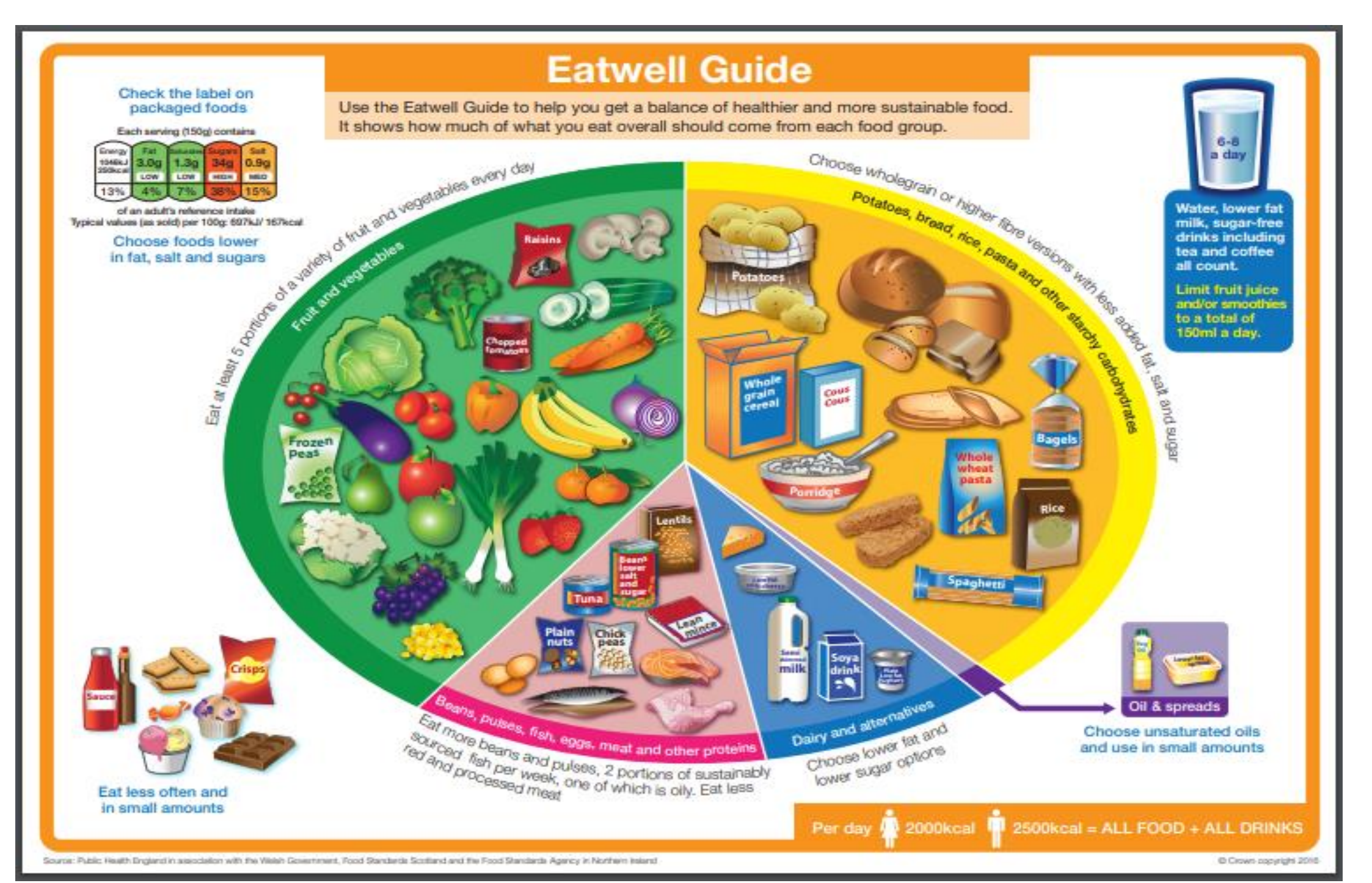
Key Words

	**1. Teaspoon (tsp):** is used as a measure for small quantities such as spices or salt.		**8. Dishcloth** is used to wash the dirty equipment.
	**2. Grams (g):** is used as form of measuring solids.		**9. Tea towel** is used to dry the washed equipment.
	**3. Tablespoon (tbsp.):** is used as a measure for larger quantities such as flour		**10. Oven gloves** are used to protect your hands from being burnt.
	**4. Millilitres (ml):** is used as a form of measuring liquids.		**11. Coagulation** the thickening of an egg mixture.
	**5. Grate –** using a grater to prepare cheese, vegetables or fruit		**12. Seasoning** adding different herbs and spices to improve the flavour of a dish.
	**6. Bridge** hold is used to protect your fingers when cutting. Pass the knife through the bridge made by your fingers and thumb		**13. Creaming method** the method usually used to make cakes, where the butter and sugar is creamed together.
	**7. Enzymic browning:** the process where fruit and vegetables turn brown due to them being exposed to oxygen (oxidisation).		**14. Rubbing in method** is a method whereby you rub using your fingers together usually butter and flour to create a breadcrumb like mixture, usually the base for scones.

Staple foods of a diet are **pasta, rice** and **potatoes.**
The main dairy products are: **milk, cheese** and **butter.**
Eggs are a good source of **protein.**
Nuts and **seeds** are also sources of **protein.**

Eatwell Guide

Use the Eatwell Guide to help you get a balance of healthier and more sustainable food. It shows how much of what you eat overall should come from each food group.



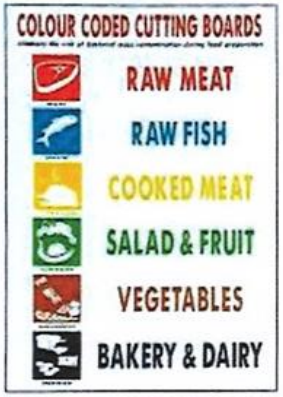
Source: Public Health England in association with the Welsh Government, Food Standards Scotland and the Food Standards Agency in Northern Ireland

Year 7 Knowledge Organiser

Food Technology

Topic: Introduction to Food & the Kitchen

COLOUR CODED CUTTING BOARDS



Name	Small Equipment	Name
1. Grater 2. Fork 3. Scissors 4. Digital Scales 5. Masher 6. Pastry Rings 7. Saucepan 8. Sieve 9. Toaster 10. Ladle 11. Chopping Board 12. Wire Cooling Rack 13. Garlic Press 14. Balloon Whisk 15. Spatula 16. Baking Tray		17. 12 Hole Muffin Tin 18. Cake Tins 19. Frying Pan 20. Boning Knife 21. Vegetable Peeler 22. Mixing Bowl 23. Measuring Jug 24. Vegetable Knife 25. Measuring Spoons 26. Wooden Spoon 27. Dessert Spoon 28. Table Spoon 29. Teaspoon 30. Measuring Cups 31. Fish Slice 32. Tin Opener

Health & Safety when using the cooker		Parts of the cooker
Turn pan handles in away from edge of cooker. Always turn hob off when not in use. Never leave unattended. Do not let food boil dry. Take care – hobs may still be hot when turned off. Don't leave metal spoons in pans as they can become very hot. Always use dry cloths when removing food from the oven		**Hob** Conduction & Convection **Grill** Radiation **Oven** Convection

Personal Hygiene: Getting Ready to Cook	
1	Tie up long hair
2	Leave bags and blazers tidily
3	Roll up sleeves
4	Put on an Apron
5	Wash and dry hands thoroughly

Key Words : Weights & Measures		
L	Litres	
g	Grams	
ml	Millilitres	1000ml=1 litre
Kg	Kilograms	1000g
Tbsp	tablespoon	15ml
Tsp	teaspoon	5ml
1pt	1 pint	568ml

Knife Safety Rules

- The correct knife should be used for the appropriate job.
- Knives must be kept sharp and clean; a blunt knife is more likely to cause a cut because more pressure needs.
- to be applied to use it to cut. Knife handles must be grease-free.
- The point must always be downwards when carrying a knife. Knives should not be put in the washing up bowl.
- A Knife must not be left on the edge of the table or chopping board.

Now Wash your hands

Before:	• Starting work • Handling high risk and ready-to-eat food
Between:	• Preparing raw and high risk foods
After:	• Preparing raw food • Going to the toilet • Coughing sneezing or blowing your nose • Cleaning • A Break • Touching your face or hair

Knife Skills	Technique	Description	Used for
Bridge Hold		One hand like a bridge & knife is placed under arch	Cutting food safely
Claw grip		One hand like a claw and knife against nails	Cutting food safely into small pieces

Eight tips for Healthy Eating

1. Key terms:

Fact- something you can prove to be true

Opinion- A personal truth, not necessarily based on fact or knowledge

Belief- Something someone knows to be true even if it can't be proven

Faith- complete trust or confidence in someone or something.

Atheist- a person who disbelieves or lacks belief in the existence of God or gods

Agnostic- a person who believes that the existence of God, of the divine or the supernatural is unknown or unknowable

Theist- a person who believes in the existence of a god or gods, specifically of a creator who intervenes in the universe.

Humanist- a person who believes in a rationalist outlook or system of thought attaching prime importance to human rather than divine or supernatural matters

2. Beliefs about God:

People have different beliefs about the existence of God based on a variety of reasons.

Some people believe that God cannot exist because of the existence of suffering, or there is a rational reason for most things that don't require the existence of a god and science can offer explanations for most things.

Others are undecided about the existence of God as there is no proof that God does, or does not exist.

While many people believe that God does exist based on upbringing, experience, unexplained occurrences etc.

3. Christian beliefs about God

Omnipotent- Many Old Testament stories are about the power of God.in Exodus is the story of the Plagues sent by God so that the Jews could escape from Egypt. This account shows that God was all powerful and in charge of nature. God's power is also shown in the creation story.

Omnibenevolent- God is all loving. "But you Lord, are a compassionate and gracious God, slow to anger, abounding in love and faithfulness." Psalm 86:15 "For God so loved the world that he gave his one and only Son, that whoever believes in him shall not perish but have eternal life." John 3:16 - This expresses the fundamental belief that because God loved humanity, he sent Jesus to earth so that people could have eternal life.

4- Trinity

Christians believe in the 'oneness of God'. However they often speak of the Trinity - which is the belief that God is made up of three persons: The Father; The Son and the Holy Spirit.

The Father: the all powerful; all-knowing part of God who created the world. It's the personal, caring relationship between humans and God.

The Son: Christians believe that Jesus is the Son of God. He is God in human form. This is known as the incarnation. God revealing himself to the world.

The Holy Spirit: Christians believe that this guides them to live their lives & offers comfort; courage; inspiration and guidance. It is also seen as God's presence in the world.

5- God the Son: Jesus

-Jesus was born in Bethlehem, lived and taught around Lake Galilee and died by crucifixion outside of Jerusalem. His work and teachings started the religion of Christianity which is still followed over 2000 years later.
-Information about Jesus comes from not only the bible but other sources like the Roman Empire which kept records of who they had crucified and Jesus' name is in the records. Diaries written by Suetonius and Josephus also mention Jesus as well.
- Jesus is recognised as an important figure not only in Christianity but also in Islam, Hinduism and Sikhism.

6- Muslim Dress

The principles of Islam teach that, as long as someone dresses modestly – it is their own business how they do so. Some conservative Muslim cultures have a more strict approach, and will enforce ideas about how women should dress, either through the family or peer pressure, or sometimes even through the law.
Freedom – the Qur'an teaches that "There should be no compulsion in religion" (2:256) – people should be able to make their own choices.
Compulsion – some Muslim countries have strict laws about how women can appear in public. In Iran, a woman walking without a veil is likely to be arrested.

7- Qur'an

The word **Qur'an** means **'recitation'** and Muslims believe that the Qur'an is the direct word of Allah revealed to **Muhammad** by the Angel Jibril. Due to this, it is completely different to any other book.
Muhammad was called to be a prophet in 610-11**CE**. This event is known as **Laylat-ul-Qadr** (the Night of Power) which many Muslims now celebrate on night 27 of **Ramadan**.
The Prophet Muhammad became the messenger of **Allah** and continued to have Allah's word revealed to him for the next 23 years. The revealed teachings were written down by the Prophet Muhammad's close friends and followers.

RELIGIOUS STUDIES - What is religion?

8 Key terms

Trinity- the three persons of the Christian Godhead; Father, Son, and Holy Spirit.

Commandment- a divine rule

Parable- a simple story used to illustrate a moral or spiritual lesson, as told by Jesus in the Gospels.

Shi'a- one of the two main branches of Islam, followed by about a tenth of Muslims, especially in Iran

Sunni- the larger of the two main branches of Islam

Muhammad- The founder of Islam

Shahadah- Islamic declaration of faith

Salat- The ritual prayer of Muslims

Zakat- Annual payment made for charitable and religious purposes

Sawm- fasting from dawn until dusk during Ramadan

Hajj- Pilgrimage to Mecca

9- Allah

Allah is the name given to God in Islam, whose word was received by the Prophet Muhammad on behalf of humankind.
Muslims believe in only one God, it is a Monotheistic religion.
Tawhid is what this belief in the oneness and unity of Allah is called. It is expressed in the first of the Five Pillars of Islam, the Shahadah. "There is no god but Allah" Belief in this oneness or unity of Allah is an essential aspect of Islam.
Muslims have 99 names to represent His different attributes. Some qualities are beyond human understanding, but all of them help Muslims understand what Allah is like. People are to not draw Allah as this is disrespectful.

10- Muhammad (pbuh)

- Founder of Islam.
- Prophet and Gods messenger.
- Final prophet of God.
- Born in Mecca.
- Muhammad received the word of God through Angel Gabriel, which made up the Quran.
- Muhammad's popularity was seen as threatening by the people in power in Mecca, and Muhammad took his followers on a journey from Mecca to Medina in 622.
- This journey is called the Hijrah (migration).
- Within ten years Muhammad had gained so many followers that he was able to return and conquer Mecca.

11- Sunni and Shi'a

Both agree on the fundamentals of Islam and share the same Holy Book (The Qur'an)

The differences originate from the question of who would succeed the Prophet Muhammad as leader of the emerging Muslim community after his death.

The Shi'a gave preference to those credited to the Prophet's family and close associates. The Sunnis consider all Hadith and Sunnah narrated by any of twelve thousand companions to be equally valid. Shi'as recognise these as useful texts relating to Islamic jurisprudence, but subject them to close scrutiny.

All Muslims are required to pray five times a day. However, Shi'a practice permits combining some prayers into three daily prayer times. There are also significant differences in the structures and organisation of religious leadership in the Sunni and the Shi'a communities

12- Shahada and Salat

"There is no God but Allah, and Muhammad is his messenger." Reciting this statement three times in front of witnesses is all that anyone need do to become a Muslim.

Salat- Salat is the obligatory Muslim prayers, performed five times each day by Muslims. It is the second Pillar of Islam. The prayer ritual, which is over 1400 years old, is repeated five times a day by hundreds of millions of people all round the world. Ritual washing (Wudu) is performed before prayer

13- Zakat and Sawm

Zakat- the obligation that an individual has to donate a certain proportion of wealth each year to charitable causes. Zakat is a mandatory process for Muslims and is regarded as a form of worship.

Sawm- the religious action or practice of fasting during the month of Ramadan. It is the fourth Pillar of Islam . In the Qur'an fasting is prescribed for all Muslims. The fast begins at dawn and ends at sunset. No food or drink may be taken during the hours of the fast.

14- Hajj

A pilgrimage is a journey with a religious or spiritual significance. For Muslims it is a duty to go on pilgrimage to Makkah (Mecca) at least once in their lifetime, if they have the means. The pilgrimage to Makkah is called Hajj and is the fifth Pillar of Islam. Muslims try to go to Makkah during Dhu al-Hijjah, the twelfth month of the Islamic calendar.

Two features of Hajj- On the first day of the Hajj, pilgrims walk around the Ka'bah seven times in an anti-clockwise direction while repeating prayers. This is called Tawaf. Pilgrims next run between the hills of Safa and Marwah seven times. This is to represent the search of Hagar, Ibrahim's wife, for water for her son Ismail.

RELIGIOUS STUDIES - What is religion?

VERB	CONNECTIVE	VERB	VERB		NOUN	BIRTHDAY		PREP.N	NOUN
Me llamo _ *(I am called _)*	**y** *(and)*	**soy de _** *(I'm from _)*	*these actually mean *I have* and *s/he has* but this is what Spanish use when talking about age! ***tengo** *(I am)*	**once** *(eleven)* **doce** *(twelve)* **trece** *(thirteen)* **catorce** *(fourteen)* **quince** *(fifteen)*	**años.** *(years old.)*	**Mi cumpleaños es el** *(My birthday is the)*	1 - **uno** 2 - **dos** 3- **tres** 4- **cuatro** 5- **cinco** 6- **seis** 7- **siete** 8- **ocho** 9- **nueve** 10- **diez** 11- **once** 12- **doce** 13- **trece** 14- **catorce** 15- **quince** 16- **dieciséis** 17- **diecisiete** 18- **dieciocho** 19- **diecinueve** 20- **veinte** 21- **veintiuno** 22- **veintidós** 23- **veintitrés** 24- **veinticuatro** 25- **veinticinco** 26- **veintiséis** 27- **veintisiete** 28- **veintiocho** 29- **veintinueve** 30- **treinta** 31- **treinta y uno**	**de** *[of]*	**enero.** *(January)* **febrero.** **marzo.** **abril.** **mayo.** **junio.** **julio.** **agosto.** **septiembre.** **octubre.** **noviembre.** **diciembre.**
Mi amigo se llama _ *(my male friend is called _)* **Mi amiga se llama _** *(my female friend is called _)*		**es de _** *(s/he is from _)*	***tiene** *(s/he is)*			**Su cumpleaños es el** *(His/Her birthday is the)*			

SPANISH

INTRODUCING FAMILY	NOUN	VERB	VERB		NOUN
				un *[1]*	**año.** *(year old)*
En mi familia tengo *(in my family I have…)*	**mi abuelo** *(my grandfather)* **mi padre** *(my father)* **mi tío** *(my uncle)* **mi hermano mayor** *(my older brother)* **mi hermano menor** *(my younger brother)* **mi primo** *(my male cousin)*	**que se llama _** *(who is called _)*	**tiene** *(s/he is)*	**diez** *[10]* **veinte** *[20]* **veintiuno** *[21]* **veintidós** *[22]* **treinta** *[30]* **cuarenta** *[40]* **cincuenta** *[50]* **sesenta** *[60]* **setenta** *[70]* **ochenta** *[80]* **noventa** *[90]* **cien** *[100]*	**años.** *(years old)*
Hay <u>cuatro</u> personas en mi familia: *(there are <u>four</u> people in my family)*	**mi abuela** *(my grandmother)* **mi madre** *(my mother)* **mi tía** *(my aunt)* **mi hermana mayor** *(my older sister)* **mi hermana menor** *(my younger sister)* **mi prima** *(my female cousin)*				

NOUN	VERB	CONNECTIVE	VERB	NUMBER	NOUN
Mis abuelos *(my grandparents)* **Mis padres** *(my parents)* **Mis hermanos** *(my siblings)*	**se llaman ___ y ____** *(are called _____ and ____)*	**y** *(and)*	**tienen** *(they are)*	**treinta y uno** *[31]* **cuarenta y dos** *[42]* **cincuenta y tres** *[53]* **sesenta y cuatro** *[64]* **setenta y cinco** *[75] …*	**años.** *(years old)*

OPINION	VERB	QUANTIFIER	ADJECTIVE
Pienso que *(I think that)* **Diría que** *(I would say that)*	**soy** *(I am)*	**tan** *(so)* **muy** *(very)* **bastante** *(quite)* **un poco** *(a bit)*	**antipático** *(mean)* **divertido** *(fun)* **generoso** *(generous)* **inteligente** *(clever)* **simpático** *(kind)*
Me gusta *(I like)* **No me gusta** *(I don't like)* **Me llevo bien con** *(I get on well with)* **Me llevo mal con** *(I get on badly with)*	**NOUN** **mi padre** *(my dad)* **mi hermano** *(my brother)* **mi tío** *(my uncle)* **mi madre** *(my mum)* **mi hermana** *(my sister)* **mi tía** *(my auntie)*	**VERB** **es** *(s/he is)* **CONN'VE** **porque** *(because)* **VERB** **es** *(s/he is)*	**antipática** *(mean)* **divertida** *(fun)* **generosa** *(generous)* **inteligente** *(clever)* **simpática** *(kind)*

OPINION	NOUN	CONN'VE	VERB	QUANTIFIER	ADJECTIVE
Me gustan *(I like)* **No me gustan** *(I don't like)0*	**mis abuelos** *(my grandparents)* **mis padres** *(my parents)* **mis hermanos** *(my siblings)*	**porque** *(because)*	**son** *(they are)*	**bastante** *(quite)* **un poco** *(a bit)*	**antipáticos** *(mean)* **divertidos** *(fun)* **generosos** *(generous)* **inteligentes** *(clever)* **simpáticos** *(kind)*

VERB	NOUN	ADJECTIVE	CONNECTIVE	ADJECTIVE	
Tengo *(I have)*	**el pelo** *(hair)*	**castaño** *(brown)* **moreno** *(dark brown)* **negro** *(black)* **pelirrojo** *(ginger)* **rubio** *(blonde)*	**y** *(and)*	**corto.** *(short)* **largo.** *(long)* **liso.** *(straight)* **rizado.** *(curly)* **ondulado.** *(wavy)*	
Tiene *(S/he has)*	**los ojos** *(eyes)*	**azules** *(blue)* **marrones** *(brown)* **verdes** *(green)*		**VERB** **[no] llevo** *(I [don't] wear)* **[no] lleva** *(s/he [doesn't] wear)*	**NOUN** **gafas.** *(glasses)* **bigote.** *(a moustache)* **barba.** *(a beard)*

OPINION	VERB	QUANTIFIER	ADJECTIVE	CONNECTIVE	VERB	ADJECTIVE
Pienso que *(I think that)*	**soy** *(I am)*	**tan** *(so)* **muy** *(very)* **bastante** *(quite)* **un poco** *(a bit)*	**alto** *(tall)* **bajo** *(short)* **delgado** *(slim)* **guapo** *(handsome)*	**y** *(and)* **pero** *(but)*	**era** *(I used to be)* **era** *(s/he used to be)*	**alto.** *(tall)* **bajo.** *(short)* **delgado.** *(slim)* **guapo.** *(handsome)*
Diría que *(I would say that)*	**mi ___ es** *(my __ is)** relative		**alta***(tall)* **baja** *(short)* **delgada** *(slim)* **guapa** *(pretty)*			**alta.** *(tall)* **baja.** *(short)* **delgada.** *(slim)* **guapa.** *(pretty)*

PHYSICAL EDUCATION - THE BENEFITS OF PE

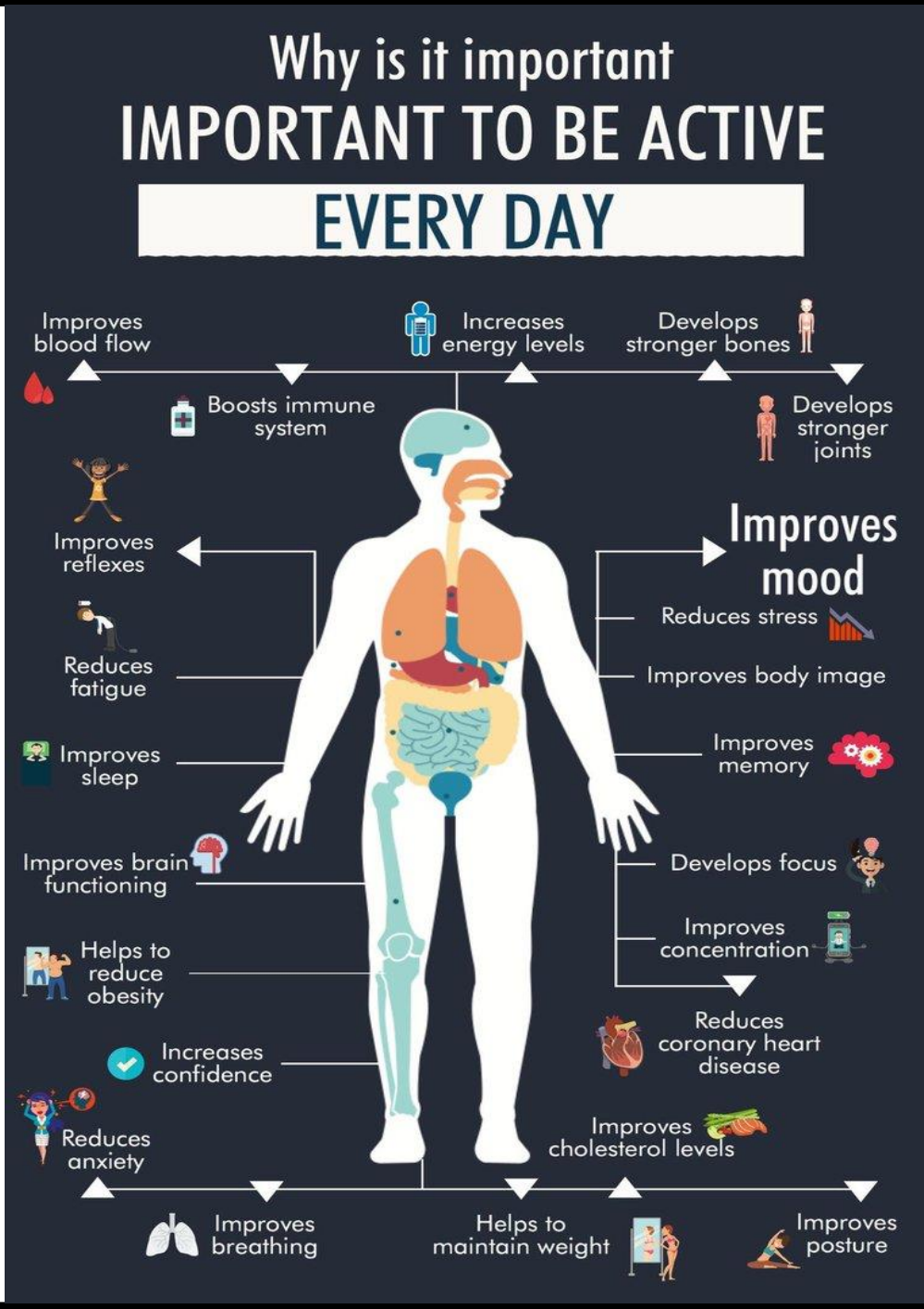
Knowing & Understanding the benefits of PE

In PE at Plympton Academy, you are assessed in three key areas: Skills, Knowledge and Character.

Skills	Knowledge	Character
- Physical skills/ techniques - E.g. - Run. throw, jump, catch, kick,	- Understanding how to perform the skills. - Decision making skills - Understanding the rules of the sports - Awareness/ understanding of tactics/ strategies	- Ability to co-operate and communicate with others. - Showing understanding, empathy, respect, sportsmanship and integrity when competing. - Demonstrating determination/ resilience

We also look at setting ourselves personal targets and goals in PE, here are some of the reasons why:

- Targets give us something to work towards and aim for.
- Targets allow us to reflect on our skills and evaluate our performance.
- Targets can help to motivate us to improve.
- Targets can be used to help us to measure our progress.

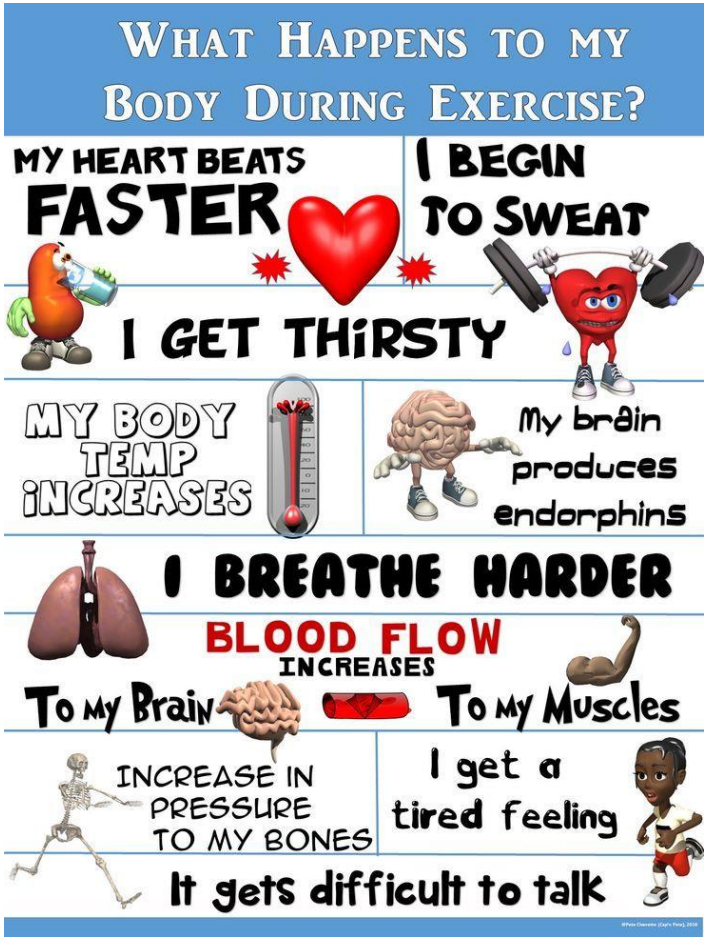


PHYSICAL EDUCATION - WARM UPS/ COOL DOWNS/ IMMEDIATE EFFECTS OF EXERCISE

A **warm up** should be completed before taking part in exercise/ sport and is important as it physically and mentally prepares a person for exercise. A **cool down** should be completed at the end of the session and helps to return the body to its normal resting state.

The 3 phases of a warm up

1) Pulse raiser	2) Dynamic stretching	3) Skill based activity
This is the first part of a warm up. It involves running/ jogging around an area and can be in the form of a game (e.g. stuck in the mud). A pulse raiser increases the heart rate and blood flow to the working muscles; increases the breathing rate and body temperature.	This is the second part of the warm up. This involves performing stretches whilst moving. It increases the range of movement at the joints; keeps the heart rate and body temperature elevated; and can help to reduce the risks of injuries.	This is the third part of the warm up. This involves using some sport specific equipment and performing similar movements which are required in a game. A skill based activity physically and mentally prepares the participants for the demands of the main activity.



Cool down

A cool down is important as it lowers the body temperature; heart rate; breathing rate and returns the body to its normal resting state. A cool down involves performing static stretches which can help to remove lactic acid; reduce muscle soreness the following day and reduce the risk of injury. Static stretches should be held for 8 - 12 seconds.

PLYMPTON ACADEMY

TERM ONE & TWO

HANDBOOK

YEAR 7