Minsthorpe Community College

Knowledge Organiser
Year 8 – Spring Term 2

Name:

P&A group:

Knowledge Assessment: Tuesday 24th March 2026 – Period 3

Vision

Minsthorpe Community College: A place where everyone plays a part in strengthening our learning community through motivation, commitment and care.

Motivation • Commitment • Care

Look

Look at the information carefully.
Read it three times.
It may help to **say** it as you read it.

Cover

Cover it with your hand or a piece of paper.

Write

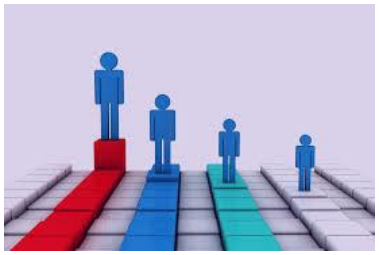
Write it out from memory.

Check

Check what you have written matches the information exactly.
Have you got it correct?
If so, tick your work to show it is correct.

Correct

If it **doesn't match exactly,** use **a different coloured pen to correct it.**
Repeat.
When you get it 100% correct, move on to the **next** piece of information.

Subject: English	KPOW: Unseen Poetry Analysis	Year 8: Spring Term 2
Week 1 & 2: Poetic Devices and Romantic love	**Week 3 & 4:** Developing Complex Terminology	**Week 5:** Creating and presenting your poem
Poetic Terminology (T) • *Semantic field:* a collection of words which are related to one another be it through their similar meanings, or through a more abstract relation. • *Rhyme:* have or end with a sound that corresponds to another. E.g. head, bed, red. • *Stanza:* a group of lines forming the basic recurring metrical unit in a poem; a verse. (Groups of lines are not called paragraphs in poetry). • *Enjambment:* the continuation of a sentence or phrase from one line of poetry to the next. • *Caesura:* a pause in the middle of a line of poetry. It usually comes in the form of punctuation, and the most common ones are full stops and commas. • *Sonnet:* a poem of fourteen lines using any of a number of formal rhyme schemes, in English typically having ten syllables per line. Vocabulary: • Stereotype: a widely held, but fixed and oversimplified image or idea of a particular type of person or thing. • Conventional: based on or in accordance with what is generally done or believed. • Burden: a load, typically a heavy one. • Lament: to express grief or regret about something.	Poetic Terminology (T) • *Imagery:* visually descriptive or figurative language, especially in a literary work. • *Extended metaphor:* is a literary term referring to when a writer compares unrelated objects or ideas with figurative language for more than a sentence. This literary device may be used throughout a paragraph, chapter, or even a complete work. • *Allegory:* a story, poem, or picture that can be interpreted to reveal a hidden meaning, typically a moral or political one. • *Cyclical Structure:* A story or poem that ends in the same place it began is commonly called a circular or cyclical narrative. • *Volta:* Italian word for "turn." In a sonnet, the volta is the turn of thought or argument. Vocabulary  Disparity: lack of similarity or equality; inequality; difference: a disparity in age; disparity in rank. Exacerbate: make (a problem, bad situation, or negative feeling) worse.	Poetic Terminology (T) *Direct address:* when speaker or writer communicates a message directly to another individual or group of individuals. *Second Person Pronouns:* you, your, yours- often used to create direct address. Vocabulary  Oblivious: not aware of or concerned about what is happening around one. Irony: a state of affairs or an event that seems deliberately contrary to what one expects and is often wryly amusing as a result. Antisocial: 1) contrary to the laws and customs of society, in a way that causes annoyance and disapproval in others. 2) not sociable or wanting the company of others. 

Subject: Maths

Week 1: Bivariate Data

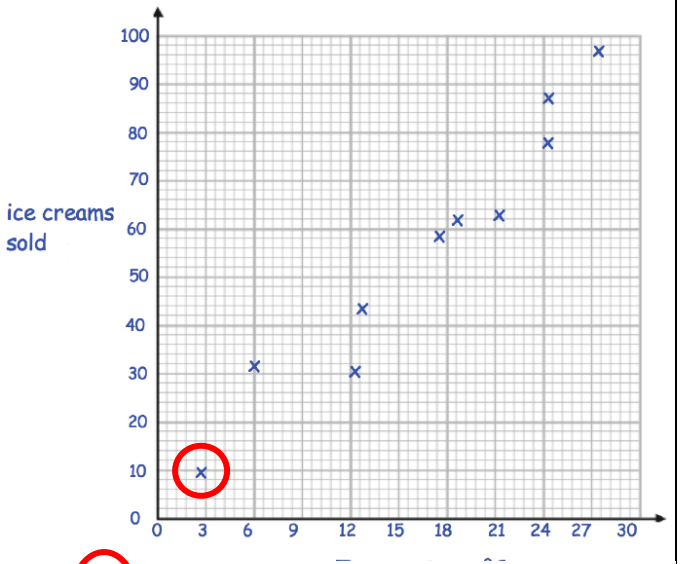
Bivariate data

When each entry in a data set has two corresponding pieces of information, we call it bivariate data.
The prefix "bi-" means two.
For example:

Main mode of transport	Journey duration (mins)	Journey length (km)
Car	15	4.5
Bus	20	3.1
Bus	18	2.5
Walk	23	1.7

Scatter graphs

We can represent bivariate data on a scatter graph when both variables are quantitative.
The point is circled on the graph to show how they have been plotted.



Sold	9	31	30	43	58	62	63	78	87	97
Temp	2.7	6	12.3	12.7	17.6	18.6	21.3	24.6	24.6	27

KPOW: Data

Week 2: Bivariate Data

Correlation

We can describe the relationship between the two variables using positive or negative and weak or strong correlation.

Positive Correlation

As one variable increases, the other increases.

Negative Correlation

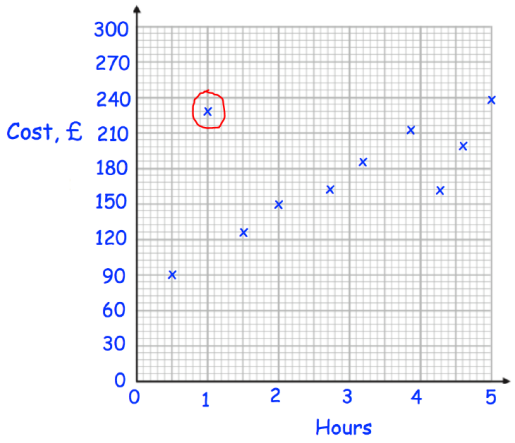
As one variable increases, the other decreases.

No Correlation

As one variable increases, there is no effect.

Outlier

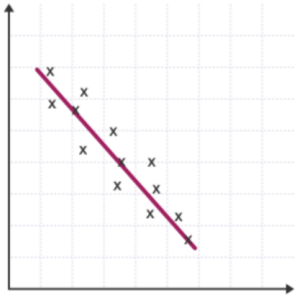
If there is a point that does not fit the trend that is called an outlier. For example:



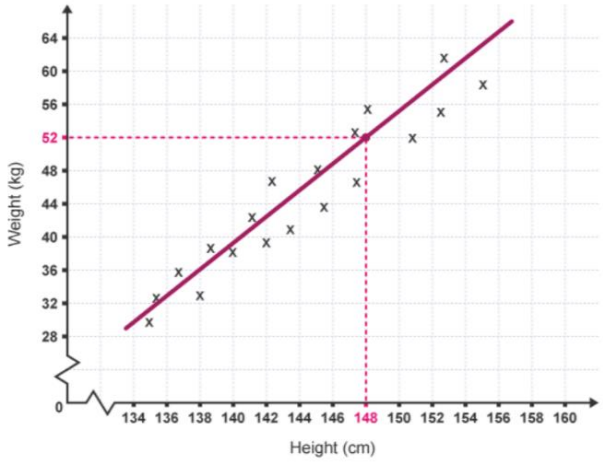
Year 8: Spring Term 2

Line of best fit

The line of best fit is a straight line that shows the general direction that a group of points seem to follow.
For example, there should be roughly the same number of points above the line as below.



Here is a scatter graph to show heights and weights of people. We can use scatter graphs to estimate for data we do not have. For example, estimate the weight of someone who is 148cm tall.
148cm ≈ 52kg

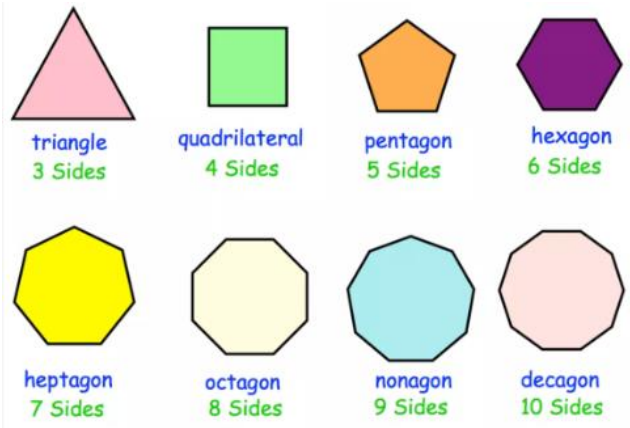


Subject: Maths

Week 3: Angles in Polygons

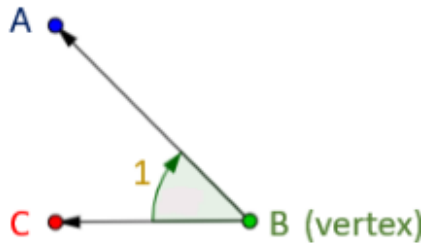
Naming polygons

Polygon: Fully closed 2D shape with straight sides.



Naming angles

Name an angle using the angle symbol (∠) following the three letters, with the vertex in the middle.
This angle would be called ∠ABC or ∠CBA

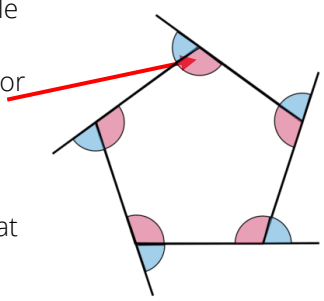


KPOW: Data

Week 4: Angles in Polygons

Interior angles

Here is the interior angle of a **regular** pentagon.
A pentagon has 5 interior angles.



You can use the fact that the interior angles of a triangle add to 180° to calculate the total interior angles of any polygon.

For example
3 triangles fit into a pentagon.
3 x 180 = 540° so all angles in a pentagon add to 540°.

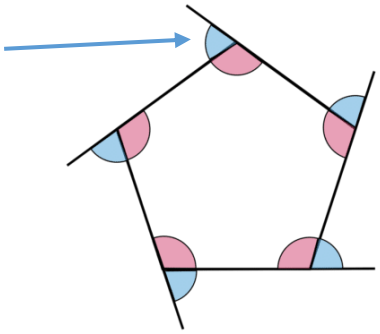
Shape	Number of sides	Number of triangles	Total interior angles
Triangle	3	1	1 x 180 = **180°**
Quadrilateral	4	2	2 x 180 = **360°**
Pentagon	5	3	3 x 180 = **540°**
Hexagon	6	4	4 x 180 = **720°**
Heptagon	7	5	5 x 180 = **900°**
Octagon	8	6	6 x 180 = **1080°**
Nonagon	9	7	7 x 180 = **1260°**
Decagon	10	8	8 x 180 = **1440°**

Year 8: Spring Term 2

Week 5: Angles in Polygons

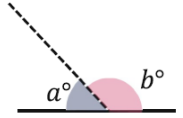
Exterior angles

Here is the exterior angle of a regular pentagon.
A pentagon has 5 exterior angles.



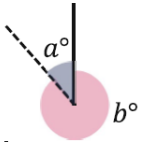
The exterior angles of any polygon add to 360°.

Other useful angle facts.



Adjacent angles on a straight line sum to 180.

a + b = **180°**



Angles around a point sum to 360.

a + b = **360°**

Subject: Science -Biology

KPOW: Week 3/4

Year 8: Spring Term 2

Week 1: Pathogens Presentation

When you are delivering a presentation you need to;

- **Look up!** – Make eye contact with your audience, don't look down at your notes or feet.
- **Project!** – Speak loudly and clearly so everyone can hear you.
- **Enjoy it!** – Smile and speak with enthusiasm so that the audience will be interested in what you have to say.
- **Take your time!** – Don't speak too quickly. Pause in between key points to allow the audience time to take in what you have said.

Your main focus is to make sure you speak loud enough for everyone to hear you.

Week 2: Vaccinations

Keyword definitions

Vaccine – A type of medicine designed by scientists to help build up a body's defences against disease.

Pharmacologist – A scientist who researches how drugs interact with biological systems.

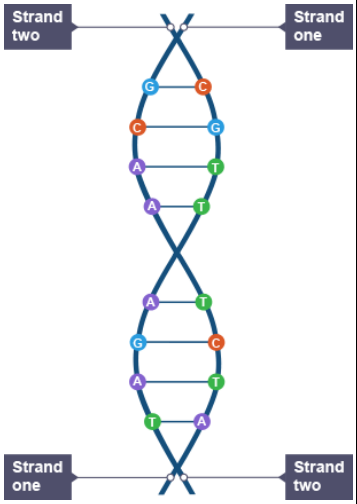
A **vaccine** contains a weakened version of a **pathogen** that triggers an **immune response** in a body. White blood cells produce **antibodies** that are specific for that pathogen.

If a person is later infected with the same pathogen, the body remembers and produces more antibodies quickly.

This means they do not become unwell.

Week 3: DNA and Variation

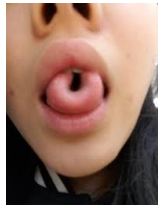
Keyword definitions



DNA – Store of genetic information for living things passed from parents to offspring. DNA is made of two strands arranged in a spiral called a **double helix**. Each strand is made of 4 **bases**; A, T, C and G which pair up (A–T, C–G).

Variation– Difference in characteristics within a species.

Variation can be **genetic** (caused by genes), **environmental** (caused by outside influence) or both. **Discontinuous variation** has a limited number of options e.g. eye colour. **Continuous variation** can change gradually e.g. height/weight.



Your height is **continuous** variation.

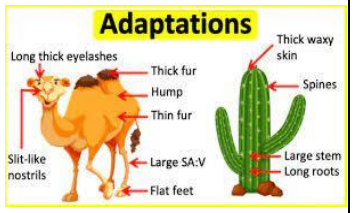
Rolling your tongue is an example of **discontinuous** variation, you either can or you can't do it.

Week 4: Adaptations and Competition

Keyword definitions

Adaptations – features that help an organism survive.

Adaptations can be physical (a change in structure or appearance) behavioural (a change in how they act) or physiological (a change in a body process).



Competition occurs when organisms require the same resources. Organisms which are better adapted to their habitat will have a better chance of survival.

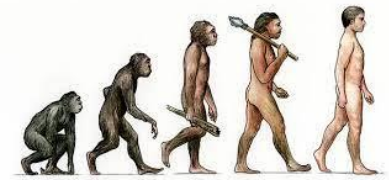
Week 5: Evolution, species and variation

Keyword definitions

Evolution – The process by which small changes in organisms occur over long periods of time and new species are formed.

Species - A group of similar organisms that can interbreed to produce fertile offspring.

Inheritance – Passing on characteristics determined by genes from parents to offspring.



Subject: Science -Physics

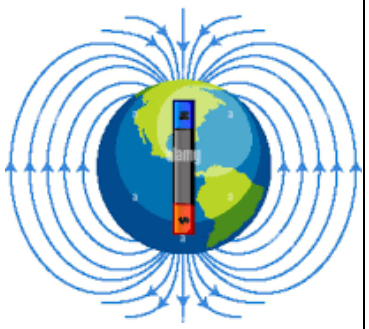
KPOW: Week 3/4

Year 8: Spring Term 2

Week 1: Earth and the Compass

Keyword definitions

Compass: A small magnetic bar that rotates in line with the earth's magnetic field. It can tell the user which direction they are facing.



The earth's magnetic field looks the same as that of a bar magnet and it is this that attracts the magnetic bar of a compass.

Week 2: Principle of motors

Keyword definitions

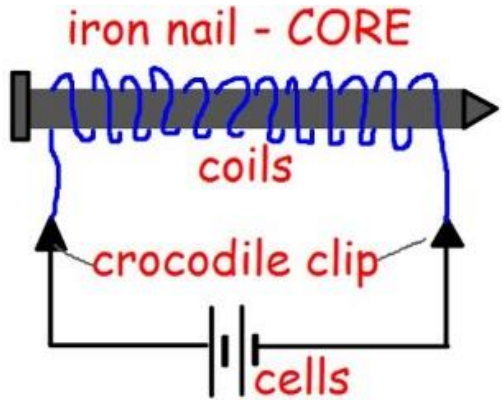
Motor: A device that turns **electrical energy** into **kinetic energy** using magnets.

Anything that has a rotating motor uses the motor effect to enable the rotating part to rotate.

Week 3: Electromagnets

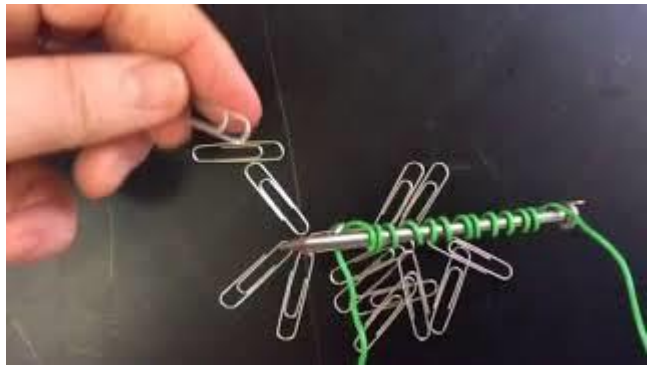
Keyword definitions

Electromagnet – A magnet made by passing an electric current through a coil of wire around a metal core.



Investigating electromagnets

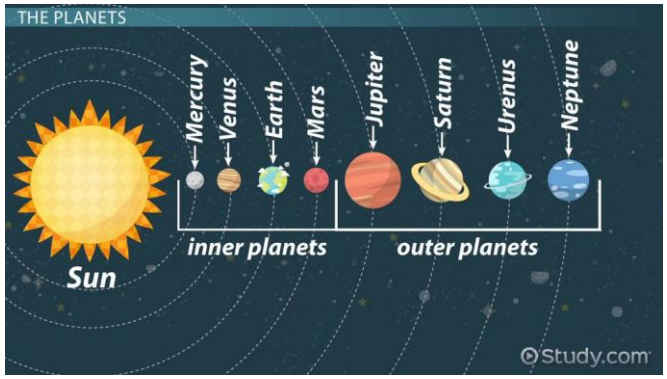
You can **change** the strength of the magnet by changing the **number of coils** of wire and **measure** the **strength** by counting the number of paper clips the magnet can pick up.



Week 4: Space

Keyword definitions

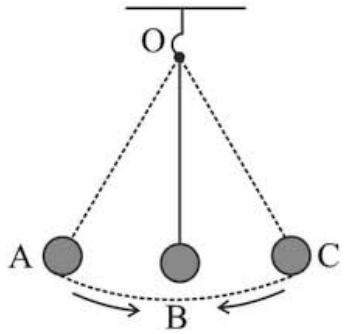
Solar system – Our solar system is made up of the **sun**, the eight **planets, dwarf planets, moons meteors, asteroids** and **comets**.



Week 5: Pendulums

Keyword definitions

A **pendulum** is a mass hung from a fixed point which can swing freely. To investigate pendulums you can change the mass, the length of the string and the angle of the swing.



In this practical the **independent** variable can be the angle of the swing, the length or the mass. The **dependent** variable is the time for one swing.

Subject: French	KPOW: Free Time Listening	Year 8: Spring Term 2

Week 1: Present tense faire & sports/hobbies

faire [to do]

je fais [I do]
on fait [we do]

du jogging [jogging]
du ski [skiing]
du sport [sport]
du vélo [cycling]
de l'équitation [horse riding]
de l'escalade [rock climbing]
de la natation [swimming]
de la randonnée [hiking]

Week 2: Present tense aller & places/hobbies

aller [to go]

je vais [I go]
on va [we go]

au centre commercial [to the shopping centre]
au centre sportif [to the sports centre]
au gymnase [to the gym]
au parc [to the park]
à la campagne [to the countryside]
à la montagne [to the mountains]
à la pêche [fishing]
à la piscine [to the pool]
à la plage [to the beach]
chez des amis [to my friends' house -plural]
en boîte [clubbing]

Week 3: Past & future verbs and time phrases

hier [yesterday]
le weekend dernier [last weekend]
j'ai fait [I did] — on a fait [we did]
je suis allé [I went] — on est allés [we went]
c'était [it was] — qui était [which was]

demain [tomorrow]
ce weekend [this weekend]
le weekend prochain [next weekend]
je vais faire / je vais aller [I am going to do / go]
on va faire / on va aller [we are doing to do / go]
je voudrais faire / j'aimerais faire [I would like to do]
je voudrais aller / j'aimerais aller [I would like to go]

ce sera [it will be] — qui sera [which will be]
ce serait [it would be] — qui serait [which would be]

Week 4: Revision of adjectives for giving reasons

c'est [it is] — qui est [which is]
amusant [fun] — bon marché [cheap]
dangereux [dangerous]
barbant [boring]
ennuyeux [boring]
nul [rubbish]
facile [easy]
difficile [difficult]
intéressant [interesting]
génial [great]
tranquille [peaceful]
reposant [relaxing]
solitaire [lonely / solitary]
cher [expensive]
bon pour la santé [good for my health]

Week 5: Revision of time phrases

de temps en temps [from time to time]
deux fois par semaine [twice a week]
pendant le week-end [during the weekend]
tous les jours [every day]
tous les samedis [every Saturday]
tous les soirs [every evening]
tous les week-ends [every weekend]
une fois par mois [once a month]

hier [yesterday]
le weekend dernier [last weekend]

demain [tomorrow]
ce weekend [this weekend]
le weekend prochain [next weekend]

Subject: Geography

KPOW: Our Restless Earth

Year 8: Spring Term 2

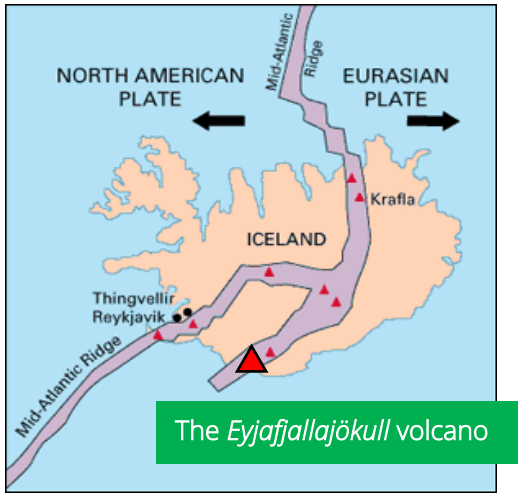
Week 1: Volcano Case Study

Iceland lies on a **constructive** plate boundary; **the plates are moving apart**.

In **2010,** one of the volcanoes **(Eyjafjallajökull) began to erupt**; it erupted between March and June. The impact of the eruption affected the entire world!

Impacts of Eyjafjallajökull:

- **National-** The ash **contaminated local water** supplies. Many of the roads surrounding the volcano closed.
- **European** – Over 8 days, 107,000 **flights were cancelled across Europe**. This prevented 2.8 tonnes of carbon dioxide entering the atmosphere.
- **International** – Flights cancelled meant **sporting events were cancelled**, and workers were stranded abroad. Worldwide businesses lost money.

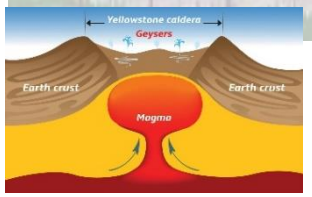


The *Eyjafjallajökull* volcano

Week 2: Supervolcanoes

A **supervolcano** is an exceptionally large volcano that **erupts with a massive volume of material**, much more than a normal volcano – **at least 1000km³** whereas a normal volcano would emit 1km³.

Supervolcanoes can **occur when magma** in the Earth **rises into the crust from a hotspot** but is unable to break through the crust, creating a large magma pool. **Pressure** builds as the magma pool grows until the crust is unable to contain the pressure and **erupts**.

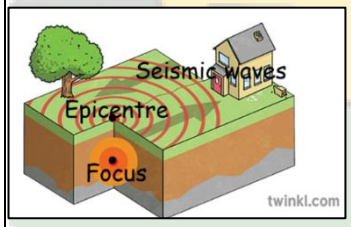


Yellowstone, USA is a supervolcano, but our closest one is in **Italy**.

Week 3: Earthquakes

Seismic means vibrations in the Earth's crust. Earthquakes are the sudden release of **energy** in the Earth's crust. Earthquakes create both primary and secondary effects:

- **Primary** – happen as the Earth shakes e.g., **houses collapsing** or death.
- **Secondary** – due to the impact of the primary e.g., **diseases spreading** or emotional upset.



Focus - **where the earthquake starts**.

Epicentre - point on the **surface** directly above the focus.

Week 4: Living with Hazards

Many people choose to live near volcanoes and other hazards because usually the benefits of living in those

Good soil	Valuable materials
Money from tourism	Fossil fuels
Geothermal Energy	Family

Reducing the effects of hazards

Predict	Volcanologists **monitor volcanoes** and can predict whether a volcano is likely to erupt.
Plan	Drawing up **evacuation plans** and setting up **warning systems** to alert people of eruption.
Preparation	People keep **masks, goggles, and helmets** in their homes as protection against the dust.

Week 5: Our Restless Earth - KPOW

KPOW Keyword recap

Structure - How something is made up.

Volcano - A vent (gap) in the Earth's crust through which magma rises.

Effect - A change that happens because of a cause.

Caldera - A large depression in the Earth when a volcano erupts and collapses.

Seismic - Vibrations in the Earth's crust.

Hazard - A danger or a risk to human life.

Subject: History | KPOW: How did the Industrial Revolution change Britain? | Year 8: Spring Term 2

Week 1: Overview of changes 1750-1900

Britain changed dramatically during the Industrial Revolution, between 1750 and 1900.

- The population rose from 11 million to 42 million by 1900.
- In 1750 most people lived and worked in the countryside, by 1900 most people had moved to new towns to work in the factories.
- The source of power was transformed from manual and waterpower to steam power (from burning coal).
- In 1750, travel was slow using horse and cart. By 1900, this was made much quicker using trains.
- Peoples' health improved as medical knowledge grew.
- In the later stages of the Revolution most men could vote (but not women).

Week 2: Mills

Domestic system

People worked in their own homes and could choose their own hours; this was called the Domestic System.

Cotton (textile) Mills

An invention called the spinning frame led to a move to factories/mills. The environment was hot, noisy, smelly, dangerous and the air was filled with cotton fluff. Accidents were common (hair caught or fingers trapped).

Employees worked long hours with few breaks. Children as young as 4 or 5 were also employed to crawl under the machines. An overseer was employed to hand out punishments to those either late or not working hard enough.

Week 3: Mines

After 1745, more coal was needed because the population had grown and it was needed to power steam engines in the new factories.

Coal is a better source of fuel than wood as it burns for much longer.

Inside a mine, the environment was hot, cramped, wet, and dangerous. There were often disasters from collapsing roofs and gas explosions.

Children worked in the entrance to the mine, opening and closing a wooden trap door. They were called trappers. Hewers were usually men and they dug the coal from the walls.

Women could be employed as a 'getter,' collecting the coal that had been dug to put in tubs.

Week 4: Terrible Towns

As the numbers of factories grew this led to the growth of towns such as Sheffield, Leeds and Manchester.

The rapid growth led to poor quality housing like back-to-back houses with no sewage facilities.

A street would often have a shared toilet and a dung pile which would be taken away to be sold.

Houses were very overcrowded – often with five people in one room. Water was sometimes provided by a pump, but this would come from the local river and be filthy.

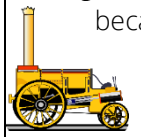
Disease spread easily and the life expectancy of a working-class man in Leeds was only 19. Cholera and typhoid were diseases carried by dirty water.

Week 5: Innovations and a fight for rights

Richard Arkwright invented the spinning frame which could make thick, strong thread very quickly.

The steam engine was developed James Watt.

George Stephenson benefitted from the steam engine because he used it to power the first ever steam locomotive (train).



Engineer Isambard Brunel helped with transport because he figured out how bridges and tunnels could go through hills.

Michael Faraday was 'the electricity king' as he figured out how to use magnets to create electricity.

Charles Babbage invented the earliest computer making a machine that could do calculations.

The telephone was invented by a man called Alexander Graham Bell. He was married to a deaf woman and worked all his life on making electrical hearing aids and from this, the telephone too.

Why were the working class angry?

- The new machinery led to less jobs.
- At a peaceful meeting eleven people were killed by the authorities!

Things start to change:

1800s = high food prices and poor working conditions. Ordinary people could not vote. By 1830, thousands of people all over Britain were demonstrating.

The 1832 Great Reform Act gave the vote to more people but the working class could still not vote.

What happened next?

The Chartists campaigned for more rights including all men being able to vote.

They did not succeed at the time but 5 out of their 6 aims were eventually achieved.

Subject: DT - Food	KPOW: Cupcake Practical	Year 8: Spring Term 2
Week 1 & Week 2	Week 3 & Week 4	Week 5

Cake Theory – Cake making methods

Rubbing in method

- Fat is **rubbed** into the flour using fingertips & additional ingredients are added.
- Liquid added to **bind** together dry ingredients.
- Used to make scones, rock buns, crumble.

Raising agent

Chemical- Baking Powder or Self Raising flour.
Mechanical - Sieving Rubbing In.

Melting method

- Fat is **melted** with the sugars and syrups.
- Dry ingredients added.
- Liquids bind allingredients together.
- Used to make brownies, flapjack, gingerbread.

Raising agent

Chemical- Bicarbonate of soda.

Creaming method

- Fat and sugar are **creamed** together.
- Eggs are slowly added a bit at a time.
- Flour is folded in.
- Used to make Victoria sponge, cupcakes, Maderia cake.

Raising agent

Chemical- Baking Powder or Self Raising flour.
Mechanical- Creaming/ sieving.

Whisking method

- Eggs and sugar are **whisked** until mixture has doubled in volume.
- Flour is gently folded in.
- Used for swiss roll, gateaux, flan case.

Raising agent

Mechanical- Whisking, sieving.

Cupcake ingredients

- 175g (6 oz) softened butter or margarine
- 175g (6 oz) caster sugar
- 2 teaspoons vanilla extract
- 3 eggs
- 175g (6 oz) self-raising flour

(if chocolate flavoured 140g SR flour 35g cocoa)

Buttercream- (200g butter + 400g icing sugar)

Decorations e.g

- Chocolate/ nutella/ biscoff
- Sprinkles/choc decorations
- Bun cases x12

Simple method for making cupcakes

1. Weigh out the butter and sugar and place in into a bowl and whizz up until light and fluffy – use a spoon or electric whisk.
2. Pour in the vanilla essence and add the eggs - whizz again to make a smooth batter.
3. Add the flour and/or cocoa and fold in until it is smooth. Stop once in the middle of this and scrape the sides down using a spatula. The longer mixing time enables air to get into the mixture which will make it lighter.
4. Place cases into tin and pour evenly into the 12 cupcake cases, 60% full.
5. Bake for about 14 minutes. Keep an eye on them. They will be perfect when they bounce back to the touch and the top still looks slightly sticky, leave to cool, decorate.

Special diets/ timelines

Food allergy- eating a particular food would trigger an immune reaction.

Food intolerance- difficulty digesting a particular food.

Coeliac disease

A condition where your immune system attacks your own tissues when you eat gluten.
This damages your gut (small intestine) so you are unable to take in nutrient.

Lactose Intolerance

A digestive disorder caused by the inability to digest **lactose**, the main carbohydrate in dairy products.

Vegetarians- Choose not to eat meat or fish.

Vegans- Chosen not to eat meat or use anything that comes from an animal.

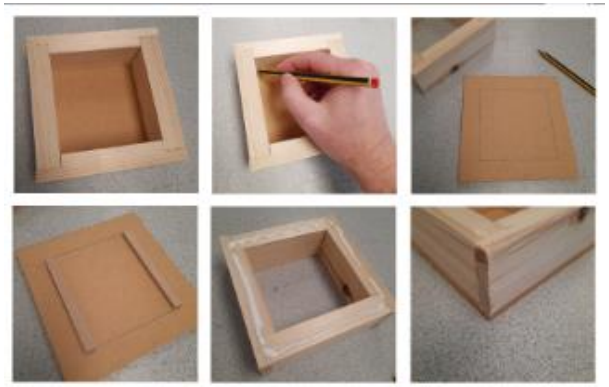
Baby- milk is a key necessity full of vitamins and protein, first solid foods should be fruit and veg then slowly cereals, dairy and other foods introduced.
Toddler- some milk still, starchy foods like potatoes, pasta, rice as well as some protein lean meat and fruit and veg- still soft in texture nothing too hard or crunchy.
Teenager-growth and development is rapid during this part of life and a real mix and balance of nutrients is required with low fat diet being very important.
Adult- similar to a teenager unless woman is pregnant or breast feeding where they have to consider certain foods and how they could affect the baby.
Elderly- energy requirement is not as great but high protein and vitamins are essential as bone disease can affect this age group.

Spellings Test:

YEAST CREAMING WEIGHING STARCH
CARBOHYDRATE PROTEIN
PROCESS METHOD HYGIENE APPERTISING
GELATINISATION APPEARANCE
INSTRUCTIONS JUSTIFICATION EVALUATION

Subject: DT – Product Design

Week 1 & Week 2: Drawing and Rendering

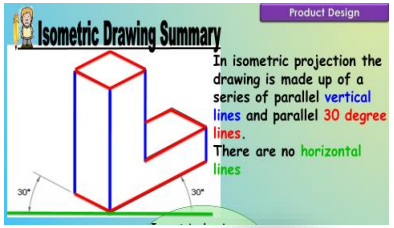


Theory

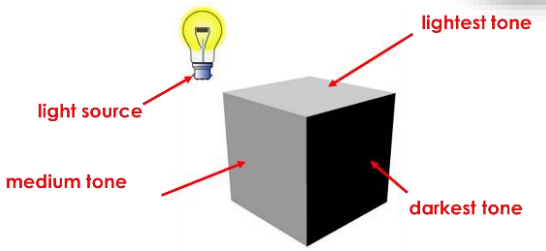
Oblique drawings only show one side of the shape in any real detail.

Isometric is more realistic 3D image.

Rendering – Add colour to a shape or an object to make it look 3d.

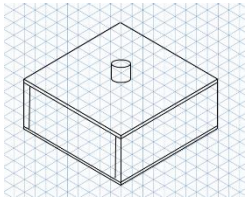


3 tone rendering – Uses three varying tones of colour.

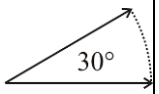


KPOW: Design & Evaluation

Week 3 & Week 4: Isometric Drawing



Isometric drawings are produced to a clear and detailed drawn version of an idea or final design. The horizontal lines are drawn at 30 degree angles.



Key words:

Flush – Materials all even and flat when put together.

Band facer – A machine which sands wood along a long belt aka a belt sander).

Finish – The way the manufacture of product is completed (complete to a high standard).

Isometric paper – graph paper with angled boxes to help draw in 3D.

Theory

How paper is made – The manufacturing process used to convert trees (source material) into paper.

Sustainability - Avoidance of depletion (using them up) of natural resources.

6 R's

Reduce – Reduce materials used.

Rethink – Design to think about environment.

Recycle – Reprocess material to make something else.

Reuse – Use a product to make something else.

Refuse – Do not buy it if you do not need it.

Repair – Fix it instead of replacing.

Year 8: Spring Term 2

Week 5: CAD & CAM

Welding strategy - using a range of shapes to form a new shape. This can be done free hand or using templates.

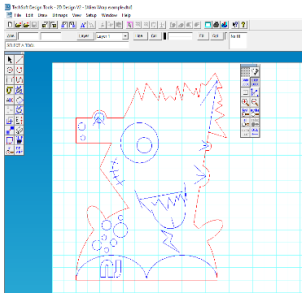
Modelling is an integral part of the design process and helps the designer to see faults before manufacturing.

Key words

Modelling – Test how the product looks before making it out of the chosen materials.

Presentation – Thinking about layout, colour, and annotation.

Fine liners – Thin nibbed pens to add detail when designing.



In industry CAD and CAM are used on large scale manufacturing. CAD in what we produce on a computer and CAM is the manufacturing process which is informed by the computer.

Keywords

Techsoft 2D Design – **CAD** software that is used to create designs which will be cut using a laser cutter.

CAD – Computer aided design.

CAM – Computer aided manufacture.

Subject: DT - Textiles

Week 1 & Week 2

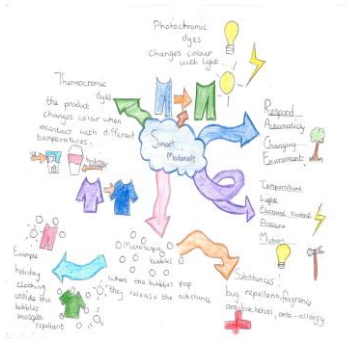
Practical

Pinking Shears – Have a sawtooth blade that cuts the fabric in a zig-zag pattern. Function: to reduce fraying which is when the threads unravel.

3D = 3 dimensional -meaning has three dimensions, depth, width, and height.

Hem – the finish made to the bottom of clothes such as trousers and skirts. The edge is turned up to create a neat finish and the fabric wont fray. Casing – this is like a hem, but the fold is larger which creates a tunnel that something like elastic or a drawstring could be pulled through.

Theory – Mind Mapping: A mind map is a diagram where key information is shown by organising it into sections, including pictures/diagrams to support you revising and retaining information ready for a test.



Presentation skills: Voice projection, clear pronunciation, eye contact, use Standard English, structure, timing, organisation, liveliness.

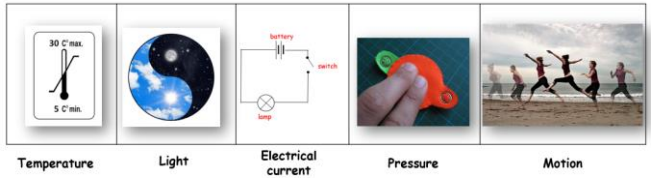
KPOW: Storage Product

Week 3 & Week 4

SMART MATERIALS are materials that Respond Automatically to a Changing Environment

(RACE = acronym)

Examples of change are:



Microencapsulation: microscopic bubbles filled with a substance then sprayed onto fabric. Examples of substances are anti-bacterial, fragrance, antiallergic & mosquito repellent.

D30: A smart material that is like playdough until it is hit (blunt force), the molecules then lock solid.

Thermo chromic = dyes that change colour in response to changes in TEMPERATURE. E.g. baby spoon. Photo chromic = dyes that change colour in response to ULTRAVIOLET LIGHT (UV). E.g. image on t-shirt.

E-TEXTILES: Interactive fabric which incorporates electronics which are activated by a power source i.e. a battery.

Conductivity: The ability of a material to transmit energy or a charge. This is added to fabric by either:

Microwires woven into fabric

Conductive threads sewn onto fabric

Conductive printing inks printed onto fabric

Year 8: Spring Term 2

Week 5

Examples of E-Textile products:

MEDICINE – a *vest* that records the patients' vitals like temperature, heart rate and blood pressure. Means it is quicker and easier to use.

SPORT – *Running shoes* which can share the runner's style as they run - information transmitted through Bluetooth so they can improve as they go.

MILITARY/ARMY – *vest* worn by soldiers, like a computer, stores and transmits information about surroundings. Makes soldier safer as can be warned about dangers.

FASHION & NOVELTY – Can light up clothing such as *catwalk dresses* and *umbrellas*. Can also be used for safety for cyclists at night.

MODERN MATERIALS - materials that have been created through technological development.

Kevlar - very strong and durable, used to make bullet proof vests and cables for civil engineering.

Carbon Fibre – strong, rigid, lightweight, flameproof, used to make racing cars and crash helmets.

Nomex – Heat, flame and spark resistant, used to make racing drivers clothes and oven gloves.

Super Hydrophobic - Repels water, used to protect electronic circuits like in your phone and can coat clothing like shoes and other footwear. The Lotus effect!

Rhovyl – long lasting antibacterial capabilities i.e. can be washed numerous times and remains antibacterial. Used for bedding, underwear, and socks.

GEOTEXTILES – term used for materials used in civil engineering (i.e. industry term for buildings, roads, bridges, and canals).

Subject: Core PE

Week 1 & Week 2: Bruise

Definition- An injury appearing as an area of discoloured skin, caused by impact or rupturing of underlying blood vessels.

Example- A hockey player might get a bruise from being hit by a hockey stick.

KPOW: Key Words

Week 3 & Week 4: Abrasion

Definition- Abrasions are minor injuries to the skin such as a cut or a graze.

Example- A footballer could get an abrasion from sliding on astroturf.

Year 8: Spring Term 2

Week 5: Flexibility

Definition- Flexibility is 'the range of movement possible at a joint.

Example- A netball player would need flexibility to be able to reach up high to block a shot.

Subject: Computing & Digital Media

Week 1 & Week 2

Denary or decimal is our standard number system, it allows humans to count. It is a base 10 system with 10 digits (0,1,2,3,4,5,6,7,8,9). **Binary** is a base 2 number system and is the language of computers.

Placeholders: 8-bit structure

128	64	32	16	8	4	2	1

Converting denary into binary:

198 = 11000110 (128+64+0+0+0+4+2+0).

128	64	32	16	8	4	2	1
1	1	0	0	0	1	1	0

Converting binary into denary:

Add the placeholder numbers together when you see a 1.

01010001 = 81 (0+64+0+16+0+0+0+1).

128	64	32	16	8	4	2	1
0	1	0	1	0	0	0	1

Binary numbers can be added together. Work from the right and use these four rules, carry under to the left as required:

Rule One:	0 + 0 = 0
Rule Two:	1 + 0 =1
Rue Three:	1 + 1 = 10 (binary for 2)
Rule Four:	1 + 1 + 1 = 11 (binary for 3)

01010011
01110110
———
11001001

KPOW: Algorithms

Week 3 & Week 4

Keywords:

Algorithm: An algorithm is a process to solve a problem using a fixed number of steps.

We use **algorithms** so the computer understands how to do something. The computer needs to be given a list of instructions so it can follow them. We call this a **sequence.**

A **flow chart** shows the **sequence** of an algorithm in a graphical way. Here are some of the symbols we use to make a flowchart.

Shape & Function	A rectangle represents a start or end point.	An arrow is a connector that shows the direction of information through the flow chart	A parallelogram represents an input or output.	A rectangle represents a process.	A rhombus is used to show a decision that needs to be made
Name	Terminator Start/End	Connector	Input/output	Process	Decision
Symbol					

Year 8: Spring Term 2

Week 5:

Keywords:

Linear: Carrying out instructions that follow each other in order.

Search: looking for a value (in a list of other values)

There are many different types of search algorithms. Two are them are ***binary search*** and ***linear search***.

Binary search is a faster method for searching for an item that is in an **ordered list**.

The ***binary*** search *algorithm* takes the data and keeps dividing it into two until it finds the item it is looking for.

The most basic kind of search is a ***linear search***. The data does not need to be ordered.

The search starts with the first item and then moves to each item in turn, until either a match is found, or it reaches the end.

Subject: Music

Week 1 & Week 2: EDM Music

What is EDM music?

EDM stands for **Electronic Dance Music.** It became popular in the **1990s.** It is music made with **electronic instruments and computers.** EDM is designed to make people DANCE!

What does EDM sound like?

EDM has a **strong beat** and a steady **rhythm**. It includes **Beat drops** and **Build-ups**. The music is **loud**, **exciting**, and great for **dancing**

Who are the Key Artists of EDM?

Calvin Harris

- A **Scottish DJ and music producer**
- One of the **most successful EDM artists** in the world
- Creates upbeat, energetic **Electronic Dance Music** heard in **clubs** and **festivals**

David Guetta

- A **French DJ and music producer**
- One of the **founders of modern EDM**.
- Known for making electronic music that becomes **chart-topping hits** around the world

KPOW: Shut up and Dance

Week 3 & Week 4: Selecting an Instrument

Key Instruments in EDM music:

Synthesizers – create electronic sounds
Drum machines – make strong beats
Computers and software – used to produce and mix the music

Key skills for Ensemble:

Ensemble:
A group of musicians performing in time.

Confidence:
To believe in yourself and your abilities to perform. Showing confidence in your performance helps you connect with the audience and convey musical expression effectively.

Fluency:
To be in time and have no pauses or mistakes.

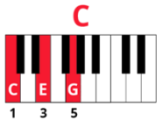
Rehearsal:
A practice session where musicians come together to prepare for a performance. It allows musicians to work on timing and build their confidence.

Year 8: Spring Term 2

Week 5: KPOW performance

What is a Chord?

- A chord is a combination of two or more notes put together.
- Chords begin with a single note called the **root.**
- A **triad** is made up of **three notes** and we use the **HIT one MISS one HIT one MISS one** method

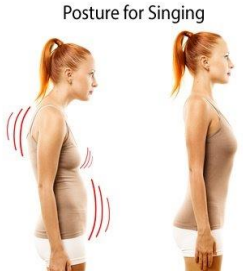


What is a Fret Board?

- A fret board found on **stringed instruments**
- Pressing a string down against a fret changes its **pitch**
- We play using our **LEFT hand**
- Understanding the fretboard is essential for string instrument players as it is fundamental to producing the correct notes and playing music accurately

How to sing effectively?

- Roll shoulders back and open your **diaphragm**
- Feet should be **shoulder width apart**
- **Project** your voice with **CONFIDENCE!**

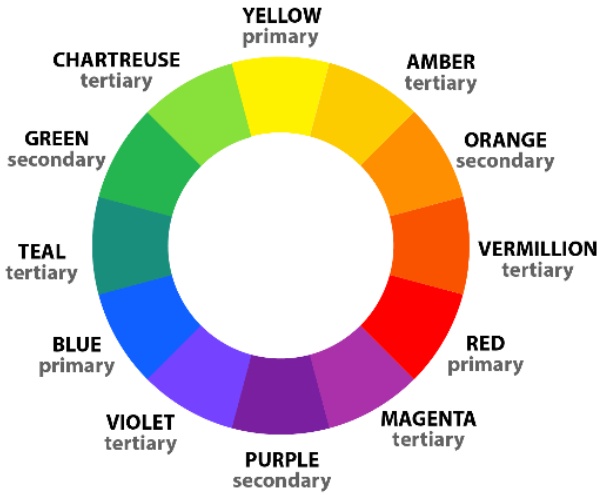


Subject: Art

Week 1 & Week 2: Keywords and Definitions

- TWO DIMENSIONAL - any form of visual art that exists in two dimensions. Having or appearing to have length and breadth, but no depth.
- MOVEMENT (ART) - is generally defined when a group of artists during a specific time tend to adapt a particular style with a common goal or philosophy.
- COLOUR - the property possessed by an object of producing different sensations on the eye as a result of the way it reflects or emits light.

Colour wheel - reminder



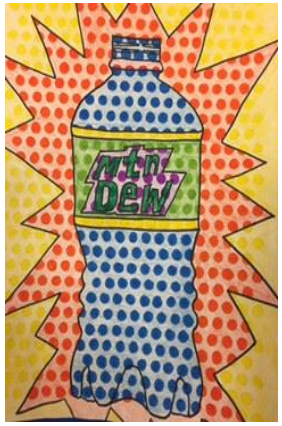
KPOW: Culture - Pop Art

Week 3 & Week 4: Outcome Development

Outcome – A piece of Art that you have created using inspiration from others along with your own ideas.
Graphic designer - create visual branding, adverts, brochures, magazines, website designs, product packaging and displays.

Re-cap - This term you have drawn a bottle from observation and researched the Pop artist Sarah Graham.
Now you have an opportunity to become a Pop Artist yourself.
Apply line, pattern and colour knowledge to a design of your own.

A can or bottle design showing a Pop Art influence.



Year 8: Spring Term 2

Week 5: Pop Art Movement

Pop (short for popular) Art is an art movement that began in the 1950s.

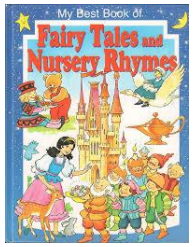
Artist Andy Warhol worked with a variety of media such as silkscreen printing, painting and photography.

Artist Roy Lichtenstein was inspired by comic books and advertising posters. Much of his work uses primary colours, thick outlines and dots.

Subject: Drama

Week 1 & Week 2: Introduction to KPOW

Nursery Rhyme - a tradition poem or song aimed at children.



Fairy Tale - enchanting collection of short stories belonging to the folklore genre.

Style: how the work is presented on stage, a framework to shape the performance.

Teamwork: Working with a group of people to achieve a shared goal or outcome in an effective way. Actively listening to other members of a group.

Directing: *showing the way by conducting or leading; imposing direction on.*

KPOW: Physical Theatre

Week 3 & Week 4: Rehearsal

Warm up - an acting warm-up is any physical or mental activity that can be used to help get focused and into character.

Timings: in Physical Theatre it helps performers to move together when performing synchronised movement.

Accuracy: *the quality of being correct and without mistakes:*

,

Structure– How the plot or story of a play is laid out.

Pace - the speed of a performer's movement.

Year 8: Spring Term 2

Week 5: KPOW

Stage Presence: an energy on stage that makes their performance unforgettable; a charm and charisma that draws you in.

Transitions: the movement from one scene to another

'Don't practice until you get it right. Practice until you can't get it wrong'.

Performance – an act of presenting a play, concert, or other form of entertainment.

Peer Feedback – enables the performer to improve their work, based on feedback of strength and weaknesses.

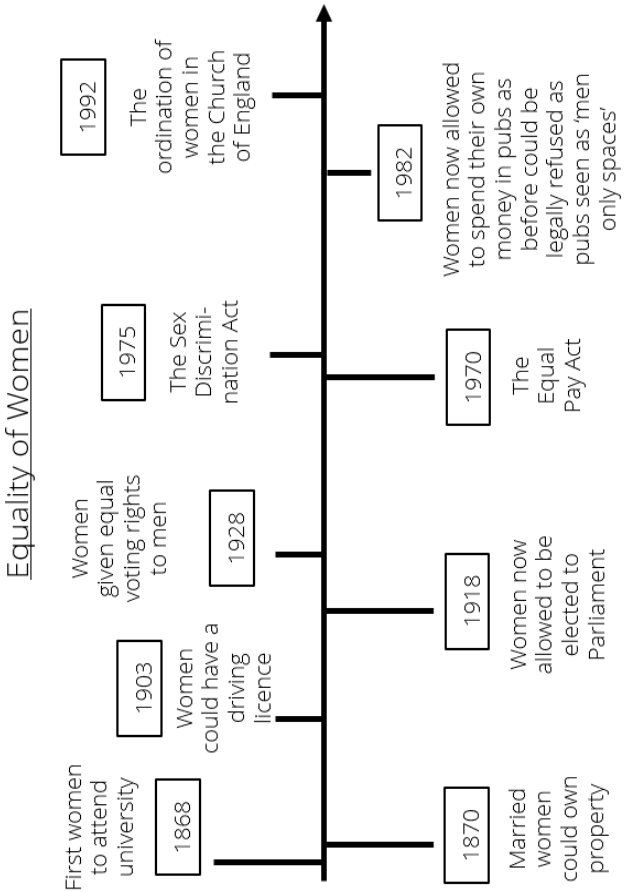
Self - Reflection – enables you to question your performance work, in a positive way, what you do and why you do it and then deciding whether there is a better, or more efficient, way of doing it in the future.

Subject: Learning 4 Life

Year 8: Spring Term 2

Week 1 & Week 2: Equality of Women

Please learn the brief history of women's rights below:



Of all the rights above there was only one that women received at the same time as men – the right to hold a driving licence.

Week 3 & Week 4: Mary Seacole

Please learn these key facts below;

Mary Seacole is famous because of the work she did as a nurse during the Crimean War

Read and learn the facts below about Mary Seacole:

Mary Seacole was born in 1805 in Jamaica

Mary wanted to travel to England to register as a nurse for the Crimean War

Seacole faced opposition to her wish to register as a nurse because she was of mixed race

This only made Seacole more determined, she made her way to the Crimea and built her own hospital, 'The British Hotel'

A reporter from the Times, William Russell, went to the Crimea to report on her work of helping and caring for the wounded

At the end of the war Seacole returned to England but it took the support of William Russell to remind people of the work Seacole had completed in the Crimea.

Racial Discrimination: To treat a person less favourably because of their race.

Week 5: Rosa Parks

Please learn these key facts below;

Rosa Parks is famous because she refused to give up her seat on a bus for a white person.

Read and learn the facts below about Rosa Parks:

Rosa Parks was born in 1913 in Alabama

At this time black people were expected to sit at the back of a bus and if the bus got full, to stand up for white passengers

On Thursday 1st December 1955 Rosa Parks refused to move for a white person when on the bus

This refusal was quickly followed by the Bus Boycott, black people avoided using buses to show their dislike of segregated buses

The boycott started on Monday 5th December and lasted for 381 days

Finally, the Supreme Court ruled that segregated buses were unconstitutional, the protesters were successful

Segregation: To separate black people from white people.

Home Learning Schedule

Day	Subject to Learn	
Monday	English and Learning 4 Life	
Tuesday	Maths and Computing & Digital Media	Sparx Week B
Wednesday	Science	Educake Week A
Thursday	French, History and Geography	
Friday	Design Technology, PE & Creative	

Home Learning is set every **Monday** and will be submitted in **P&A Time** every **Monday.**

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