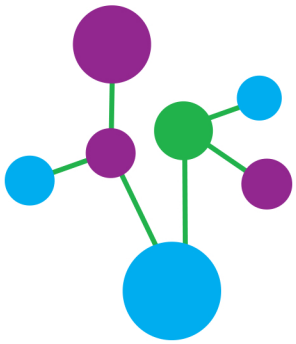
NAME: _____

TERM 1&2

YEAR 9



PLYMPTON ACADEMY

HANDBOOK

TERM 1&2

Year 9 Autumn Half Term 1 - How I Live Now

Keystone Vocabulary	Definition
Unreliable narrator	An untrustworthy storyteller, usually told from a first person point of view.
Foreshadowing	When something hints at a future event.
Pathetic Fallacy	When the weather and/or setting reflects the mood of the characters.
Connotations	When a word evokes other ideas, links, emotions or themes.
Semantic Field	When a group of words relate to the same theme.
Conflict	A disagreement or argument between individuals or groups.
Theme	A big idea that recurs throughout a piece of literature, a play or a film.
Narrative Perspective	The viewpoint from which a story is told.

Synopsis

How I Live Now tells the story of 15 year old Daisy, an anorexic teenager from New York who comes to live with her Aunt Penn and cousins in England out of spite to her father who has started a new family. However, Daisy and her cousins are unaware that the world has fallen apart around them and war has begun.

Key Themes

- War
- Growing Up
- Friendship
- Family
- Love
- Violence
- Conflict
- Isolation

Terminology	Definition
Tone	The mood of a piece of writing.
Structure	How a piece of text is put together.
Sentence types	Exclamatory, declarative, interrogative, imperative sentence types.
Juxtaposition	Two things placed close together that have a contrasting effect.
Language methods	Similes, metaphors, repetition, personification, onomatopoeia, triplets, hyperbole etc.
Polysyndeton	Where the same conjunctions are used in quick succession.
Asyndeton	Where commas are used in large volume and quick succession.
Superlatives	The highest form of something: biggest, bravest, most fiercely.

Characters

Daisy - protagonist

Eddie - Daisy's love interest

Piper - Daisy's young cousin

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

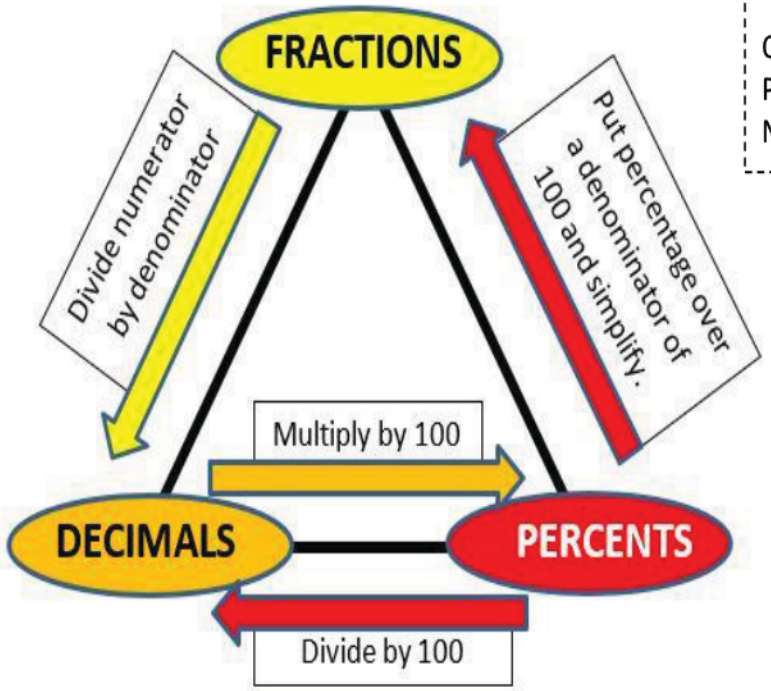
! Exclamation	. Full Stop
, Comma	? Question Mark
; Semi Colon	: Colon
/ Slash	“” Quotation Marks
() Round Bracket	– Dash

Bonus: ellipsis

…

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 = ½ (b x h)
Square	P = 4b	A = b²
Rectangle	P = 2 (b + h)	A = (b x h)
Parallelogram	P = 2 (b + h)	A = (b x h) b = the length
Rhombus	P = 2 (b + w)	A = (b x h) b = the length
Trapezium	P = a + b + c + d	A = ½ (a + b) h

Stage 7

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

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

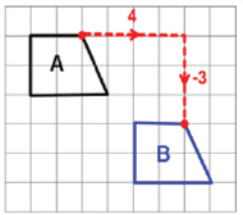
When a shape is **translated**, it is **moved to a different position**, without being turned or flipped.

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

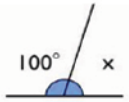
The **top** number is the **horizontal** movement:
← *left if negative* or *right if positive* →

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

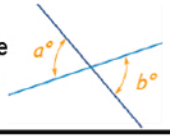
Translate shape A by the vector $\begin{bmatrix} 4 \\ -3 \end{bmatrix}$



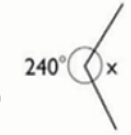
Angles on a straight line add up to 180⁰



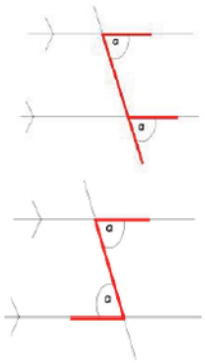
Vertically opposite angles are equal



Angles around a point add up to 360⁰



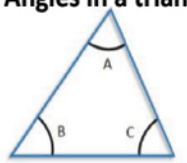
Stage 8



Corresponding Angles
F shape
Angles are equal

Alternate Angles
Z shape
Angles are equal

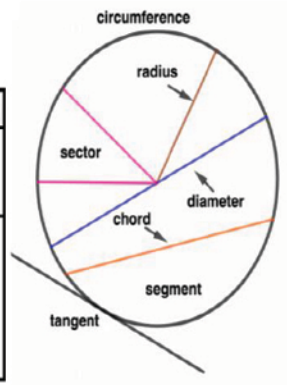
Angles in a triangle



A + B + C = 180°

Regular Polygons

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



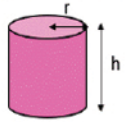
Circumference

$C = \pi D$

Area

$A = \pi r^2$

Volume of a Cylinder

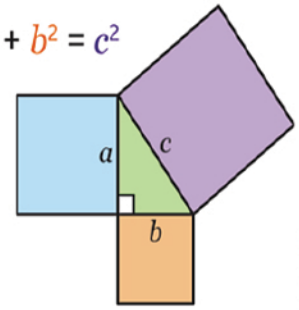


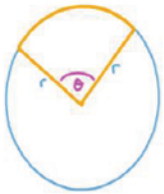
Volume = $\pi r^2 h$

Stage 9

Pythagoras Theorem

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





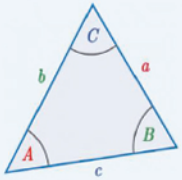
Arc length = $\frac{\theta}{360} \times \pi d$

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

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

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

Higher



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

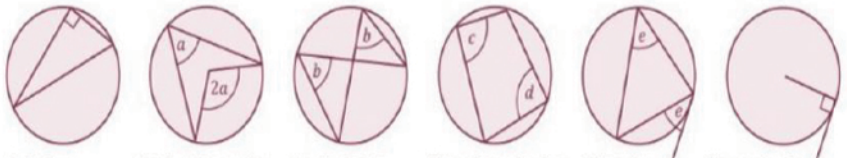
Sine Rule: $\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$

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

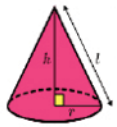
Opposite angles in a cyclic quadrilateral total 180°

Alternate segment theorem

Tangent and radius are perpendicular

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

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



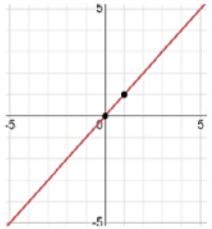
Curved surface area of cone = πrl where l is the slant height

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

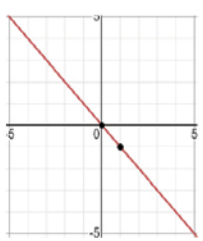
MATHS

Maths Knowledge Organiser - Algebra

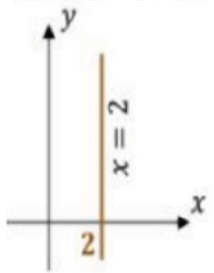
Stage 7

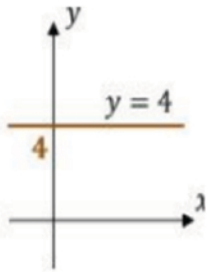


y = x



y = -x





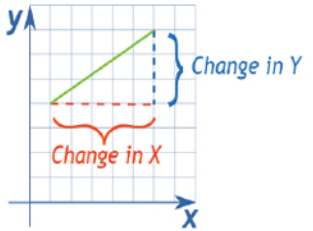
Stage 8

The general equation of any straight line is:

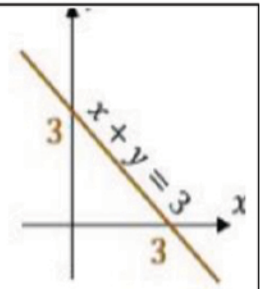
$$y = mx + c$$

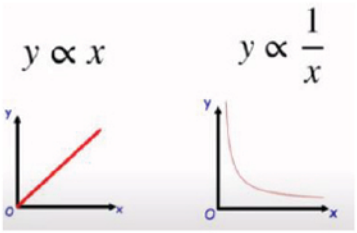
c is the **y-intercept** (where the line crosses the y-axis)

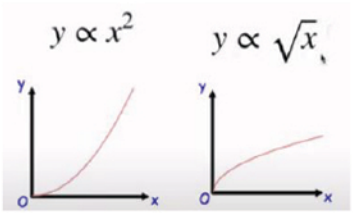
m is the **gradient** (steepness) of the line



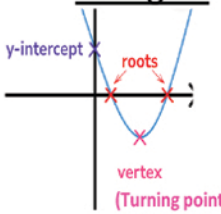
$$\text{Gradient} = \frac{\text{Change in Y}}{\text{Change in X}}$$



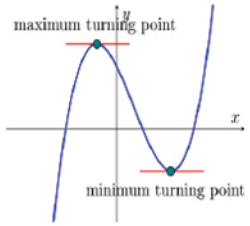


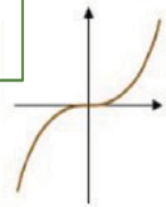


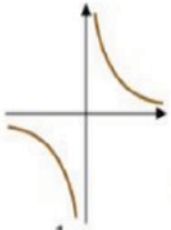
Stage 9



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

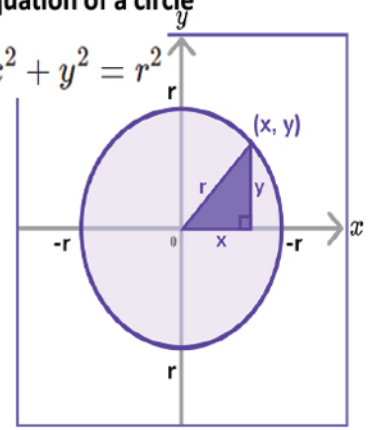
$$ax^2 + bx + c = 0$$

Quadratic Formula

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

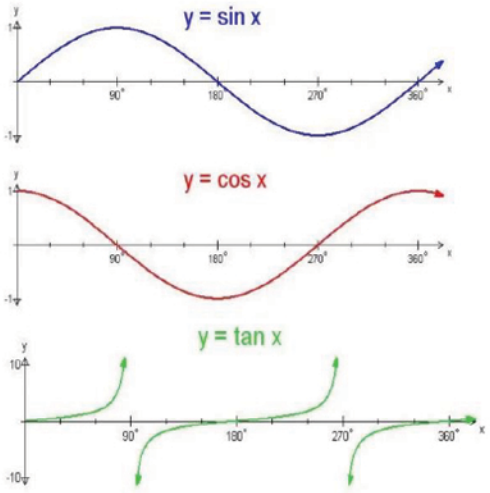
Equation of a circle

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



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

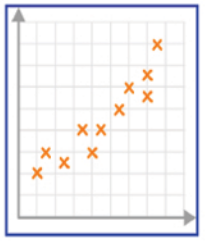
Find the most frequently occurring item in the data set

Range – Not an average – measures consistency

Biggest value - Smallest value

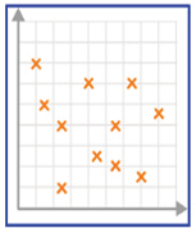
Stage 8

Positive correlation



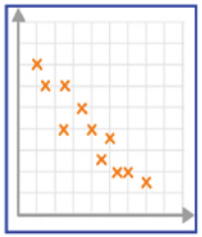
- As one variable increases so does the other
- Upward trend in the data

No correlation

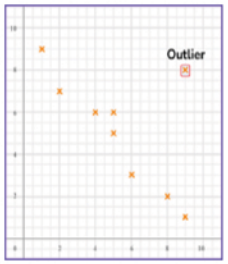


- No trend between the variable
- Plots are random and no linear pattern.

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.

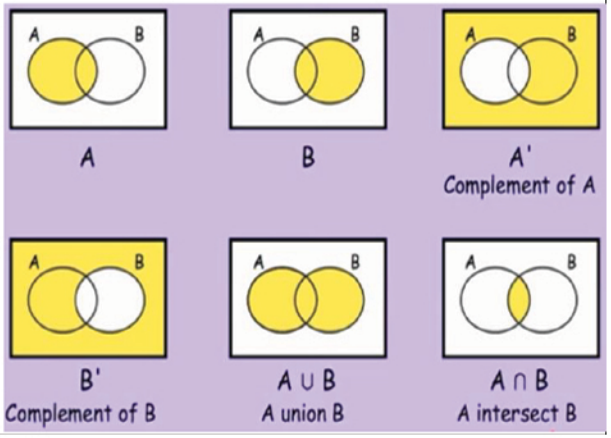
Dependent events are events which **are** affected by the occurrence of other events.

Higher

Interquartile Range
= Upper Quartile – Lower Quartile

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

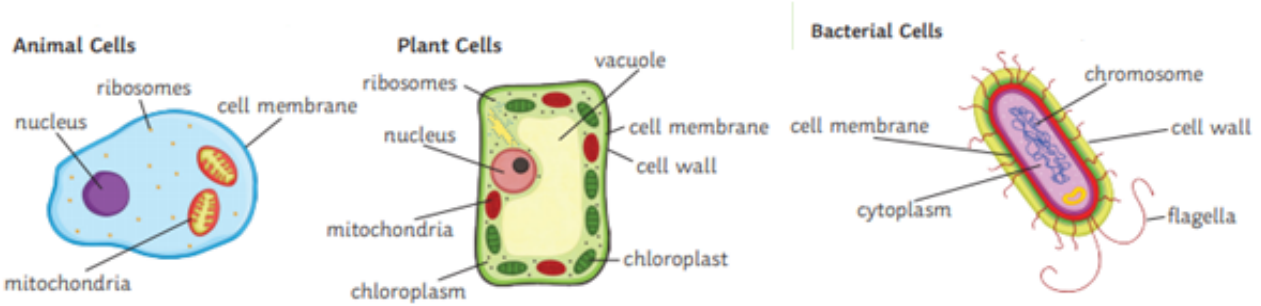
Symbol	Description
$\{\}$	Curly Brackets, contain all items in a set
,	Comma - separates all items in a set
'	Complement - the items not in a set
ξ	The Universal Set - contains all items in every set and subset required
ϕ	The Empty Set - contains no items



1. Eukaryotes and prokaryotes

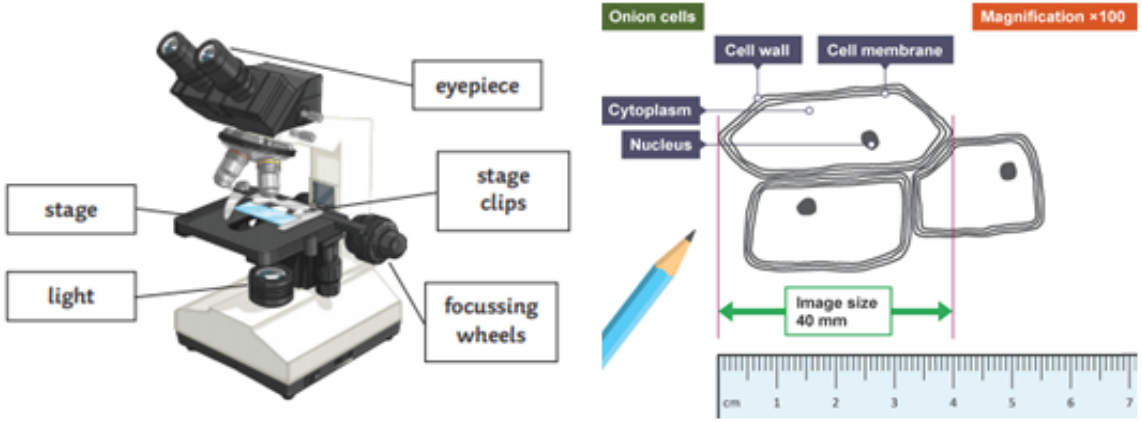
Plant and animal cells (eukaryotic cells) have a cell membrane, cytoplasm and genetic material enclosed in a nucleus.

Bacterial cells (prokaryotic cells) are much smaller in comparison. They have cytoplasm and a cell membrane surrounded by a cell wall. The genetic material is not enclosed in a nucleus. It is a single DNA loop and there may be one or more small rings of DNA called plasmids.



2. Required practical

Microscopy Required Practical: use a light microscope to observe, draw and label a selection of plant and animal cells.



You can calculate the actual size of the onion cells by using the equation:

Convert to µm (multiply by 1000) = 0.4mm x 1000 = 400µ

$$\text{Actual size of the object} = \frac{\text{size of image}}{\text{Magnification}} = \frac{400\mu}{100} = 4\mu$$

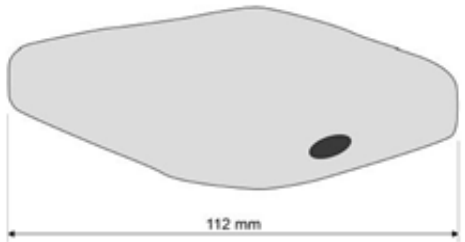
Enquiry tasks

1. Complete similarities and differences table for animal and plant cells

	Animal	Plant	Bacterial cell
Nucleus			
Cytoplasm			
Chloroplast			
Cell membrane			
Cell wall			
Flagella			
Permanent vacuole			

2. The figure shows the student's drawing of one of the cells

The real length of the cell was 280 micrometres (µm). Calculate the magnification of the drawing.



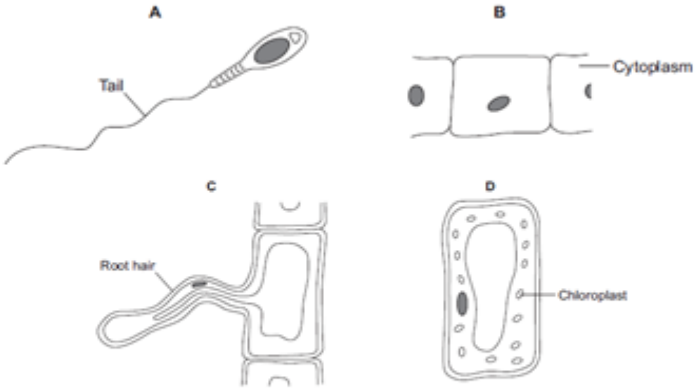
CELL BIOLOGY

3. Cell specialisation

When a cell changes to become a specialised cell, it is call differentiation.

Specialised cell	Function	Adaptation
Sperm	To get the male DNA to the female DNA	Streamlined head, long tail, lots of mitochondria in to provide energy.
Nerve	To send electrical impulses around the body	Long t cover more distance. Has branched connections to connect in a network
Muscle	To contract quickly	Long and contain lots of mitochondria for energy
Root hair	To absorb water from the soil	A large surface area to absorb more water
Phloem	Transports substances around the plant	Pores to allow cell sap to flow. Cells are long ad joined end-to-end.
Xylem	Transports water through the plant	Hallow in the centre. Tubes are joined end-to-end.

3. The diagrams show four types of cell, **A**, **B**, **C** and **D**.
Two of the cells are plant cells and two are animal cells.(a)



(i) Which **two** of the cells are plant cells? **(1)**

(ii) Give **one** reason for your answer. **(1)**

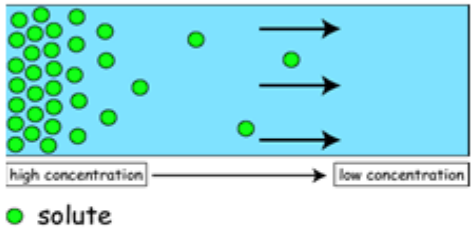
(b) (i) Which cell, **A**, **B**, **C** or **D**, is adapted for swimming? **(1)**

(ii) Which cell, **A**, **B**, **C** or **D**, can produce glucose by photosynthesis? **(1)**

4. Transport in cells

Diffusion

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



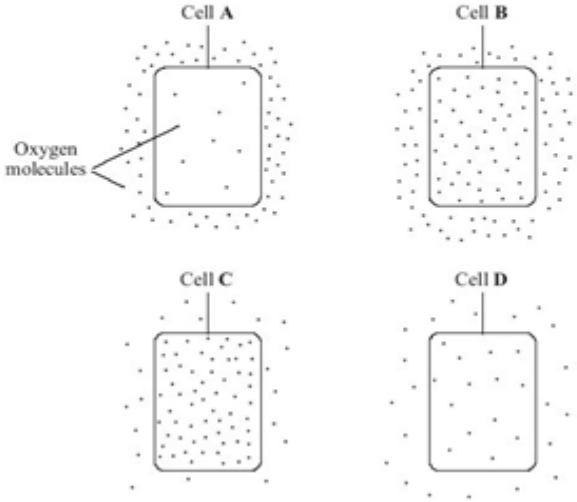
Factors which affect the rate of diffusion are:

- the difference in concentrations (concentration gradient)
- the temperature
- the surface area of the membrane.

4. The diagrams show cells containing and surrounded by oxygen molecules.

Into which cell will oxygen move the fastest.

Explain your answer.



CELL BIOLOGY

Required Practical Activity—Microscopy

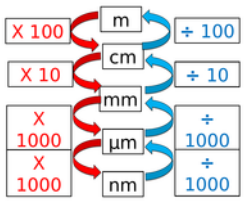
What the Examiner Might ask:

- Make sure you can use and rearrange the equation
- Make sure you know the units: 1mm = 1000um 1μm = 1000nm
- You may need a ruler to measure the size of images and work out their real size.
- Explain why we can see the nucleus and cell wall but not the mitochondria *(they're far too small and not stained).*
- How can we see smaller parts of cells? (*An electron microscope has much more resolution and magnification).*
- Explain why we wouldn't start on the largest objective lens? *(because you get a wider field of view on smaller lens ad less chance of damaging the slide).*

Converting Units:
1m = 100cm = 1000mm = 1000000μm = 1000000000nm

Standard Form:

$a \times 10^n$



Standard Form	Ordinary Form
$1x10^4$	10000
$1x10^3$	1000
$1x10^2$	100
$1x10^1$	10
$1x10^0$	1
$1x10^{-1}$	0.1
$1x10^{-2}$	0.01
$1x10^{-3}$	0.01

Method for Setting up and Using a Light Microscope:

.Place your microscope on a flat surface and switch on the light source, which is typically located on the bottom of the microscope.

.Rotate thelensesthat the low power, e.g. x10, is in line with the stage.

.Turn the coarse focus so that the stage is as close to the objective lens as possible. You should not look through the microscope to do this.

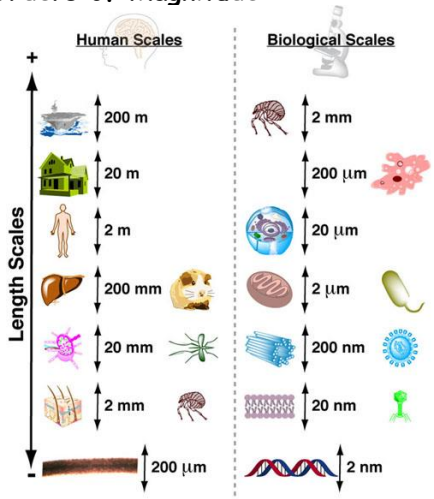
.Place the microscope slide – either one you have prepared, or a permanent slide – on the stage. Line it up so that the specimen – if you can see it – is in the centre of the stage, where the light passes through.

.Focus the slide away from you by turning the coarse focus adjustment.

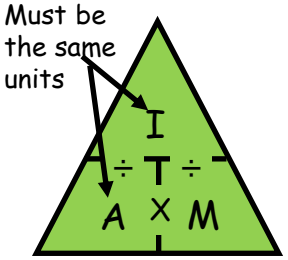
.Rotate the objectives so that the high power objective, e.g. x40, is in line with the stage. Bring the slide back into focus using the fine focus adjustment. If you do not succeed, go back to low power and re-focus, then try again.

Risks
- Care must be taken when looking down the microscope if the illumination is too bright.
- Care when using microscope stains. (can stain surfaces, skin, clothing etc, also could irritate skin).
- Care when handling coverslips and microscope slides. (made of glass so fragile, easily break, risk of cuts).

Orders of Magnitude:



The Equations:
Total magnification = power of eyepiece lens x power of objective lens.
E.g. a student uses an eyepiece lens with a power of 10x, and selects an objective lens with a power of 60x to view a sample of human cheek cells. What is the total magnification?
10 x 60 = 600



E.g. a plant cell was viewed under a light microscope, the actual length of the cell was 80μm, using the image, work out the total magnification.
Actual size = 80μm
Image size = 40mm (convert so both are same units 40,000μm)
40,000÷80= 500
Total magnification = 500x

AQA Science: Chemical Analysis

Purity

In chemistry a pure substance contains only an **element** or a **compound**. It's not mixed with anything else. But in everyday language, a pure substance can mean a substance that has had nothing added to it, so it is in its natural state, e.g. pure milk.

The melting point (MP) or boiling point (BP) tells you how pure a substance is

- Pure elements and compounds **melt** and **boil** at **specific** temperatures
- You can test the purity of a sample by measuring its BP and MP, and then compare it to the BP and MP of pure substances (find from a data book)
- The closer your measured value is to the actual BP or MP, the **purer** your sample is. i.e. the purer the compound the narrower the range.

Impurities in your sample;

- **Lower** the MP and **increase** the melting range of your substance
- **Increase** the boiling point and may result in your sample boiling at a **range** of temperatures

Formulations

Is a mixture that has been designed to produce a useful product with a precise purpose, that are made by following a 'formula' (a recipe).

E.g. of formulations: paint, medicinal drugs, fragrance additives, fuels, fertilisers, pesticides, alloys, cosmetics & food products.

Paints are formulations, they contain:

- A **pigment**, to provide colour
- A **binder (resin)**, to help the paint attach itself to an object and to form a protective film when dry
- A **solvent**, to help the pigment and binder spread well (dissolve) during painting by thinning them out (alter the viscosity)
- An **additive**, to further change the physical and chemical properties of the paint.

Washing up liquids are formulations, they contain:

- A **surfactant**, the actual detergent that removes the grease.

Continued...

- **Water**, to thin out the mixture so it can squirt more easily from the bottle.
- **Colouring and fragrance additives**, to improve the appeal of the product to customers.
- **Rinse agent**, to help water drain off crockery

Formulations in the industry

Are very important. E.g. pharmaceutical industry

Medicines are formulations:

Alter formulations of a pill, to ensure it delivers the drug to the correct part of the body; At the right concentration; To make sure it can be consumed; It has a long enough shelf life etc.

E.g. products have info about composition on the packaging;

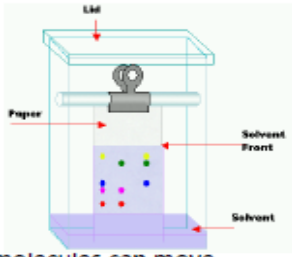
Ratio/percentage of each component

Choose the right composition for your particular use

Chromatography

Can be used to separate mixtures and give information to help identify substances.

Chromatography always involves a mobile phase and a stationary phase.



- The mobile phase, where the molecules **can** move. Always liquid or gas.
- The stationary phase, where the molecules **cannot** move. Solid or really thick liquid.
- During chromatography, the substance constantly move between mobile (M) and a stationary (S) phase = Equilibrium formed
- The mobile phase, moves through the stationary phase, and anything dissolved in the mobile phase moves with it.
- How quick a chemical moves depends on 'distribution' between phases, i.e. how much more time it spends in M or S phase.
- More time in M phase = move further
- Components in a mixture normally separate through S phase

- **Pure substance = one spot only**, one substance, in any solvent
- If the unknown sample is a mixture of compounds, there is usually more than one spot formed on the chromatogram.
- A substance with a stronger force of attraction between itself and the mobile phase is carried further
- than a substance with a stronger force of attraction between itself and the stationary phase.
- In paper chromatography the **mobile** phase is the **solvent** (e.g. water or ethanol)
- The **stationary** phase is the **paper**.

How long molecules spend in each phase depend:

1) how soluble they are in the solvent
2) how attached they are to paper

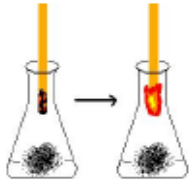
- Molecules with **higher solubility** and **less attracted** to paper = spend more time in M phase

$$Rf = \frac{\text{distance moved by the substance}}{\text{distance moved by the solvent}}$$

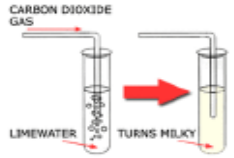
Test for gases

Hydrogen: Use a burning splint held at the open end of a test tube of the gas. Hydrogen burns rapidly with a pop sound.

Oxygen: Use a glowing splint inserted into a test tube of the gas. The splint relights in oxygen.



Carbon dioxide: Use an aqueous solution of calcium hydroxide (lime water). When carbon dioxide is shaken with or bubbled through limewater, the limewater turns milky (cloudy).



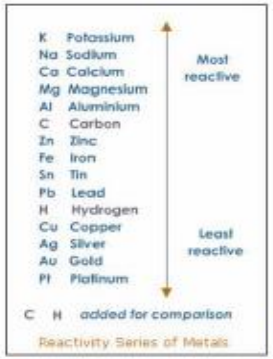
Chlorine: Use litmus paper. When damp litmus paper is put into chlorine gas the litmus paper is bleached and turns white.

Extraction of Metals + Metal Oxides

Metals react with oxygen to form metal oxides

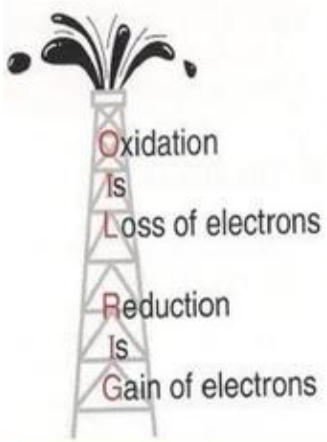
Chromium + Oxygen → Chromium oxide
Iron + Oxygen → Iron oxide
Copper + Oxygen → Copper oxide

Many metals are found in the ground as metal compounds. The metal needs to be extracted. For metals that are below carbon in the reactivity series this can be done by heating the metal compound with carbon The carbon removes the oxygen from the metal oxide.



1. Copper oxide + Carbon → Carbon dioxide + Copper
2. Lead oxide + Carbon → Carbon dioxide + Lead
3. Iron oxide + Carbon → Carbon dioxide + Iron

Oxidation and Reduction



Oxidation is the gain of oxygen and the loss of electrons, reduction is the loss of oxygen and gain of electrons.

A chemical reaction where both oxidation and reduction occur is called a redox reaction.

The equation below shows a word equation, a balanced symbol equation, ionic and half equations which show the movement of electrons.

Zinc + copper sulphate → zinc sulphate + copper
$Zn + CuSO_4 \rightarrow ZnSO_4 + Cu$
Zn - oxidised Cu^{2+} - reduced
$Zn + Cu^{2+} \rightarrow Zn^{2+} + Cu$
$Zn - 2e^- \rightarrow Zn^{2+}$ or $Zn \rightarrow Zn^{2+} + 2e^-$
$Cu^{2+} + 2e^- \rightarrow Cu$

Metals + Acids and Metal Carbonates + Acid

Metal + Acid → Metal salt + Hydrogen

Calcium + Hydrochloric acid → $Ca + 2HCl$	Calcium chloride + Hydrogen $CaCl_2 + H_2$
Zinc + Hydrochloric acid → $Zn + 2HCl$	Zinc chloride + Hydrogen $ZnCl_2 + H_2$

Metal Carbonate + Acid → Metal salt + Carbon Dioxide + Water

Calcium Carbonate + Hydrochloric acid → $CaCO_3 + 2HCl$	Calcium chloride + Carbon Dioxide + Water $CaCl_2 + CO_2 + H_2O$
Potassium Carbonate + Nitric acid → $K_2CO_3 + 2HNO_3$	Potassium nitrate + Carbon Dioxide + Water $2KNO_3 + CO_2 + H_2O$

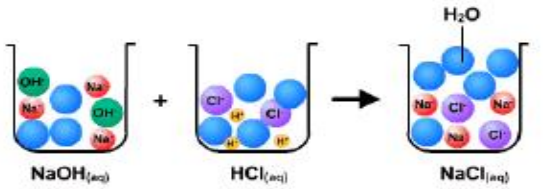
Acid + Alkali → Metal salt + Water

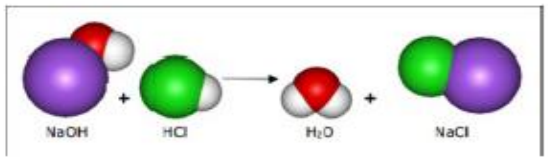
Hydrochloric acid + Sodium hydroxide → $2HCl + NaOH$	Sodium chloride + Water $NaCl_2 + H_2O$
Sulphuric acid + Potassium hydroxide → $H_2SO_4 + 2KOH$	Potassium Sulphate + Water $K_2SO_4 + 2H_2O$

Neutralisation

The acid used will determine the salt produced in a neutralisation reaction:

- hydrochloric acid produces chlorides
- nitric acid produces nitrates
- sulfuric acid produces sulfates





Soluble salts (Required practical)

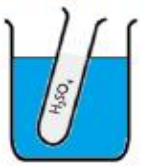
Soluble salts can be made from acids by reacting them with solid insoluble substances, such as metals, metal oxides, hydroxides or carbonates.

The solid is added to the acid until no more reacts and the excess solid is filtered off to produce a solution of the salt.

Salt solutions can be crystallised to produce solid salts.

Soluble salts (Required practical): Method

1



Sulfuric acid is warmed in a water bath

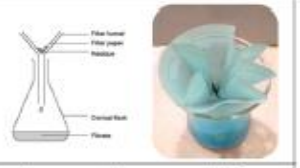
2

Weigh 2g of black copper oxide powder

3

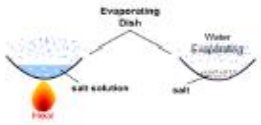
Add copper oxide to the sulphuric acid until a blue solution is formed and excess copper oxide sinks to the bottom of the tube.

4



Filter the unreacted copper oxide from the solution and collect the filtrate

5

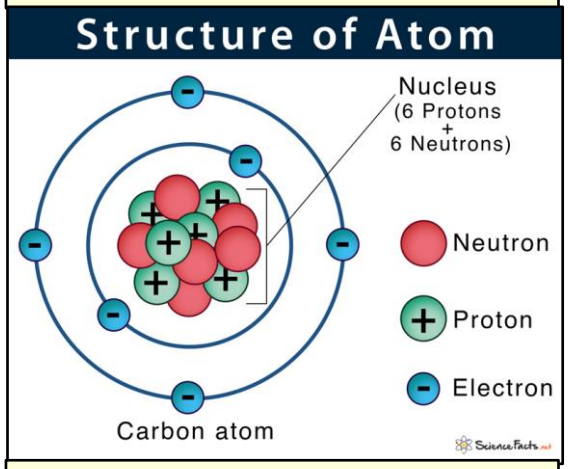


Transfer the solution to an evaporating

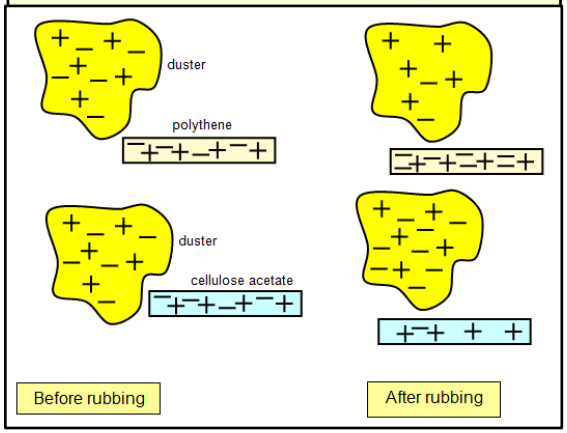
6

Leave to cool, copper sulfate crystals

Electrostatics
Charge is carried by **electrons.**
Electrons are part of an atom.

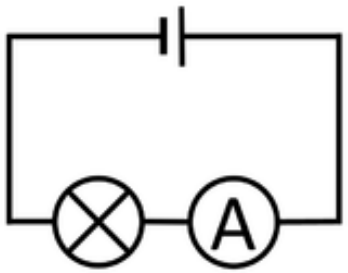


Like charges **repel**
Unlike charges **attract**



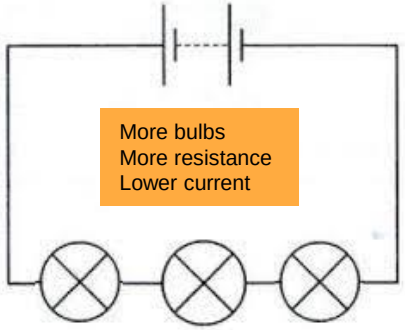
Resistance in wires
The **longer** the wire, the **bigger** the resistance
The **thinner** the wire, the **bigger** the resistance

Electric current (I) is the flow of charge.
Carried by electrons.
Measured in Amps. (A)



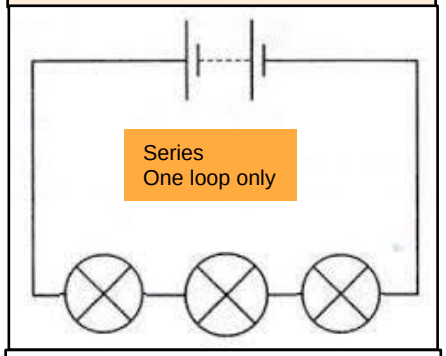
An **ammeter** measures current.
Ammeters are always used **in series**

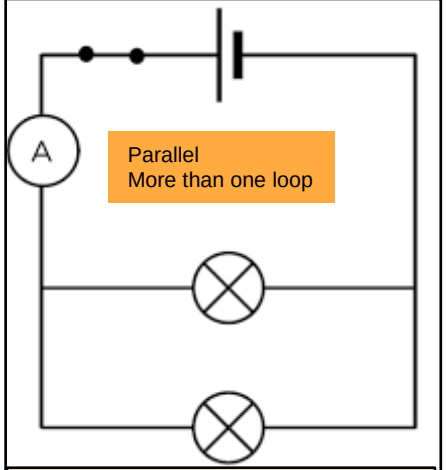
Resistance (R) is opposition to current.
Adding extra components to a circuit **increases** R



The unit of resistance is **Ohms (Ω)**

Series and Parallel
The 2 types of circuit



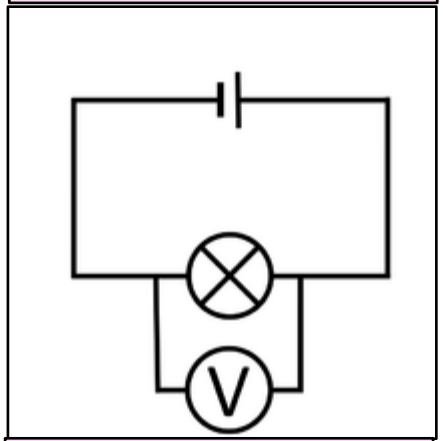


Current in series and parallel
In a series circuit the current is **the same** everywhere.
In a a parallel circuit the current is **shared** between the branches.

A **fuse** melts when too much current passes. It breaks the circuit for safety.

Potential difference (V)
Also known as voltage
Measured in volts (V)

This **pushes** the current around the circuit. It provides **energy** to the electrons.



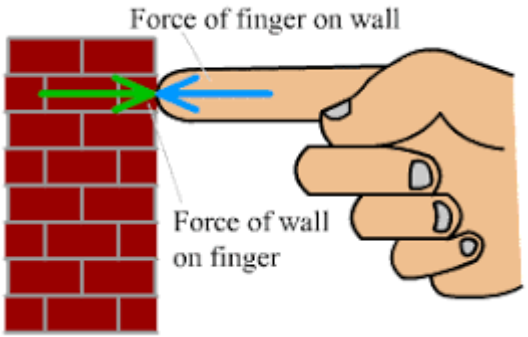
A **voltmeter** measures potential difference.
Voltmeters are placed alongside or **in parallel** with the component they are measuring.

The formula linking potential difference, current and resistance is **V = IR**

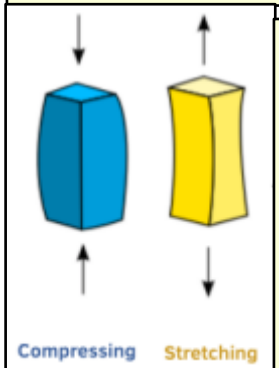
Also **I = V÷R** and **R = V÷I**

Y9 Physics - Electricity

Forces always act in **pairs**



Forces can cause **squashing** (compression) and **stretching** (extension).



When the force is removed:

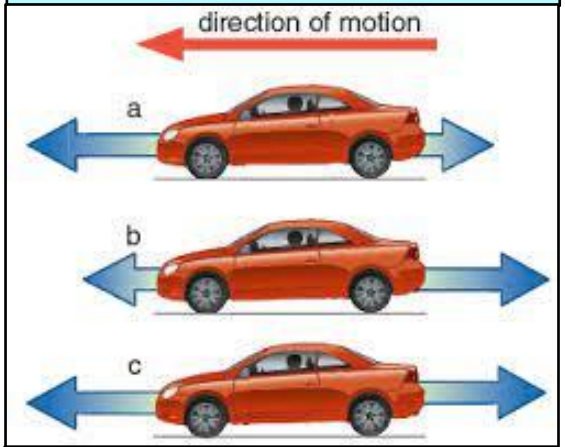
- returning to the original shape is **elastic.**
- staying in the new shape is **plastic.**

Contact forces only happen when 2 objects are touching.
eg friction, push, pull.

Non-contact forces can happen even when 2 objects don't touch
eg gravity, magnetism, static electricity

W is weight in Newtons (N)
m is mass in kilograms (kg)
g is gravity in N/kg (g=9.8 on Earth)

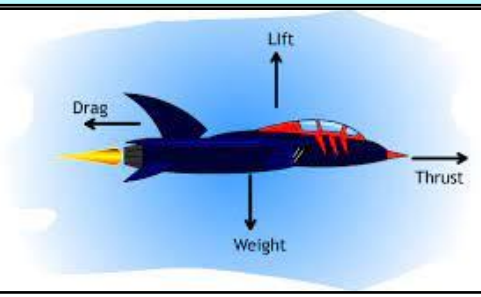
Balanced and **unbalanced** forces



(a) unbalanced. Speeds up
(b) unbalanced. Slows down
(c) balanced. (in equilibrium)
Remains at **steady speed.**

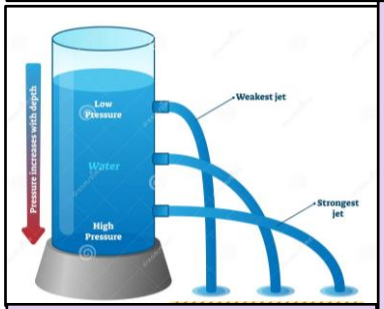
If the car was stationary in (c) it would **remain stationary.**

Forces against motion
Are called **drag** forces.
Created by friction in the moving parts and by **air resistance.**



Weight is the downwards force of gravity, measured in Newtons (N)
Formula: **W = mg**

Pressure under water



Formula **p = ρgh**

ρ=p/gh g=p/ρh h=p/ρg

Pressure increases with depth.
Pressure acts in **all directions.**

p pressure in N/m^2
ρ density of liquid in kg/m^3
g gravity in N/kg
h depth in metres (m)

Don't confuse **ρ** with **p** !
(**ρ** is the Greek letter *rho*)

Pressure at a surface

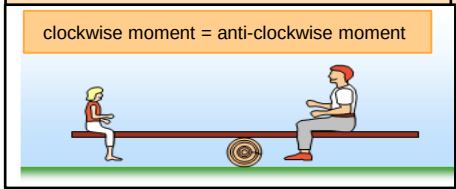
p pressure in N/m^2
F force in Newtons (N)
A area in m^2

Pressure (or *pressing force)* depends on force and area:

- the **bigger** the force, the **bigger** the pressure
- the **bigger** the area, the **smaller** the pressure

Formula: **p = F/A**

Turning moments (M)

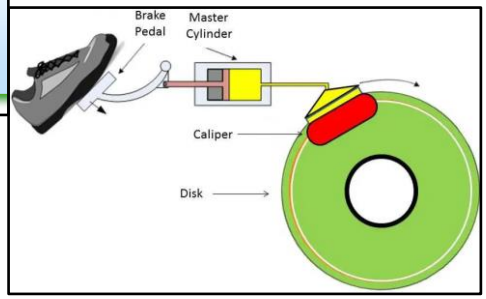


M = Fd

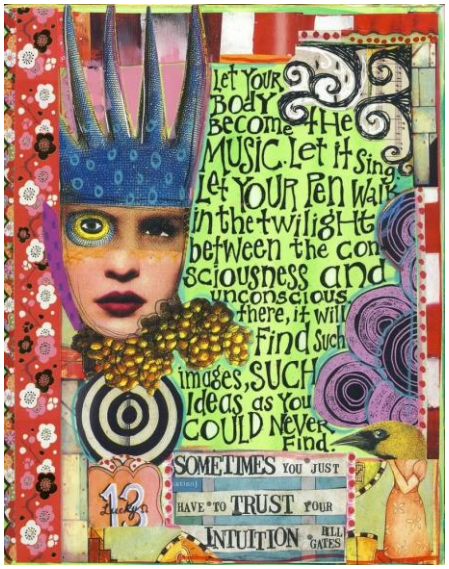
F force **d** pivot distance

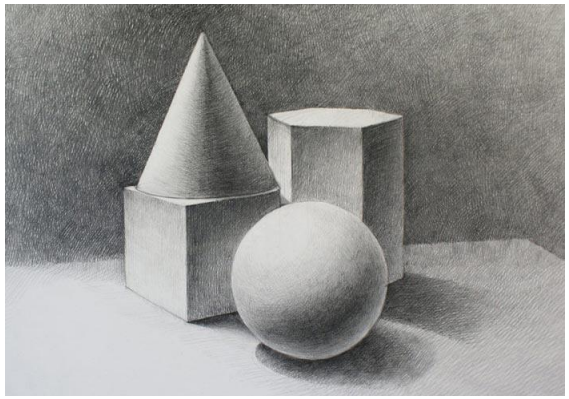
Hydraulics

small piston area → big piston area
small input force → big output force



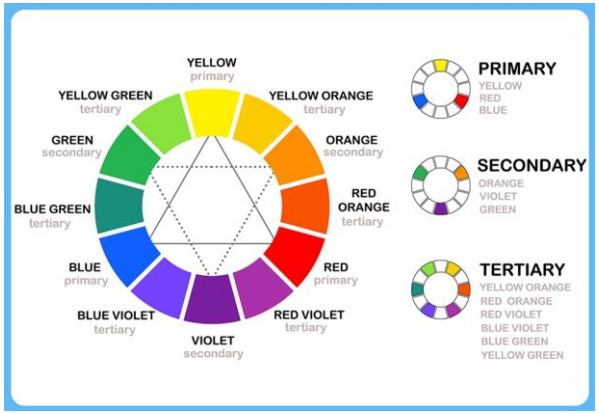
Y9 Physics - Forces





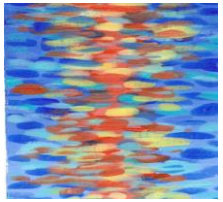
JOURNAL ART

- An art journal, or artist's journal, is a book kept by an artist as a visual, and sometimes verbal, record of their thoughts and ideas.
- Art journals generally combine visual journaling and writing, to create finished pages. Every imaginable style, media and technique is used by art journalists.
- When it comes to the types of work represented in artist journals, there really aren't any rules, and each book is as unique as the artist who created it.
- Examples of Journal artists are Teesha Moore, Tracy Moore, Tracy Bunkers and Karen Michel.

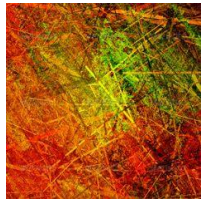


Kstg 3 Assessment areas
Generating Ideas
Making
Evaluating
Knowledge

Artist References: Sarah Graham, Teesha Moore, Sir Michael Craig Martin , Peter Blake



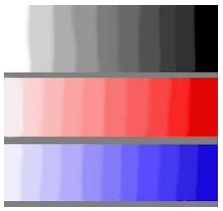
Dashes



Edges

Layers

Blocks



Grading

Dry brush

Hatching

Sgrafitto

Key words
Self reflection
Observation
Journal
Acrylic
Layers
Collage
Text
Composition
Typography
Design
Border
Scale
Pattern

Duration:	12 weeks
Overview: 	During this project you will explore the theme of ‘My Generation’ by reflecting on your own **personal experiences** and looking at toys and games from the **past and present** day. You will begin by **drawing from observation** and you will also draw from your **imagination** and from **memory**. You will look at the artwork of **Sarah Graham** and explore her paintings of sweets, developing a painting of your own, in her style. You will study the **journal art** of **Teesha Moore**, learning about how she builds her **compositions** using layers of **collage**, combined with pencil and pen work. You will draw **characters** and you will experiment with **typography**, then create a personal response in the style of the artist. You will review, refine and evaluate your work throughout.
Key skills:	Drawing, Painting, Collage, Layering, Analysing, Evaluating
Careers:	Painter, Designer, Fine artist, Journal artist

BY THE END OF THIS PROJECT....

Generating Ideas	I can generate ideas based on my own experiences
	I can select appropriate media to suit my intentions
	I can plan a composition that includes several different elements
Making	I can draw objects from observation in a range of media
	I can create artwork inspired by my own personal experiences
	I can create a piece of journal art
Evaluating	I can review and refine my work as it progresses
	I can reflect on the work of other artists and take inspiration from them
	I can evaluate my work to aid my improvement and progression
Knowledge	I understand that a career in the creative arts is a viable option for me
	I know how to apply watercolour paint to a hand drawn image
	I understand how to use typography in my artwork

USEFUL WEBSITES...

https://sarahgraham.info/
http://www.teeshamoore.com/
https://www.bbc.co.uk/bitesize/topics/z9kmhyc

TERM 1

What is Scratch?

Scratch is a visual programming language that allows you to create programs by dragging blocks of scripts.

Block menu

The block menu helps users pick which scripts they need to control various aspects of a program.

Variables

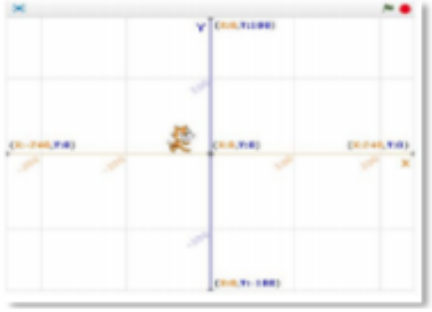
A variable is used to store data for use in your program.
Variables can be used to store lots of different types of data such as names, numbers and scores.

The data stored in a variable can be changed or "varied" depending on certain conditions within a program.

Keywords		
Program	Sprite	Variable
Costume	Stage	Loop
Operator	Iteration	Selection

Stage

The stage is the background of the project.
Scratch uses co-ordinates to position different elements around the screen.



Different backgrounds can be imported or you can create your own.

Operators

Operators are used for changing or comparing data.
They can add, subtract, multiply and divide data

They can also check if values are less than, greater than, or equal to other values.

IF Statements

IF statements can be used to select different scripts of a program depending on a condition . They are also known as selection.

Sprites

A sprite is a character or object in your game or animation. In order to give the impression that a character is moving you can change the sprites' costume.

Year 9 repertoire and choreography

Choreographic device tools used for the creation of dance for stage. Such as canon, motif, contrast, accumulation, repetition, reversal, retrograde, inversion, fragmentation, and embellishment.

Accumulation A choreographic device where new movements are added to existing movements in a successive manner

Canon A choreographic device in which individuals and groups perform the same movement phrase beginning at different times.

Contrast A choreographic device where dance elements are altered to create oppositions, thus making contrasts such as high/low, big/little

Embellishment A choreographic device where detail is added to the original movement sequence.

Fragmentation A choreographic device where only a part of the movement sequence/motif is manipulated. A movement is broken down into smaller units.

Inversion A choreographic device used in creating choreography that produces variations on a movement phrase. Inverting the movement phrase would mean executing it as if 'looking in a mirror'. A forward step becomes a backward step

Levels The altitude of a movement in relation to its distance from the floor. The height of the dance floor. • Low: close to the floor with the intention downwards. • Medium: the level of everyday walking. • High: any movement done with elevation, not necessarily a jump. It implies a lifting of the chest and an upward focus.

Retrograde Another of the choreographic devices used in creating dance compositions that produce variations on a movement phrase. The movement phrase is performed backwards, as if rewinding a video.

Terminology

Actions What a dancer does eg travelling, turning, elevation, gesture, stillness, use of body parts, floor-work and the transference of weight.

Choreographic approach The way in which a choreographer makes the dance.

Choreographic devices Methods used to develop and vary material.

Choreographic intention The aim of the dance; what the choreographer aims to communicate.

Choreographic processes Activities involved in creating dance such as improvisation, selection and development.

Choreography The art of creating dance.

Constituent features Characteristics of choreography such as style, stimulus, subject matter, number/gender of dancers, action content, choreographic principles, form and structure, physical and aural settings.

Physical Skills

Alignment Correct placement of body parts in relation to each other.
Balance A steady or held position achieved by an even distribution of weight.
Control The ability to start and stop movement, change direction and hold a shape efficiently.
Coordination The efficient combination of body parts.
Extension Lengthening one or more muscles or limbs.
Flexibility The range of movement in the joints (involving muscles, tendons and ligaments).
Posture The way the body is held.
Stamina Ability to maintain physical and mental energy over periods of time.
Strength Muscular power.

Performance Skills

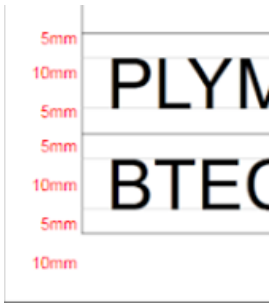
Facial Expression Use of the face to show mood, feeling or character.
Musicality The ability to make the unique qualities of the accompaniment evident in performance.
Projection The energy the dancer uses to connect with and draw in the audience.
Energy the force applied to dance to accentuate the weight, attack, strength, and flow of a dancer's movement

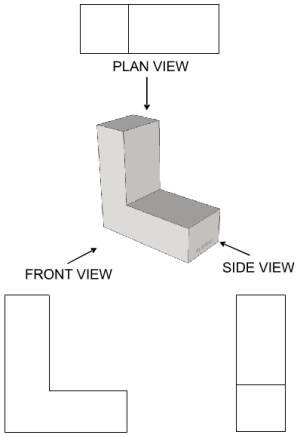
Layout out of an Engineering drawing

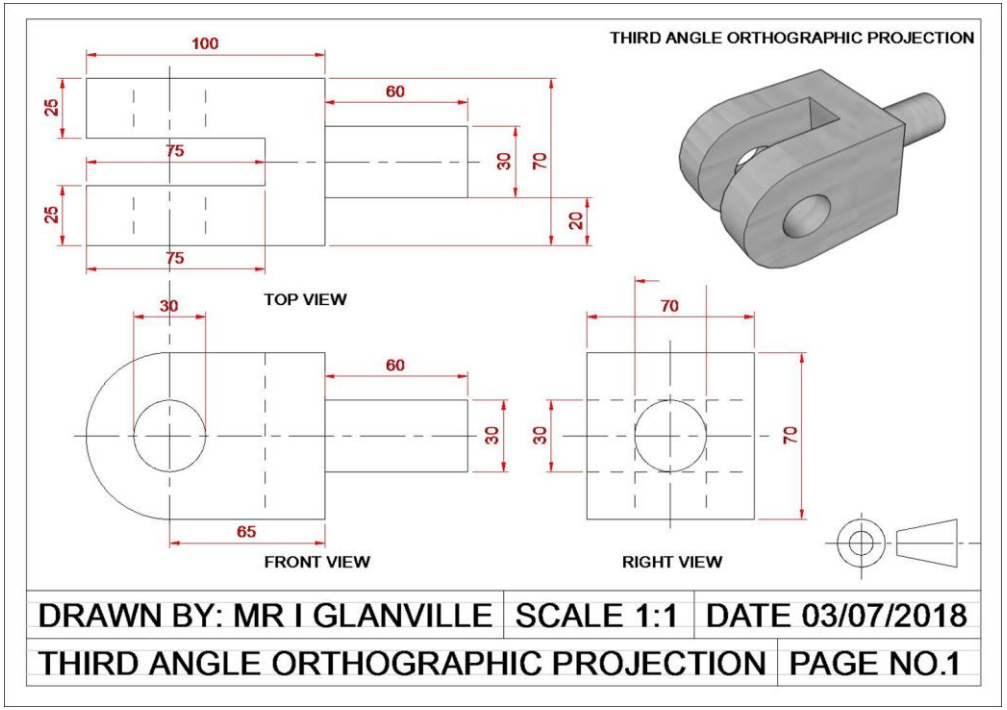
Before drawing an engineered component a suitable border and title block is required. The drawing border and title block has the following Dimensions

.

5mm space
10mm text line
5mm space
10mm border







Information required can include, name of person completing the drawing, what the drawing is, the name of the company, a date and perhaps a number if it is a series of drawings.

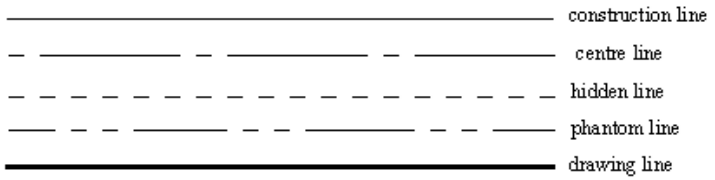
Types of lines

A **construction line** is a really light line. It is a line that can be removed for the final drawing, it may be a part of a circle that was draw or a line that was used to lay the drawing out correctly.

A **centre line** shows the centre of an object or components that is equal in size on either side.

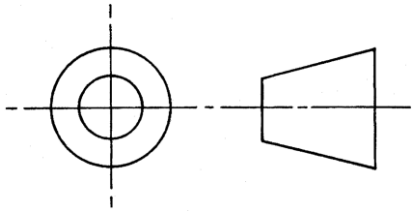
A **hidden line** shows a space, void or part of an object that can not be seen from the view that has been drawn. Although it cannot be seen it still needs to be represented and is show as a dashed line.

A **dimension line** shows the size or length of part of the component or object



Third angle orthographic projection

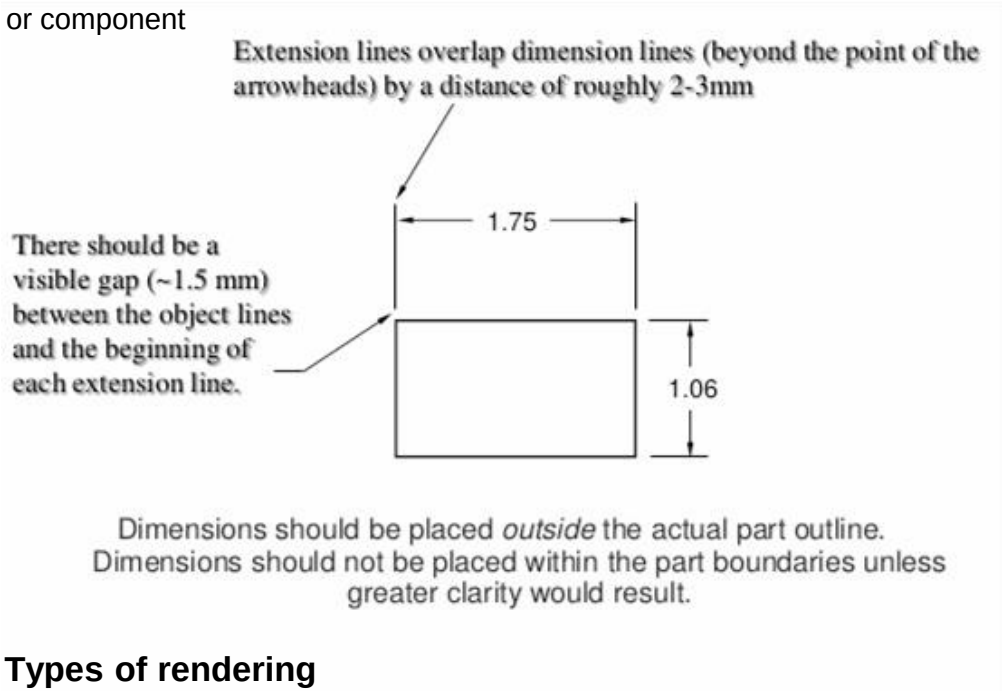
The standard symbol that you will find on a drawing arranged in a third angle projection looks a traffic cone.
This will help remind you how to set out the drawing



This means the first drawing you will see is the top view, then the side view.

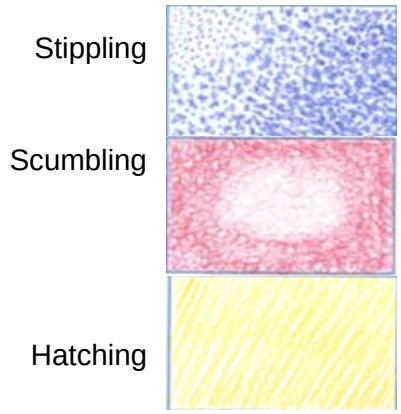
Representing dimension lines on a drawing

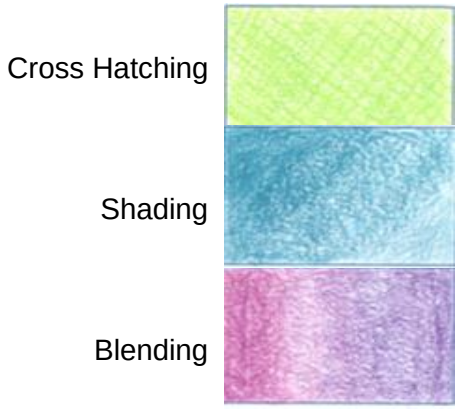
Dimension lines show the size or measurements of an engineered product or component



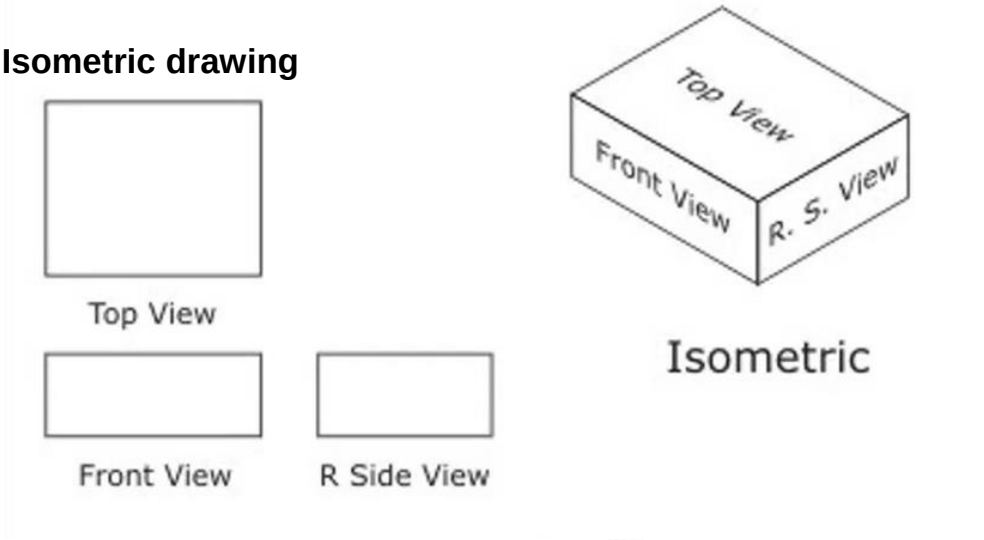
Types of rendering

Shading or rendering a three dimensional isometric drawing will give the drawings a realistic feel and show materiality.(what it is made of).

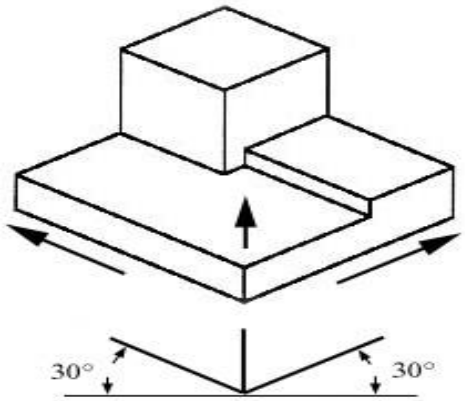




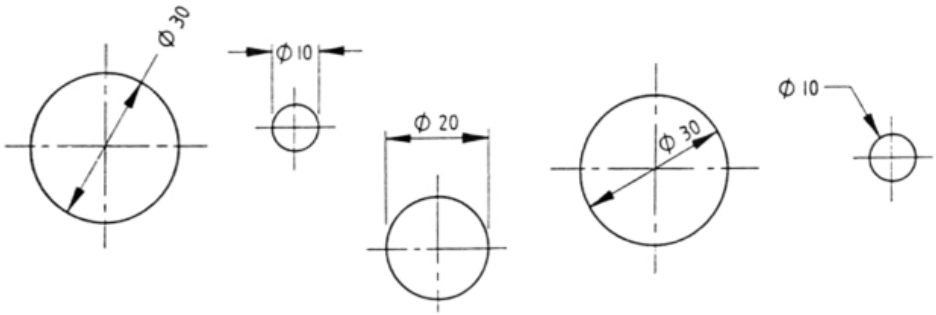
Isometric drawing



As well as a third angle orthographic projection, an engineering drawing can include an isometric projection which uses **vertical lines** and lines drawn at **30°** to **horizontal.**



Representing dimension lines on circles



All of the above are acceptable when showing the dimensions, diameter or radius of a circle

Design brief analysis and key terms

Analysing a brief

When design a product you need to what information you are being given in order to find a solution to the engineered problem.

Look for info on what….

Physical requirements - what does it do, hold, cover carry?
Aesthetics - how it looks
Size - does it have maximum/minimum size, is it replacing something?
Function - what does it do/control?
Performance requirements - How can you measure its success, does it work well?

Features of an engineered product

Dimensions - Size
Tolerance - How much bigger or smaller can a product be and still fit/work?
Surface finish - measure in micrometres (µm). How it might look or wear or resistant to corrosion/rust water.
Physical form - 2D 3D flat curved. Is it long joined to something, sharp edges etc.

Key terms and definitions for analysing a brief

Form - why it is shaped as it is?

Function - what its function is – whether it works.

User requirements - what attributes would persuade users to choose the product and why?

Performance requirements - What would the product be required to do to achieve optimum performance.

Material and component requirements - what would each part of the products material need to achieve to perform correctly.

Ease of manufacture - How easy can the product be manufactured?

Ease of maintenance - Does the product require routine servicing, if so how can this be performed?

Legal and safety requirements - Are there any legal standards the product should meet?

Aesthetic Properties - How does the material look?

Mechanical Properties - Does the material move?

Electrical Properties - Does the material require a current to pass through it?

Raw Material and Processing - How is the material made?

Environmental Impact - How does the material affect the environment?

Reusability - Can the material be recycled?

Prototypes

A test model either virtually on computer or a model.

Why?

To find faults and mistakes, to test one example therefore preventing expensive mistakes. Several prototypes can be made to develop a design making improvements on each one.

How?

Functional tests - Checking everything works,moves, fits
Ergonomic tests - Checking easy to use, controls can be reached
Destructive tests - Will it break, how much can it take, load,pressure.

Key terms and definitions

Third angle projection - Three views of an object
PPE - Personal protective equipment
Scale - The relation between the real size of something and a model or drawing
Isometric drawing - 3D drawing 30 degrees from the horizontal.

Write up your practical work

When writing about the tools/processes/work holding devices that you are using you should use these sentence starters

- I have used the……
- I chose to use the …
- I selected the ……

Then justify your choice using these connectors;

- because…
- so that…
- and then……

Bench Hook

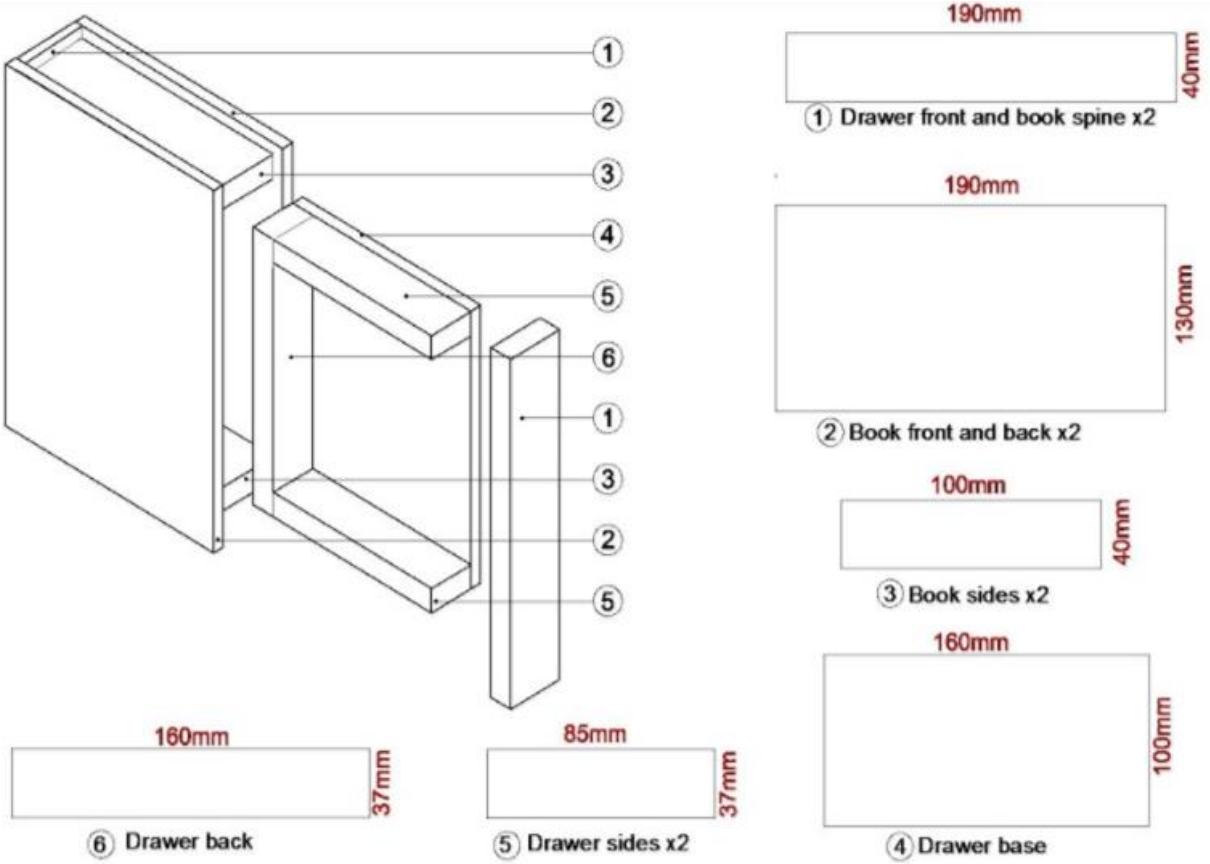
Tri Square

Cross Peen Hammer

Panel Pins

Tenon Saw

Wood Glue



1. Third angle projection - Three views of an object
2. PPE - Personal protective equipment
3. Scale - The relation between the real size of something and a model or drawing
4. Isometric drawing - 3D drawing 30 degrees from the horizontal.

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…

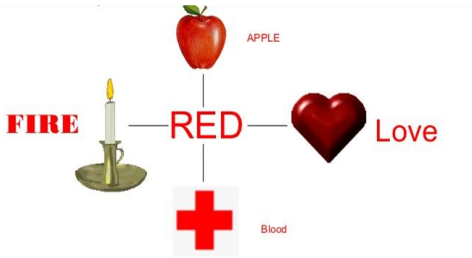
Semiotics: Everything on stage has meaning. Semiotics is the reading of signs and symbols on stage. The symbols and objects are used to represent ideas and meaning to an audience. For example, colour has meaning on stage such as red could mean anger or love. Colours can symbolise emotion, feelings, mood 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.

DRAMA

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.

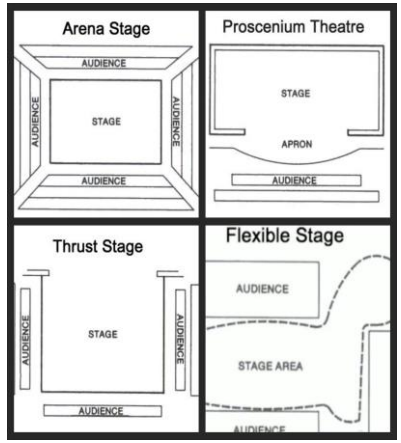
Rehearsal: To create great theatre it is important that you work on how to rehearse effectively. When rehearsing it is important to start by sharing ideas, then trying all ideas and then watching back to choose what works well and what does not. It is important to remain focused at all times and to set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

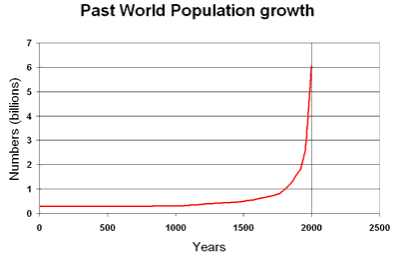
Costume: When considering the costume for a character think about their personality and important to the play. How are you going to create meaning with the costume? How will you show the audience what personality that character has with the costume?
Lighting: When choosing the lighting for your piece 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.



Population Growth



Reasons for change:
- Increase food production lead to longer life expectancies.
- Improvements to medical care including vaccinations.
- Better use and understanding of contraception.
- Improved access to education for woman

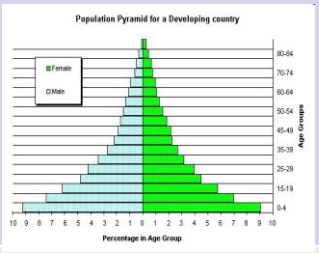
Measuring development

These are used to compare and understand a country's level of development.

Economic indicators examples	
Employment type	The proportion of the population working in primary, secondary, tertiary and quaternary industries.
Gross Domestic Product per capita	This is the total value of goods and services produced in a country per person, per year.
Gross National Income per capita	An average of gross national income per person, per year in US dollars.
Social indicators examples	
Infant mortality	The number of children who die before reaching 1 per 1000 babies born.
Literacy rate	The percentage of population over the age of 15 who can read and write.
Life expectancy	The average lifespan of someone born in that country.
Mixed indicators	
Human Development Index	A number that uses life expectancy, education level and income per person.

Population Pyramids

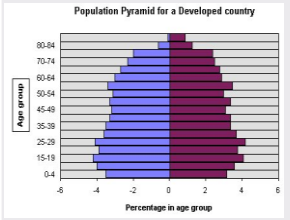
LIC



- Wide base meaning a large proportion of young people die to high birth rates.
- Narrow top few elderly people as people are dying young.
- E.g. Kenya and Vietnam.

HIC

- Narrow base as the birth rates slow and fewer children are born.
- Wide top meaning more elderly people as people are living longer.
- E.g. Italy and Japan.



Africa

Correcting Misconceptions.

- Africa is a continent with 54 countries.
- The Sahara Desert makes up 25% of Africa.
- 50% of people in Africa live in poverty. There is a large gap between the wealthiest and poorest people.
- 25% of Africa suffers from water shortages.
- It is estimated 1500 - 2000 different languages in Africa.
- Africa is 14 times larger than Greenland

Nigeria

- Located in West Africa it has one of the fastest growing economies and is critical to development.
- Abuja is the capital, Lagos is the largest city with a population over 15 million.
- Supplies 2.7% of world's oil (12%)

Lagos

- International airport and port
- 80% of Nigerian industry in Lagos
- Main finance centre in West Africa
- Main exports rubber, peanuts and palm oil.

WHy are some countries Rich and some Poor?

Physical Environment

- Soil erosion, desertification, climate change, overgrazing and infertile soils affect farming.
- Areas without fertile land, natural resources, water and energy suffer.
- Natural hazards make little progress with development e.g. Haiti.

Trade

- Trade blocs favour its members.
- Primary products sold by LIC's are sold for cheap prices that can fluctuate. HICs make more expensive products so earn more..
- Poor infrastructure or conflict means some people cannot sell their goods at all.

Historical

- Colonialism: Many countries in Asia, S. America and Africa have spent a lot of time and money on civil wars and political struggles for power since being made separate from European superpowers.
- Many LICs haven't had time to develop fully.

Key Vocabulary

Physical Geography	Is the study of natural features of the Earth e.g. Seas, deserts
Human Geography	Is the study of man made features of the Earth. E.g cities
Population	All the people that live in a particular place.
Population Pyramid	A diagram to show population structure.
Birth Rate	The number of babies born per 1000 per year.
Death Rate	The number of deaths per 1000 per year.
Development	The progress of a country in terms of wealth and living standards.
High Income Country (HIC)	A country with a GNI per capita of US$12 746.
Low Income Country (LIC)	A country with a GNI per capita of US$1 045
GNI per capita	Gross National Income. Division of the total countries income per person.
Migration	The movement of people from one place to another.
Colonialism	acquiring political control over another country, occupying it with settlers, and exploiting it economically.

POPULATION AND DEVELOPMENT

GEOGRAPHY

Year 9: The World at War

Box A: Key words and definitions

1. The allies - France, Russia, Britain and all their colonies.
2. Stalemate - a deadlock in which neither side can progress in taking land.
3. Western Front - the large area of land where trenches were dug. Stretched from English channel down to Switzerland.
4. Trench - Long narrow ditch in the ground, protecting soldiers from enemy gunfire.
5. No Mans Land - Area separating opposing armies in trench warfare.
6. Artillery - Large transportable guns.

Box B: Short term causes of war

1. In 1914, Serbia wanted independence from Austria. The Black Hand Gang, a group of 'freedom fighters' shot the next in line to the throne, Archduke Franz Ferdinand.
2. Austria declared war on Serbia and Germany said they would help them.
3. Russia said they would help Serbia because they shared similar culture. They declared war on Germany and Austria.
4. France was in an alliance (friendship) with Russia and declared war on Austria and Germany.
5. Germany then attacked Belgium in order to access France and Britain got involved to defend Belgium.

Box C: Militarism

1. Building up army and weapon stores in preparation for war.
2. This was a time of military competition, especially between the major European powers.
3. There was a culture of paranoia because countries were worried that neighbouring countries were stronger than them. This made them aggressively increase their army and weapons.
4. An example of this is the increased production of dreadnoughts (battleships).

Box D: Alliances

1. Formal agreement between two or more nations to work together for specific purposes.
2. There was historic disliked between various countries.
3. Russia and Austro-Hungary both wanted to have control over the Balkans area.
4. France did not trust Germany after they took the area of Alsace-Lorraine from them in 1871.
5. A web of alliances developed in Europe between 1870 and 1914. It created two groups of countries. The groups commitment to support each other if war was declared.
6. The Triple Alliance of 1882 linked Germany, Austria-Hungary and Italy.
7. The Triple Entente of 1907 linked France, Britain and Russia.

Box E: Imperialism

1. Wanting to make your country bigger and control other countries.
2. Germany hated how Britain and France had empires, especially when they received little during the 'Scramble for Africa'.
3. These empires provided raw goods which allowed these countries to make a lot of money in the Industrial Revolution.
4. It has been suggested that Germany was motivated by imperial ambitions to invade Belgium and France.

Box F: Nationalism

1. Holding love and pride for your country.
2. The Balkans (Bosnia-Herzegovina, Serbia, Albania, Bulgaria and Romania) were countries controlled by the Ottoman Empire until the beginning of the 19th century.
3. When this power weakened, these countries wanted to become nations in their own right.
4. Austro-Hungary wanted to control this region. Russia wanted to prevent this.
5. Austro-Hungary seized control of Bosnia-Herzegovina in 1908. The angered Russia and Serbia.

Box G: Expectations of war

1. Many people saw this as an opportunity to show how much they loved their country and how strong it was.
2. Most did not know much about what happened in war because the media was controlled and there were not many photographs or documents shared at the time.
3. Men heard romanticised stories of earlier battles, such as the Boer War, with soldiers riding on horses (calvary) and fighting face to face in a clear area of battle.
4. They signed up thinking they would have a great adventure with their friends and come home safely e.g. not injured or killed.
5. They believed conditions would be good e.g. clear visibility and pleasant weather.
6. A short war. One that was over by Christmas.

Box H: Soldiers

1. Once in the army, a soldier was given a rank.
2. Most soldiers were privates to begin with. Some also moved up the ranks to become corporals, sergeants and officers.
3. The higher the rank, the more a soldier was seen as a leader.
4. Ranks defined a soldier's or officer's role and how much responsibility he had.
5. They could be distinguished by the stripes and badges worn on the cuff of a soldier's or officer's coat

Box I: Soldiers equipment

Each soldier had to carry a lot of equipment whilst out on the front line. These included:

1. Gas mask to protect him against gas attacks from the enemy.
2. A rifle, bullets, a bayonet and some grenades.
3. Items which were suitable for the trenches like boots, a groundsheet cape, puttees and a helmet.
4. 'Webbing equipment' (kit made from strong, cotton webbing material). This included a haversack containing personal items such as knife, fork, shaving kit, water bottle, soap and towel.
5. Shovel to helped him keep the trench the way it needed to be. He could use it to remove excessive mud.

Box J: Weapons

1. The main weapon used by British soldiers was the bolt-action rifle. 15 bullets could be fired in a minute and a person 1,400 meters away could be killed.
2. Machine guns needed 4-6 men to work them and had to be on a flat surface. They had the fire-power of 100 guns.
3. Tanks were developed to overcome the challenge of crossing no man's land. By 1918, it had a revolving turret and could reach 4mph. Soldiers walked behind it.
4. Planes were also used for the first time. At first they were used to deliver bombs and for spying work but became fighter aircraft armed with machine guns, bombs and sometimes cannons.

Box M: Trenches

1. Trenches were long, narrow ditches dug into the ground where soldiers lived.
2. These were dug from the winter of 1914 and soldiers fought against each other from them for 3 years.
3. There were many lines of German trenches on one side and many lines of Allied trenches on the other.
4. Soldiers are well-protected from the enemy's small arms fire and are substantially sheltered from artillery.
5. In the middle was no man's land, which soldiers crossed to attack the other side.

Year 9: The World at War

Box k: Who fought for the British?

1. Around 15,000 West Indians enlisted, including 10,000 from Jamaica. Others came from Trinidad and Tobago, Barbados, the Bahamas, British Honduras (Belize), Grenada, British Guiana (Guyana), the Leeward Islands, St Lucia and St Vincent. Many served in the British West Indies Regiment
2. 140,000 men from the Indian sub-continent (India, Pakistan and Bangladesh) fought across the world, including the Middle East.
3. 180,000 Africans played a key role in containing the Germans in East Africa and defeating them in West Africa. Over 60,000 labourers came from South Africa.
4. Canada raised the Canadian Expeditionary Force (CEF) for service on the Western Front. From 1915, it fought in most of the major battles.
5. Newfoundland, not part of Canada until 1949, also sent troops.
6. Over 410,000 Australians served with the Australian Imperial Force (AIF).
7. New Zealand forces helped Australia capture Germany's colonies in the Pacific. Almost 100,000 New Zealanders also served overseas

Box N: Want to know more?

https://www.bbc.co.uk/history/sections/world-war-one
https://www.bbc.co.uk/programmes/p01nb93y
https://www.historyonthenet.com/world-war-1-comprehensive-overview-great-war

Knowledge Organiser – Food and Catering

Cycle 1 year 9

In this cycle we will be learning about the various aspects of Health and Safety within the Hospitality and Catering industry. Cross Contamination means one bacteria is transferred to another food item by using dirty utensils, unwashed hands, cloths or using the same chopping board.

Weeks 1& 2

Preparing yourself for cooking	
Remove Blazer	Remove your blazer to prevent sleeves from coming into contact with food being prepared or cooked. The fabrics used to make the blazer are often flammable meaning they can catch fire (live flame) They can also melt (electric hob)—additionally bacteria gained from the outside world should not be transferred into the hygiene area.
Hair	If you have long hair it must be tied up to prevent it from becoming burnt or falling into food--contaminating food. This would be classed as a physical contaminant and if found in a food product, the environmental health may be informed. There are many bacteria that live on our scalp so hair must be tied up.
Nails	Make sure not to wear false nails or nail varnish. If they fall into food they will become a physical contaminant. Acrylic nails should not be worn in school but if they are present gloves should be worn. Ensure your nails are short and clean to prevent cross contamination.
Aprons	Ensure you wear an apron to prevent cross contamination and prevent splashes onto clothing. The real point of an apron is to prevent bacteria on clothing being transferred to the food.
Remove jewellery	Remove any rings, necklaces or bracelets. Stones in rings harbour bacteria as they are not smooth—only a plain wedding band is acceptable because there are no crevices for bacteria to hide. These health and safety rules are the same nationwide.
wash hands	Make sure you wash hands to prevent cross contamination. Most bacteria's' are passed on by infrequent hand washing---especially since the corona virus pandemic—please be vigilant especially when preparing food. Hand Gel would be classed as a chemical contaminant and only warm water and soap are enough to remove bacteria for cooking purposes. Sneezing, coughing and touching our faces are the most usual way bacteria is transferred.

Preparing your environment	
Trip hazards	Remove any articles that may cause a trip hazard, for example bags, coats or books.
Slip hazards	Check the floors to ensure they are free from potential slip hazards such as water or oil on the floor. Even a discarded pen can cause a slip which, if you're carrying boiling water will be a problem!
Clear surfaces	Make sure any unneeded equipment or ingredients are removed from the surface prior to commencing food preparation—this is especially important as there is not much surface space and plastic bags, flour containers etc should be moved once used. Sink areas are the worst problem—if there are pans filling up the sink they must be washed, dried and put away! Mouldy pans and bowls are not acceptable and they will lead to contamination. Wash the surfaces down with either an anti-bacterial spray or a clean cloth with washing up liquid to remove any debris and reduce any bacterial contamination risk. This is especially important after bread/pastry making—it sticks to the surface and can be left for the next person to remove! A mouldy pan is classed as a biological contamination and can lead to vomiting, diarrhoea and stomach cramps. If equipment is not clean, the kitchen or work place can be closed down.

Week 3 &4 -Food Poisoning; Bacteria main sources of contamination—pathogenic bacteria. Large colonies are usually needed to lead to illness but E.Coli 0157 and Campylobacter are an exception.	
Salmonella-Incubation period; 12-36 hours.	Always talked about but it is not the only bacteria– usually passed on from raw meats, poultry , eggs and farm animals, it can be found in human and animal intestines. **This is why we cook meat to 75c as it can give nasty food poisoning.**
Staphylococcus Aureus Incubation period; **1-6 hours—a very fast incubation time—but people make the mistake of eating fast food salad but blaming their bad tummy on a chicken from the night before—chances are it wasn't the chicken!**	This is actually the most common form of food poisoning and usually comes from fast food as its passed on via the staff through skin, nose, throat, cuts poor hygiene from staff is the main cause. **Also milk as it is a high risk food. Most foods kept in the fridge are 'high risk'—they contain protein and moisture therefore they will develop mould/bacteria within a few days.** **Sources of pathogenic bacteria; Humans, animal protein, pests (rats, mice, flies),dirty bins, waste food. Contaminated water.**
Campylobacter: Incubation period 48-60 hours.	This is often confused with Salmonella—this can be from red meat, poultry, soil and sewage. **The onset time is so slow that it often goes unnoticed and it is blamed on something else.**
Escherichia Coli; Incubation period 12-24 hours.	E Coli can be found in water, especially untreated water. It comes from human and animal excreta, urine and muddy vegetables (water).

Week 5&6 Three main types of food related ill health. Risk assessment	
1.Microbes/bacteria/ mould/yeast. 2.Toxins 3.Allergies/intolerances. Anaerobic	Cause of food spoilage and contamination; Plant based chemicals Bacteria produce toxins which are waste material. They can be a problem when re-heated food especially rice and pasta. Person react to a food/ingredient they are unable to eat. Bacteria do not need oxygen to reproduce.
Risk//hazard Binary Fission Bacteria development	The likelihood of something causing harm. Something that has potential to cause harm. The reproduction of bacteria—multiplying 2x2x4x8 very rapidly (protein based foods) Bacteria need 4 ideal conditions; warmth, food, time, moisture.
Risk assessment Controlling risk Danger Zone	Assessing the level of risk and the potential for harm. Identifying ways in which to reduce the likelihood of harm, or ways in which to minimise the risk. Temp between 5c—75c where foods are either chilled or cooked. Core temp to 75c for 3 secs.

Four Rules of Food Handling

Personal Hygiene ; to include washing hands, Cover cuts, nails short and clean, shower daily, do not cough or sneeze near food, do not handle food if unwell, tie back long hair, no jewellery, wear clean clothes and clean apron.
Correct food safety; keep all chilled foods in the fridge until needed, check fridge is at 2c-5c, foods in fridge should be separate with raw meats at the bottom of fridge, use cling film to prevent cross contamination, freezer temp –18, defrost all foods properly before cooking, ambient temperature foods
(5c—63c) to be kept in cupboards.

Correct use of equipment; use colour coded boards, raw food usage MUST be washed before re-using, clean and sanitise surfaces, use a temperature probe to check meat, use a clean spoon for tasting, clean fridges and cupboards, put lids on bins.
Pest control; Flies and other insects, mice and rats mark territory with urine, birds and ants—often finding sugary drinks and cakes.

Chemical Contamination: cleaning product, pesticide, bleach or undiluted washing up liquid is present in the food. If ingested (eaten) it can be very harmful.

Biological Contamination; bacteria, Virus's, moulds, fungi which can lead to death if ingested.

Physical Contamination: an actual piece of nail, hair, fly, plaster, grit has fallen into the food or entered the food chain in some way.

Knowledge Organiser – Food and Catering

Cycle 2

In this cycle, we will take a close look at Food Contaminants, Food safety and Bacteria's especially when dealing with raw meats. You will learn about different bacteria's and how to prevent cross contamination and food poisoning. Cross Contamination means one bacteria is transferred to another food item by using dirty utensils, unwashed hands, cloths or using the same chopping board.

Week1 and 2

Food Storage	
Different types of Food Safety	Food Safety; foods need to be stored correctly in the fridge. There should be a system in your fridge at home where dairy is on the top shelf, cooked foods i.e .meat/quiche is in the middle and RAW meat should always be at the bottom to prevent cross contamination by blood drip loss. Foods kept in the fridge are called Perishable foods. They are chilled foods and need to be kept at low temperatures. In a commercial kitchen and all supermarkets the fridge temperatures are checked every 4-6 hours and logged in a book. You can buy a small fridge thermometer to place in the top of your fridge.
Storing food at the correct temperature	Frozen or chilled goods must be transferred immediately. Your fridge temperature should be between 2C and 5C—freezer should be --18c. Some foods should only be frozen for up to a month—some foods can be frozen for 3 months but you should check.
RIDDOR COSHH HASAWA PPER MHOR	Reporting of injuries, illness and disease regulations. Control of substances hazardous to health. Health and Safety at Work Act. Personal Protective Equipment Regulations Manual Handling Operations Regulations ---all of these regulations need to be known to you and in place at every work place.
Use by dates. Best before date.	Difference between Use by dates, Best before dates and Sell By date. Use by are perishable foods (chilled) Best before are advisory (often biscuits, cake, coffee, pot noodle as they are dry foods. Sell by is often raw meat and is usually a few days.

Weeks 3 &4

Health and safety activities	
Temperature checks	Checking and recording freezer and fridge temperatures. Checking hot food temperature and food being held. New food probes—75C for cooked through.
Equipment safety checks	Food Spoilage—prevention. Dirty hands/utensils/equipment are the main source of cross contamination.
HACCP	Hazard Analysis Critical Control Point is a control which is used is food industry factories and food production. It identifies where a hazard id likely to be; where a mouse ay have got in or a piece of metal or something physical may have somehow entered the food product. There are stages at which every point of entry is monitored to ensure the publics safety.
Waste	Ensure the correct storage and disposal of waste. There are strict rules on cooking oil disposal—it must NOT be put down a sink or drain.
Risk Assessment	Conduct regular risk assessment to identify hazards and methods to reduce risk. Control measures; put in place to reduce the risk of hazard causing injury or harm.

Cooking methods.	
Cooking food	Cooking food within the kitchen, including, steaming, roasting, boiling, grilling.—using the 5 senses to plan and prepare a really pleasing dish.
Plating up	Consistently plating food up, considering portion control and quality. Colour, style, cutting techniques are all very important.
Finishing food	Ensuring the presentation of food is consistent and always aesthetically pleasing -5 senses.

Week 5&6

Working with raw foods	
Keeping customers safe—a food establishment should have all the different boards available for use with different foods to prevent cross contamination. RED meat; White meat	Red board—to use ONLY with raw meat. Green Board—for use with fruit. Brown board—for use with vegetables. White board--for use with dairy and bread. Yellow board-to use with cooked meat. Blue board for use ONLY with Fish. Different knives should also be available BUT if this is not possible, knives should be washed with hot, soapy water between each usage. This has been sourced from a cow (beef), deer (venison) pig (pork, bacon) Sheep/lamb (lamb). Has been sourced and also known as POULTRY–chicken, duck, goose, turkey, capon, spatch-cock, quail. There are also gamebirds-Pheasant, Partridge, wild duck.

food preparation--Organoleptic	
	The word organoleptic means the qualities that people experience with their senses whilst eating good, tasty food. Five senses; sight, smell, taste, touch and sound. To enable people to enjoy their food, the food and plate must look and smell appetising. We 'eat' with our eyes—in other words we see something and want to eat it. Colour, size, smell all contribute to us enjoying our food.
When you try out recipes you are encouraged to 'taste' the food. Textures /touch	This would involve using a tea spoon at taste a tiny bit on the end of the spoon—then washing the spoon. You can then assess if you need more salt, pepper, chilli etc to improve your dish. Textures mean crunch, crispy, smooth, creamy and its assessed by the 'mouthfeel'—that's the feel once the food is in your mouth. Over cooking vegetables and meat can ruin a dish—veg should have a slight 'bite' to them.
5 basic flavours;	Salty, sweet,bitter,sour and umami (savoury).

Knowledge Organiser – Food and Catering

Cycle 1 year 9

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Knowledge Organiser – Food and Catering

Cycle 4 year 9

In this cycle, we will take a close look at cooking techniques and presentation skills. These are an essential technique needed for your y11 practical assessment so we need to make them outstanding.

Week1 and 2

Types of knife skills.	
Different types of knife skills.	There are many different types of knives and skills using the knives and we always use a 'bridge' and 'claw' hold. The bridge is where your knife goes UNDER the hand protecting fingers whilst cutting. The claw is where you grip with your fingers the food whilst you make your cut, holding the food still. We use these skills when also cutting carrots and courgette into 'French' shapes—Julienne, Batons, Brunoise for our presentation skills. You should never put a knife into the washing up bowl—another person can easily cut themselves; when carrying a knife hold the blade downwards. Health and safety is always paramount—therefore every knife is counted.
Segmenting an orange and apple swans	Using a serrated knife to segment an orange and design a swan from an apple is a good way to improve knife skills—these are listed as techniques which all chefs should be able to do. This allows greater control of your knife and allows you to become more confident. In a high end restaurant the veg chef would be known as the Entremetier—he would ensure all veg were perfectly exact—known as uniform, by measuring with a ruler or measure on the side of the table.
Peeling/ zesting	Peeling a potato, carrot and an apple is also a technique needed which is important to the H&C award. Zest a citrus fruit to use the skin to intensify the flavour.
Melting	Melting butter or chocolate in a Bain Marie (water bath) is an essential skill—this makes use of a saucepan, glass bowl and heated water. It is a skill because chocolate burns easily, it is also the way to melt butter and syrup when making flapjack. Melting is a recognised cake making method—there are four; creaming, whisking, melting, rubbing in.

Weeks 3 &4

Food processing	
Whisking and sieving	Using an electric whisk (high speed)—make sure the beaters are in correctly, to whisk up eggs for a Swiss roll (p189) Sieve the flour to add air—whisking is a recognised cake making method. Cream is also whisked using a whisk and the 'creaming method' for a sponge cake. A sieve is essential when making a sponge cake—flour is sifted onto the batter and folded in (8)—the sieve breaks down the lumps of flour to make it fine and as you fold the flour in it traps air. Icing sugar is also better when sieved as the lumps are broken down.
Rubbing in shortcrust pastry/rich shortcrust	Pastry is an outer casing used to contain many foods such as pies, pasties and quiche. 'Rubbing in' is a recognised cake making method used in most cookery—used for pastry, scones and crumble mix. Lemon tarts (using zest)
Sugars	How much sugar should we consume? Intrinsic sugar-occur naturally in the food sources—glucose, fructose, lactose, sucrose. Extrinsic sugar is added to foods-the main one is sucrose (white sugar) which comes form sugar cane/beet,. Other types are honey and artificial sweeteners added to fizzy drinks—these should be avoided. Dairy free milks—very popular; oat milk, almond milk, rice milk, soya milk, --soya yogurt, soya chilled deserts. Dairy free ice-cream and sorbet. Lactose is the sugar naturally found in milk; people can be 'lactose intolerant' meaning they cannot digest the sugar.
Shaping	Bread rolls into plaits/pasta into ribbons.
Blending / food processor both electrical, both contain very sharp blades, both dishwasher safe except the MOTOR and electric plug.	Making a carrot soup with the julienne cuts of carrot. Using a blender to mix up fruits for a smoothie, blend for babies food. Food processor to mix pastry, pasta dough, breadcrumbs, creaming for sponge cake, adding eggs, mixing up coriander, oil, honey for the start of a curry or a tomato based bolognaise/pizza base. Make ravioli with spinach and ricotta– roll out pasta in two thin lines and using a pastry cutter divide mixture at 2 cm apart—put other line of pasta on top and use cutter to make a perfect fluted edge. Pasta is then placed into BOILING water for approx. 3 mins.—a tomato sauce will compliment this dish and as an extra extension serve with a side salad and homemade vinaigrette.
Pasta—make sure this is achieved during lesson time.	
time.	

Week 5&6

Other cooking methods	
Braising/ Stewing/ Poaching/simmering/ steaming.	Sealing meat in hot oil, then cook slowly in little moisture. Cook slowly in oven or on hob with gravy. Cook an egg or fish in little water just below boiling point. Cook vegetables or fish over water in a pan with holes in so the steam cooks the veg—helps retain vitamins. Braising; steak, cheap cuts of meat, kidney. Stewing; steak and vegetables. Simmering; when a food has boiled and you turn it down—rice, potatoes, pasta. Steaming; Vegetables, fish, chicken.
Dry frying	Means cooking foods that naturally contain oil in a pan without adding any more oil. Bacon and sausages are good examples. Protein coagulates, starch dextrinises, flavour intensifies. Hot frying pans are dangerous because hot fat spits. It can reach your skin and burn you. Hot frying pans should never be left unattended—they can easily catch fire. Hot frying pans should never be laced in the bowl or sink area and water added—a reaction to the hot fat means it can erupt into your face.
Baking	Means cooking foods in a hot oven—cakes, bread, flapjack, roasting meats, pizza and biscuits. Caramelises sugars to give a lovely taste, yeast is killed by heat, risen foods set and develops a crust.
Caramelisation	This is what happens when sugar is cooked and heated—flapjack, in cakes, toffee sauce—the sugar changes taste, colour and flavour through caramelisation.

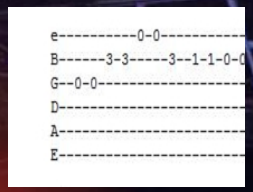
Toasting and sautéing	
Toasting	Cooking starch based foods with a dry heat from a grill or flame—called dextrinization as the colour changes, flavour changes and aroma changes.
sautéing	Means frying foods in a little oil to cook gently, soften food and change flavour.
Shallow fry	Means to cook foods in a little oil in a frying pan. Fat will melt, red meat turns brown, juices are squeezed from meat, fat oil will add fat soluble vitamins A,D,E,K.

Year 9 - Performance Techniques

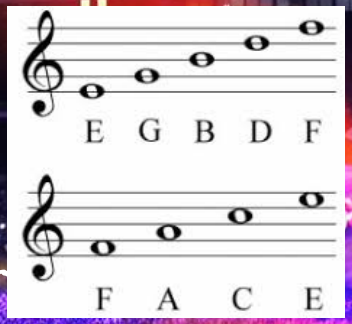
How do I become a better performer?

- Confidence - feeling happy onstage
- Interpretation - how you play the music
- Timing - are you in time as an ensemble
- Accuracy - is your part right?
- Communication - are you looking/listening?
- Interaction - Audience
- Intonation - notes in tune?

Reading tab



Reading Musi Notation



Venue - what makes a good performance space? What consideration do you need to make for a performance venue?

Rehearsal Technique

- Warm ups
- Technical exercises
- Scales
- Chords
- Practise individually
- Rehearsal diary

→ How does this link to you becoming a better performer?

MUSIC

CREATING MUSIC

STRUCTURE
How music is organised.

SongForm - Intro/verse/Chorus?bridge/outro
Variations - an idea that is mostly the same with slight differences.
Rondo - Section A B A C A D A - sectio A remains the same all other sections are completely different.
Binary - 2 sections of music
Ternary - 3 sections of music

YOUTUBE CLIPS AND WEBSITES TO VISIT..
Theme and variation
https://www.youtube.com/watch?v=raqOYw5kRdc

Extended Chords
https://mattwarnockguitar.com/extended-chords/

HARMONY
The thicker parts of music, usually played by Guitar or Piano.
Chords - 3 notes played together at the same time.
Inversions - chords that get turned upside down.
chord progressions - how we order the chords and why we order them the way we do.
Extended chords - adding more notes to the 3 note chord, so we play 4/5 or even 6 notes at once.

MUSICAL DEVICES
Ideas we use in music to create a piece.

Drone - a note played repeatedly.
Riff - a small idea played in the bass repeating based upon the chords of the piece.
Hook lines - usually in the chorus with catchy lyrics.
Canon - an idea that repeats and develops, each part starts after each other.
Imitation - copying ideas between instruments
Sequence - an idea that is repeated up or down a note.
Ground bass - an idea in bass that repeats all the way through the piece.
Retrograde - play an idea backwards
Inversions - play an idea upside down.

Colouration - Instrument techniques to create a palette of sound.
Dynamics - Volume of sound, how loud or quiet music is.

Performance Unit…

Learning aims

In this unit you will:

A. Develop your music performance skills and review your own practice
B. Use your music performance skills within rehearsal and performance.

Key Words:

Communication - How you present your performance to the audience. How you display emotions, intentions and meaning to the audience you are performing to.

Stage Presence - How you present yourself on stage to the audience.

Warm ups - how you prepare yourself to start rehearsing.

Skills Audit - A document that outlines your current skills.

Rehearsal Diary - a Log book that details your targets and achievements.

Specific - Identify 1 aspect of what you need to rehearse

Measureable - How do you know if you have improved.

Achievable - How will you ensure you achieve your goal set.

Realistic - You have to have a goal that you know improves your skills and that you can achieve.

Timely - Give yourself a time limit so that you stick to your target.

Techniques

- accuracy of pitch/intonation
- rhythm and timing
- technical exercises to improve their technique relevant to the voice type or instrument in question, e.g. scales and arpeggios, lip slurs and paradiddles
- expression and dynamics
- phrasing
- range
- sight reading/singing
- improvisation
- breath control
- vibrato
- confidence
- tuning
- following an accompaniment
- learning repertoire
- musical interaction
- DJ techniques, e.g. beats per minute, pitch control, phrasing, spin backs, button stopping, crossfading, drop-ins, cutting

Evidence

You will need to provide evidence of how you have improved over the course of the unit. This can be provided via the following:

- Video recording of rehearsals.
- Teacher observation records of rehearsals.
- Video recording of performance
- Recordings of milestone sessions.

Know what your instrument…

- **How** does it work?
- **What** skills do you know?
- **Who** can help you to improve?
- **Where** can you find Technical exercises?
- **Where** can I get warm ups?
- **Can you** tune my instrument?
- **Can you** read the music notation for my instrument?

1. Key Words 🔑

Afterlife: Life after death; the belief that existence continues after physical death.
Environmental Sustainability: Ensuring that the demands placed on natural resources can be met without reducing capacity to allow all people and other species to live well now and in the future.
Euthanasia: Sometimes referred to as 'mercy killing'. The act of killing or permitting the death of a person who is suffering from a terminal illness.
Evolution: The process by which different living creatures are believed to have developed from earlier less complex forms during the history of the earth.
Abortion: When a pregnancy is deliberately ended so that it does not result in the birth of a child.
Quality of Life: The extent to which life is meaningful and pleasurable.
Sanctity of Life: The belief that life is precious or sacred. For many religious believers, only human life holds this special status.
Soul: Spiritual aspect of a being; which connects someone to God. It is often regarded as non-physical and lives on after death.

2.Christian views on creation

✝There are two creation stories in the Bible - Genesis 1 and Genesis 2.
✝Genesis 1 describes how God created the world in six days and rested on the seventh.
✝Day 1: light & dark; Day 2: sky; Day 3: seas, land & plants; Day 4:sun; moon & stars ; Day 5: fish & birds; Day 6: animals & humans.

✝There are 2 main interpretations of this account:
✝**Literal** - it's a holy text from God and creation happened exactly as described in the Bible.
✝**Liberal** - the Bible should be seen as a parable or symbolic story. The meaning is the same, even if it is not historically accurate.

✝Many evangelical Christians are **creationists** - they reject scientific theories because they contradict the literal interpretation of the Bible.
✝Some LIberal Christians say that you can accept the Big Bang and evolution.
✝ **Theistic guided evolution:** life came about through evolution but this process was guided by the intervention of God. **Natural evolution**: evolution is the natural process by which life emerged but God put these laws of nature into place before the universe existed.

3.Jewish views on creation

✡God is the source and purpose of all life.
✡Genesis gives 2 accounts of the creation of the world.
✡Most **Orthodox** Jews believe they are true accounts of the origin of the world. Told to Moses by God.
✡**Reform** Jews question whether Moses was the actual author of Genesis.
✡Some Orthodox Jews see Genesis as historical fact and are against modern scientific theories.
✡Other Jews, e.g. Reform, accept scientific theories such as the Big Bang theory & evolution, with God being the sustainer and provider. God started the universe: Big Bang.

Humanist views on creation
🧑We understand the world through science.
🧑Evolution helps us to understand the way species are related to each other

4.☸Science vs Religion✝

☸ Charles Darwin was the first person to show that life has arisen through the slow natural process of evolution.
☸His theory became known as the 'survival of the fittest'.

☸In 1965 the Big Bang theory became the accepted explanation for the origin of the universe.

☸Whilst many religious believers accept Darwin, some see it as an attack on their beliefs as it undermines God, the Bible and removes the need for a soul. It removes the idea that God created the earth and humans for a purpose.
☸However, some see the two working together, as there is no scientific explanation for what caused the Big Bang. Both theories follow the same basic order: **Light, land, life.**
☸Intelligent design is a theory that the world is too ordered for it to have happened by chance. It must have been God

5. Humanist attitudes to stewardship

🧑Most humanists agree with the idea of stewardship - we have a responsibility to work for a sustainable world causing as little environmental harm as possible

RELIGIOUS STUDIES - Issues of life and death

6.Christian attitudes to stewardship

✝ Life is a gift from God and God has given humans the role of looking after the world.

✝ Some Christians see themselves as having **dominion** because Genesis 1:28 says that God created humans to 'rule over' nature meaning they can control the world.

✝ Other Christians argue that we should be stewards of the earth - 'cultivating and taking care of it' (Genesis 2:15)

7.Jewish attitudes to stewardship

✡ Jewish leaders teach that human beings must behave as responsible global citizens taking care of God's creation for future generations.

✡ **Sukkot** is celebrated to remind Jews of importance of the earth that God gave them.

8.Judaism and the Sanctity of Life

✡ Life is a precious gift from God and cannot be thrown.

✡ All humans are important.

✡ Pikuach Nefesh - preservation of human life overrides everything else.

9. Christianity and the Sanctity of life

✝ All life is sacred because it comes from God.

✝ God is interested and involved in each human's life. 'You knit me in my mother's womb.'

✝ God created each individual person and made them unique in their own right.

✝ God created humankind in His own image..

10.Humanism and the Sanctity of Life

There is a special value in human life, not because of God.

We only have this life, and it ends when we die.

Life is not sacred but worthy of respect.

The central purpose of life is happiness: ours & others

11.Fetility treatment

Under UK law, an **embryo** has no rights until it is 14 days old. After this it has limited rights. An embryo can be legally aborted up to 24 weeks of pregnancy. After this, it is thought to be a viable life and has full rights. However, many people hold the opinion that an embryo of any age has the same status as any human being as life begins at conception.

- **AIH (artificial insemination by husband)** – a procedure whereby the sperm of the male is placed directly into the uterus (womb) of his female partner so that fertilisation of the **ovum** can be achieved.
- **AID (artificial insemination by donor)** – a procedure as with AIH, however the sperm is provided by a donor who is not the woman's partner.
- **IVF (in vitro fertilisation)** – a process whereby the ovum is fertilised outside the woman's body. 'In vitro' means 'in glass' - ie a petri dish or cell culture dish.

12.Different views about fertility treatment

✝ The **Roman Catholic Church** teaches that life begins at conception.

- However, some Christians disagree with this. One reason is that large numbers of embryos, possibly up to 50%, naturally fail to implant and are discarded naturally. It is not acceptable to give rights to something that may not last longer than a few days or weeks.
- 'Do not commit murder' seen by many to suggest that wasting embryos would be wrong as life starts at conception.
- 'Before I formed you in the womb, I knew you.' Jeremiah 1:5

✡ Generally, IVF is in keeping with 'Be fruitful and multiply.'

Most Humanists consider each situation differently; looking at the needs of those involved and finding the kindest course of action, ensuring happiness is considered. This is known as **situation ethics**.

13.Religious views about organ donation and transplants

✝ Christians should be encouraged to help others in need. They look upon organ donation as an act of love, and a way of following Jesus' example.

All mainstream Protestant denominations support organ donation, whether they see it as an individual choice motivated by compassion or encourage it as an act of charity.

✡ In principle, Judaism supports and encourages organ donation in order to save lives (pikuach nefesh).

This principle can sometimes override the strong objections to any unnecessary interference with the body after death (nivul hamet), and the requirement for immediate burial of the complete body.

14.Religious views about cloning

- ✝ 'Agape' agrees with Therapeutic cloning because they believe that love is the most important law. Making use of the gifts God has given them. Christians believe God gave humans the responsibility to act as good stewards of the world. Meaning they should care for the world itself and other humans within it. Perhaps scientists who play around with genetics are 'Playing God' and are therefore not being good stewards. 'Sanctity of Life' disagrees with therapeutic cloning because they believe that life is God-Given, and a human's life is precious. Therefore, they shouldn't be taking the stem cells from embryos before destroying the embryo. Because they are essentially destroying a life.

¿Qué se come en _____? *(What do they eat in _____?)*

COUNTRY	VERB	NOUN - SAVOURY	CONN'VE	NOUN - SWEET	NOUN
En España *(In Spain)*	**comen** *(they eat)*	**tortilla española** *(omelette with olive oil and potatoes)* **gambas al ajillo** *(prawns in garlic oil)*	**y** *(and)*	**crema catalana** *(caramel flan)* **tarta de queso** *(cheesecake)*	**de postre** *(for dessert).*
En México *(In Mexico)*		**chilaquiles** *(tortilla pieces with salsa, eggs, chicken & cheese)* **elote** *(corn on the cob with chilli salt, mayonnaise, cheese and lime)*		**churros** *(doughnuts dipped in chocolate or caramel)*	**como postre** *(as a dessert).*
En Argentina *(In Argentina)*	**les encanta comer** *(they love to eat)*	**empanadas** *(stuffed dough pockets)* **asado** *(BBQ meat)*		**dulce de leche** *(sweetened milk - like caramel)*	
En Venezuela *(In Venezuela)*		**arepas** *(stuffed corn cakes)* **tequeños** *(fried cheese sticks)*		**chocotorta** *(chocolate cookies dipped in coffee, layed with cream and dulce de leche)* **torta de piña** *(pineapple cake)*	
Me gustaría probar *(I would like to try)*					

En el restaurante	*In the restaurant*
Buenas tardes.	***Good afternoon/evening.***
¿En qué puedo ayudarle?	***How can I help you?***
Quisiera reservar una mesa.	***I'd like to book a table.***
¿Para cuántas personas?	***For how many people?***
Para … personas, por favor.	***For … people, please.***
Tenemos una mesa cerca de **la ventana.** **la cocina.**	***We have a table near*** ***the window.*** ***the kitchen.***
¡Perfecto!	***Perfect!***
¿Podemos ver las cartas?	***Can we see the menus?***
¿Tenemos un menú del día si le apetece?	***We have a set menu of the day if you fancy it?***
¿Quiere algo más?	***Do you want anything more? (Dessert, drink…)***
La cuenta, por favor.	***The bill, please.***
¿Tarjeta o en efectivo?	***Card or cash?***
Le dejo una propina.	***I'm leaving you a tip.***
Gracias, buenas noches.	***Thank you, good night.***

¿Qué va a tomar? *(What are you going to order?)*

VERB	NOUN	CONN'VE	NOUN
Yo quiero *(I want)*	**gazpacho** *(cold tomato soup)*		**jamón** *(ham)*
Voy a tomar *(I'm going to have)*	**calamares** *(calamari)*		**chorizo** *(paprika & garlic sausage)*
Mi amigo/a va a tomar *(My friend's going to have)*	**paella de mariscos** *(seafood paella)*	**y** *(and)*	**pan** *(bread)*
	gambas al ajillo *(garlic prawns)*		**patatas fritas** *(chips)*
SEQUENCER	**tortilla espanola** *(Spanish omelette)*		**patatas bravas** *(potatoes in a spicy tomato sauce)*
De primero ... *(For first course ...)*	**bacalao** *(cod)*	**con** *(with)*	**patatas alioli** *(potatoes with garlic mayo)*
… y de segundo ... *(... and for main course...)*	**carne** *(meat)*		**verduras** *(vegetables)*
… y después ... *(... and after ...)*	**ensalada** *(salad)*		

¿Y de postre? *(And for dessert?)*

VERB	NOUN
De postre, quisiera *(For dessert, I'd like)*	**yogur de fresa.** *(strawberry yoghurt.)*
De postre, voy a tomar *(For dessert, I'm going to have)*	**helado de vainilla.** *(vanilla ice cream.)*
De postre, mi amigo/a va a tomar *(For dessert, my friend is going to have)*	**pastel de chocolate.** *(chocolate cake.)*
	sandía. *(watermelon.)*
	crema catalana. *(crème brûlée.)*
	café con leche. *(white coffee.)*
	café solo. *(black coffee.)*

¿Qué tal todo en el restaurante?
(How's everything at the restaurant?)

NOUN	VERB	ADJECTIVE
El plato *(The plate/dish)* **El vaso** *(The glass)* **La mesa** *(The table)*	**está** *(is)* **estuvo** *(was)*	**sucio/a.** *(dirty.)*

VERB	NOUN
Me hace falta *(I'm lacking)* **Necesito** *(I need)*	**un tenedor.** *(a fork.)* **un cuchillo.** *(a knife.)* **una cuchara.** *(a spoon.)* **sal.** *(salt.)*

NOUN	VERB	ADJECTIVE
Los camareros *(The waiters)*	**son** *(are)* **fueron** *(were)*	**cortés.** *(polite.)* **trabajadores.** *(hardworking.)* **maleducados.** *(rude.)* **perezosos.** *(lazy.)*

¿Y la comida/bebida?
(And the food?)

NOUN	VERB	ADJECTIVE
La comida *(The food)*	**es** *(is)* **fue** *(was)*	**asquerosa(s).** *(disgusting.)* **dulce(s).** *(sweet.)* **grasienta.** *(greasy, fatty.)* **picante.** *(spicy.)* **riquísima.** *(really rich.)* **sabrosa(s).** *(tasty.)*
Las bebidas *(The drinks)*	**son** *(are)* **fueron** *(were)*	**barata(s).** *(cheap)* **cara(s).** *(expensive)*

PHYSICAL EDUCATION - THE BENEFITS OF PE

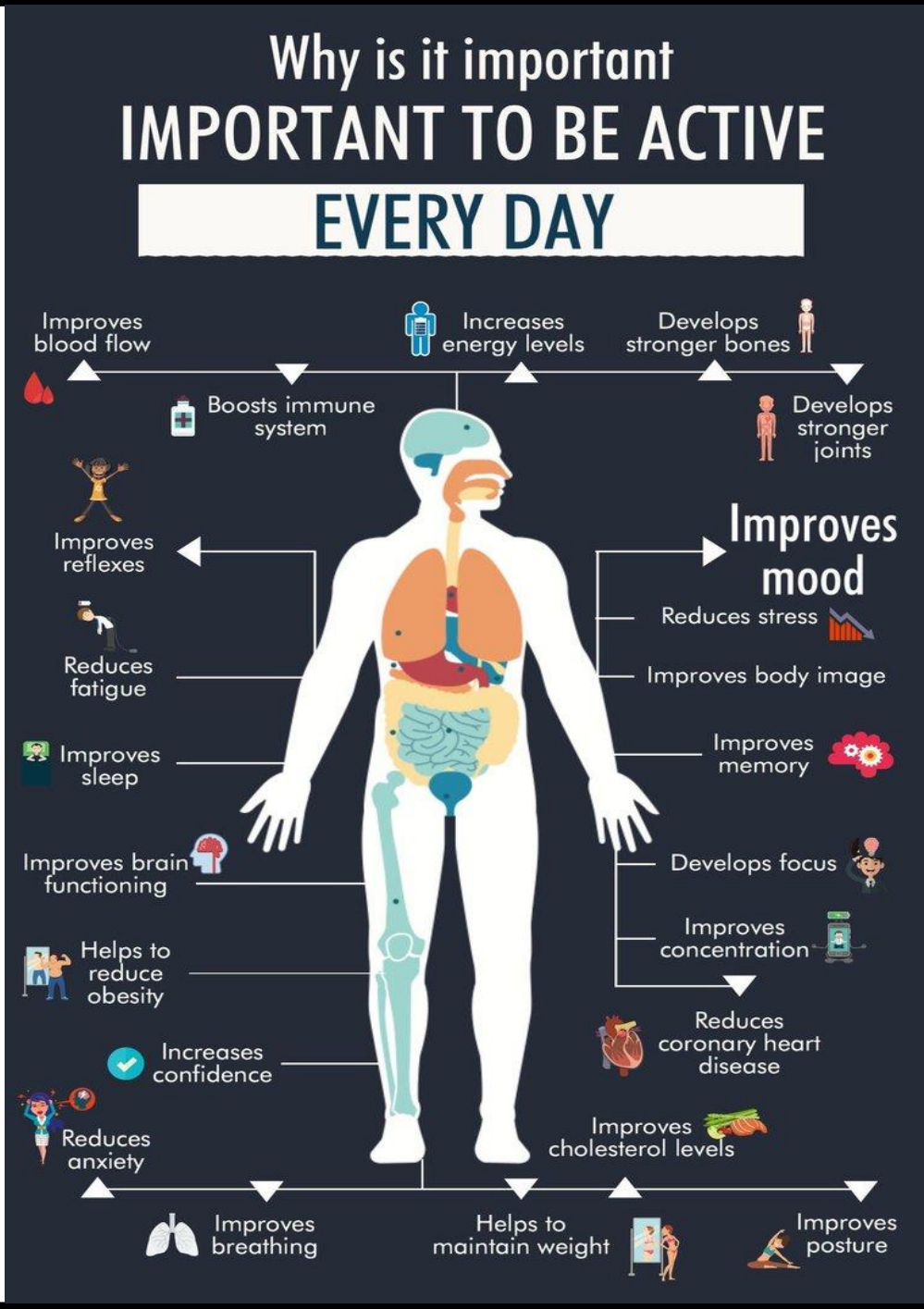
Knowing & Understanding the benefits of PE

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

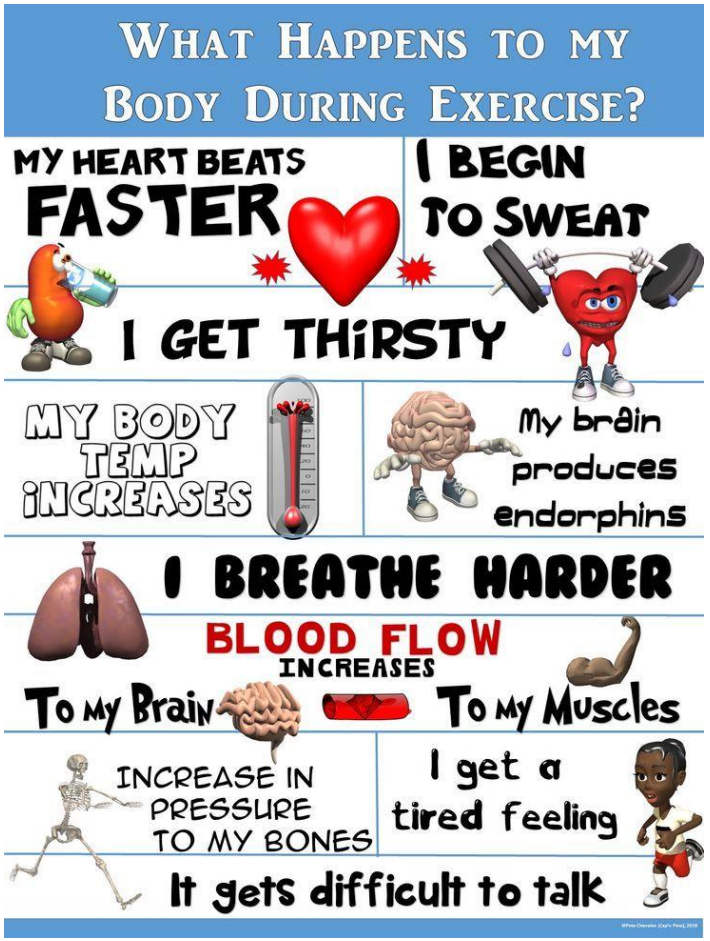
A **warm up** should be completed before taking part in exercise/ sport and is important as it physically and mentally prepares a person for exercise. A **cool down** should be completed at the end of the session and helps to return the body to its normal resting state.

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 9