



Minsthorpe Community College

Knowledge Organiser Year 10 – Spring Term 1

Name:

P&A group:

Knowledge Assessment: Friday 22nd May 2026 – Period 2

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: Power and conflict Poetry	Year 10: Spring Term 1
<p>Week 1: Power and Conflict</p>	<p>Week 2: Power and Conflict</p>	<p>Week 3: Power and Conflict</p>
<p>Exposure - The speaker recalls a firsthand experience, battling the conditions of WW1 trenches.</p> <ul style="list-style-type: none">  1. The poet exposes the realities of conflict / the power and danger of nature and warfare. QUOTATION - "our brains ache in the merciless iced east winds that knife us"  2. The poet exposes how soldiers felt abandoned after conflict / the powerful do not intervene to protect them. QUOTATIONS - "on us the doors are closed", "turn back to our dying"  3. The poet exposes that conflict causes both physical and mental torment / the powerlessness of men to end their suffering. QUOTATIONS - "burying party/ pause over half known faces/ all their eyes are ice", "nothing happens" <p>Bayonet Charge - The speaker describes a soldier going 'over the top' onto the battlefield.</p> <ul style="list-style-type: none">  1. The poet exposes the reality of war / how those in power throw men in unprepared. QUOTATION - "Suddenly he awoke and was running-raw/ in raw hot seamed khaki"  2. The poet highlights how conflict makes men question their patriotism / those in power abuse patriotism to recruit soldiers. QUOTATIONS - "In what cold clock work of the stars and the nations was he the hand pointing that second"  3. The poet exposes that conflict dehumanises and traumatises soldiers / those in power mislead using propaganda. QUOTATIONS - "King, honour, human dignity, etcetera / dropped like luxuries", "his terrors touchy dynamite" 	<p>Charge of the Light Brigade - The poem focuses on a real historical battle in the Crimean War (1853-1856). Due to a miscommunication with leaders, 600 soldiers were ordered to charge into a battle they could not win. Ultimately, they were sent to their deaths.</p> <ul style="list-style-type: none">  The poet explores the courage and patriotism of the soldiers in conflict who bravely face near certain death / how powerful leaders sacrificed the soldiers, particularly those of the lower class. QUOTATIONS - "Half a league, half a league, half a league onward. All in the valley of death road the six hundred"  The poet glorifies the soldiers, highlighting their unwavering patriotism / subtly criticises the mistakes of those in power. QUOTATIONS - "Someone had blunder'd", "Theirs not to make reply, theirs but to do and die"  The poet exposes the bravery of the soldiers and commemorates their legacy / The poem shows the power of duty and devotion to one's country. QUOTATIONS - "When can their glory fade/ O the wild charge they made/ all the world wondered", "Honour the light brigade" 	<p>Kamikaze - The poem explores a daughter's memory of her father who was a Kamikaze pilot in WW2. She imagines what was going through her father's head when he decided not to complete the suicide mission.</p> <ul style="list-style-type: none">  1. The poet exposes how conflict often result in indoctrination and brain washing / the power of cultural expectations and leaders on individuals. QUOTATIONS - "a shaven head full of powerful incantations"  2. The poem shows how individuals can be trapped by war and want to escape / celebrates the power of nature and the impact it has upon humans. QUOTATIONS - "fishes flashing silver" "little fishing boats strung out like bunting on a green-blue translucent sea", "a tuna, the dark prince, muscular and dangerous"  3. The poem shows how war divides families and is destructive / the power of cultural expectations. QUOTATIONS - "we too learned to be silent", "to live as though he never returned", "he must have wondered which had been the better way to die" 





Subject: English	KPOW: Power and conflict Poetry	Year 10: Spring Term 1
<p>Week 4: Conflict</p>	<p>Week 5: Conflict</p>	<p>Week 6: Conflict</p>
<p>Poppies - A mother recalls caring for her son as a child who has left for war. It could be interpreted that he has died in conflict.</p> <ul style="list-style-type: none"> 1. The poet exposes how conflict causes death and feelings of loss for those left. <p>QUOTATIONS - "Three days before Armistice Sunday/ and Poppies had already been placed/ on individual war graves"</p> <ul style="list-style-type: none"> 2. The poet shows how conflict is something that causes suffering to those not fighting. <p>QUOTATIONS - "steeled the softening of my face", "I was brave"</p> <ul style="list-style-type: none"> 3. The poet highlights the universal feeling of loss parents feel in the absence or death of their children as a result of conflict. <p>QUOTATIONS - "I leaned against it like a wishbone", "I listened, hoping to hear your playground voice catching on the wind"</p> <p>The Emigree - A refugee is remembering their old country fondly and lamenting the discrimination they experience in the new country.</p> <ul style="list-style-type: none"> 1. The poet exposes how conflict forces people to flee their homes and miss them. <p>QUOTATIONS - "There once was a country... I left it as a child/ but my memory of it is sunlight clear"</p> <ul style="list-style-type: none"> 2. The poet conveys how conflict causes upheaval and leaves people in devastation. <p>QUOTATIONS - "It may be sick with tyrants but I am branded by an impression of sunlight"</p> <ul style="list-style-type: none"> 3. The poet emphasises how the victims of conflict feel a sense of isolation. <p>QUOTATIONS - "I have no passport, there's no way back", "They accuse me of being dark in their free city"</p>	<p>War Photographer - A war photographer contemplates his job as he develops the images he captured, and he realises the public does not truly care about the horror of war he has captured.</p> <ul style="list-style-type: none"> 1. The poet shows the difficulty of capturing the chaos and suffering of conflict in photographs. <p>QUOTATIONS - "spools of suffering set out in ordered rows"</p> <ul style="list-style-type: none"> 2. The poet exposes the detachment of those who have never experienced the horror of conflict first hand. <p>QUOTATIONS - "Rural England", "ordinary pain", "fields which don't explode beneath the feet"</p> <ul style="list-style-type: none"> 3. The poet conveys anger towards those who choose to ignore the brutality of conflict. <p>QUOTATIONS - "A hundred agonies in black and white", "Sunday's Supplement", 'bath and pre lunch beers", "They do not care"</p> <div data-bbox="837 1161 1393 1407" data-label="Image"> </div>	<p>Remains - Written from the perspective of a young soldier who is haunted by his experiences of fighting in Iraq.</p> <div data-bbox="1599 316 2011 571" data-label="Image"> </div> <ul style="list-style-type: none"> 1. The poet exposes how many soldiers must blindly follow the orders during conflict, regardless of the consequences. <p>QUOTATIONS - "possibly armed, probably not", "all of the same mind", "so all three of us open fire", "three of a kind letting fly"</p> <ul style="list-style-type: none"> 2. The poet exposes the brutal and violent nature of conflict. <p>QUOTATIONS - "he's there on the ground, sort of inside out", "the image of agony", "End of story, except not really"</p> <ul style="list-style-type: none"> 3. The poet highlights the aftereffects of conflict, exploring how the trauma of it can haunt the soldiers beyond the end of conflict. <p>QUOTATIONS - "he's here in my head", "dream, and he's torn apart by a dozen rounds", "and the drink and drugs won't flush him out", "his bloody life in my bloody hands"</p>





Subject: Maths

KPOW: Quadratics

Year 10: Spring Term 1

Week 1: Quadratics (F)

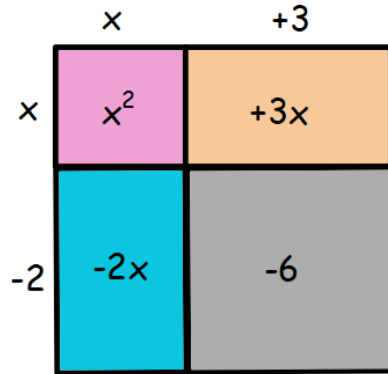
Week 2 & Week 3: Forming & solving equations (F)

Week 4 & Week 5 & Week 6: Probability (F)

Expanding double brackets:

We can use an area bar model to expand quadratic expressions written in the factorised form and express them in the standard form.

For example, Expand $(x + 3)(x - 2)$



$$=x^2 + 3x - 2x - 6$$

$$=x^2 + x - 6$$

Factorise

Quadratic expressions can often be written in the form $(x + a)(x + b)$

For example, $x^2 + x - 6$ can be written in the form $(x + 3)(x - 2)$



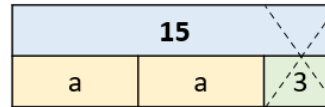
In algebra, we don't need to write the multiply sign. This still means $(x + 3) \times (x - 2)$.

Equations:

Bar models help us understand equations.

This bar model shows:

$$2a + 3 = 15$$



To solve an equation, rearrange to get letters on one side and numbers on the other.

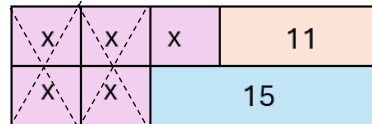
$$2a = 15 - 3$$

$$2a = 12$$

$$a = 6$$

Solving equations with unknown values on both sides

To solve an equation with unknowns on both sides, cancel the unknowns out first.



$$2x + 15 = 3x + 11$$

$$4 = x$$

Probability: How likely something is to happen.

We can represent probability as a fraction, decimal or percentage.

The Probability Scale



Theoretical Probability is what should happen if all variables are fair- it is what we would expect to happen.

Fair: All outcomes are equally likely.

Bias: One or more outcome may be more likely to happen than another.

Experimental Probability differs to theoretical probability in that it is based upon the outcomes from experiments. It may differ from what we would expect. Experimental probability is also known as the relative frequency of an event occurring.

Estimating the number of times an event will occur: Probability x number of trials





Subject: Maths

KPOW: Quadratics

Year 10: Spring Term 1

Week 1 & Week 2: Quadratics and graphs (H)

Week 3 & Week 4: Algebraic fractions (H)

Week 5 & Week 6: Inequalities (H)

Quadratic expression:

The Standard form of a quadratic expression is $ax^2 + bx + c$

a, b and c can be any number.

Substituting into a quadratic:

Substitute $x = 4$ into

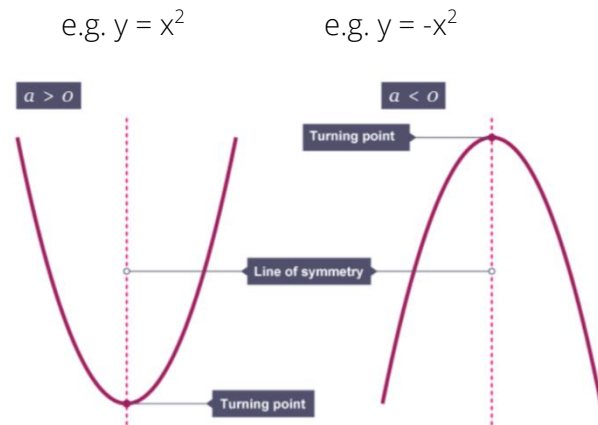
$$x^2 + 2x - 6$$

$$\begin{aligned} &= (4^2) + (2 \times 4) - 6 \\ &= 16 + 8 - 6 \\ &= 18 \end{aligned}$$

We can substitute different x -values into a quadratic to find coordinates for the graph.

Quadratic graphs

The shape of a quadratic graph is called a parabola. Graph of ax^2+bx+c



Keywords

Numerator: Top number in a fraction.

Denominator: Bottom number in a fraction.

Reciprocal: The multiplicative inverse of any non-zero number.

Algebraic fractions:

The same rules apply as ordinary fractions.

To add or subtract fractions, the denominators must be the same .

To multiply fractions, multiply the denominators and multiply the numerators.

To divide fractions, multiply the first fraction by the reciprocal.

To simplify algebraic fractions works the same as simplifying numerical fractions- a common factor must be found.

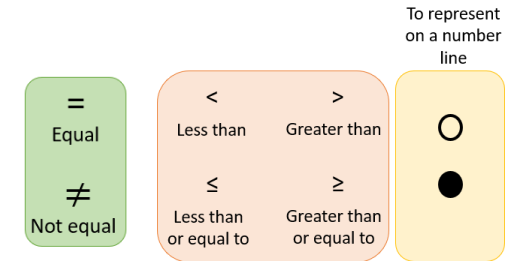
To simplify

$$\frac{12}{16} = \frac{12 \div 4}{16 \div 4} = \frac{3}{4}$$

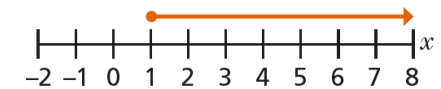
$$\frac{6m^2}{2m} = \frac{6m^2 \div 2m}{2m \div 2m} = \frac{3m}{1} = 3m$$

Inequalities:

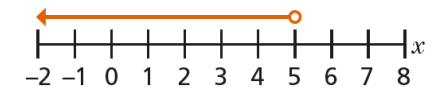
An inequality compares two values; showing if one is less than or greater than the other and whether they are equal to or not.



We can represent inequalities on a number line. For example:



This arrow shows the inequality $x \geq 1$ (x is greater than or equal to 1).



This arrow shows the inequality $x < 5$ (x is less than 5).



This diagram represents the inequality $-4 \leq x < 1$ (x is greater than or equal to -4 and less than 1).

Solve inequalities in the same way we solve equations.





Subject: Biology

Week 1 & 2: Inheritance, Variation & Evolution

Fertility Treatment & IVF

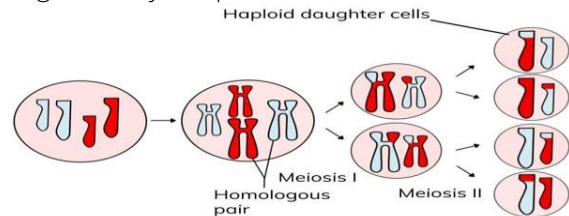
Fertility treatments are used to increase the likelihood of becoming pregnant. IVF (*In vitro* fertilisation) is a process of fertilising an egg cell outside of the body:

1. Fertility hormones (FSH & LH) are injected.
2. High doses of FSH causes several eggs to mature, and LH cause many of them to be released from the ovary into the oviduct.
3. The eggs are collected and stored in a liquid nutrient medium at 37°C.
4. The father donates a sperm sample. These are also stored in a liquid nutrient medium at 37°C.
5. The sperm and egg cells are mixed in a dish (where In vitro gets its name) and sperm cells are allowed to fertilise the egg cells.
6. The fertilised eggs are grown in a laboratory incubator, so they develop into embryos. Once the embryos are tiny balls of cells, one or two embryos are transferred into the woman's uterus (to improve the chance of pregnancy).

Reproduction & Meiosis

Meiosis is a cell division that produces gametes (reproductive cells). In humans, these are sperm and egg cells.

Meiosis is like mitosis, except that each gamete made is genetically unique, and there are four of them:



KPOW: Assessment 2

Week 3 & 4: Inheritance, Variation & Evolution

DNA, The Genome & Genetic Vocabulary

DNA is a code – a set of instructions for how an organisms should grow, work and reproduce.

DNA is a polymer made of 2 strands coiled together in a double helix structure.

DNA is stored as chromosomes, of which, humans have 46 in total (or 23 pairs).

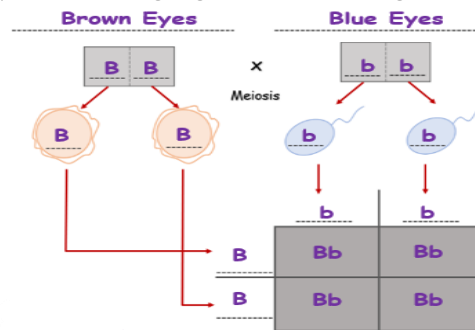
The entire genetic material (DNA Code) of an organism is its genome.

Scientists have fully sequenced the human genome so that you can:

- Search for genes that are linked to diseases.
- Understand inherited disorders and their possible treatments.
- Trace human migration patterns to find the origins of our ancestors.

Genetic Inheritance

Some characteristics are controlled by a single gene. We have 2x versions of the same gene (called alleles) – one from our mother and one from our father. We can work out the probability of which version will be expressed using a genetic cross diagram:

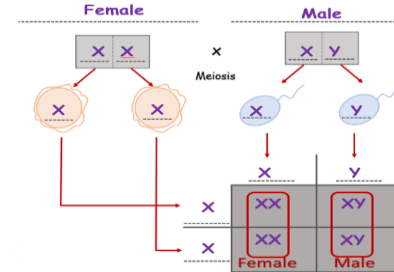


Year 10: Spring Term 1

Week 5 & 6: Inheritance, Variation & Evolution

Sex Determination & Genetic Disorders

The probability of being male or female is always 50%.



Polydactyly is a genetic disorder caused by a dominant allele of a gene.

Cystic fibrosis is a genetic disorder caused by a recessive allele of a gene.

Variation, Evolution & Natural Selection

Variation in a species is caused by 3 factors:

- **Genetically inherited genes** (e.g. natural eye colour, blood type & sex).
- **Environmental influence** (e.g. scars, spoken language, accent & skin damage from the sun).
- **A mixture of both** (e.g. body mass, hairstyle, sporting ability, height).

Process of Evolution by Natural Selection:

1. Genetic Variation: random gene mutations cause this genetic variation.
2. Environmental Change: e.g. lack of food causes more competition within the population.
3. Natural Selection: some individuals are better adapted to the environmental change, so will survive.

Inheritance: those that survive reproduce and pass on their genes to their offspring.





Subject: Chemistry

Week 1 & 2: Electrolysis of aqueous solutions

Vocabulary: **Aqueous** – Dissolved in water.
Ionic compound – Compounds made of positive and negative ions held together by strong electrostatic forces of attraction.

Knowledge: When ionic compounds are placed in water, the water molecules break apart the compound, and the ions become free to move in the solution. If an electric current is passed through the solution, the ions move to the oppositely charged electrode, where they are released as atoms.

1. Electrolysis of Copper Chloride CuCl_2

Ions present: Copper ions Cu^{2+} & Chloride ions 2Cl^- plus (from the water H_2O) H^+ and OH^- ions.

Produced at negative electrode: Both Cu^{2+} & H^+ are attracted to the negative electrode. From the reactivity series, **copper** is less reactive and therefore **released**.

Produce at the positive electrode: 2Cl^- & OH^- are attracted to the positive electrode. **Chlorine** is always **released** at the electrode.

2. Electrolysis of Sodium Chloride NaCl

Ions present: Sodium ions Na^+ & Chloride ions Cl^- plus (from the water H_2O) H^+ and OH^- ions.

Produced at negative electrode: Both Na^+ & H^+ are attracted to the negative electrode. From the reactivity series, **hydrogen** is less reactive and therefore **released**.

Produce at the positive electrode: Cl^- & OH^- are attracted to the positive electrode. **Chlorine** is always **released** at the electrode.

Testing for Chlorine gas – Damp blue litmus paper turns red then bleaches white.

K
Na
Ca
Mg
Al
C
Zn
Fe
Sn
Pb
H
Cu
Ag
Au
Pt

Increasing reactivity ↑

KPOW: Assessment 2

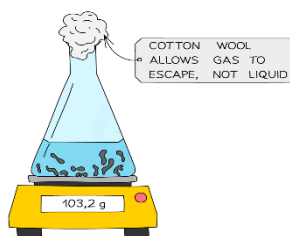
Week 3 & Week 4: Rate of Reaction

Vocabulary: **Rate of reaction** – The amount of reactant used up, or product formed divided by time taken.

Knowledge: Chemical reactions convert starting material (reactants) into new substances (products). We can measure how fast the reactants are turned into product using the following experiments.

1. Measuring the loss of mass.

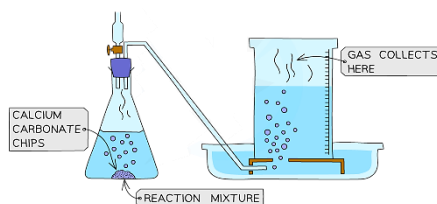
Magnesium + hydrochloric acid → magnesium chloride + hydrogen



When a metal is reacted with an acid, hydrogen is produced. If we take the start mass, we can see how fast the mass is lost as gas escapes to the environment.

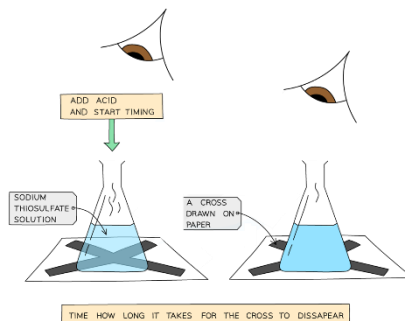
2. Measuring the volume of gas.

Calcium carbonate + Hydrochloric acid → calcium chloride + carbon dioxide



We collect how much gas is made say every 10 seconds until the reaction is complete.

3. Measuring the formation of a solid.



When we react, a chemical called sodium thiosulfate with acid, solid sulfur is produced turning the solution cloudy; we can time how long this takes.

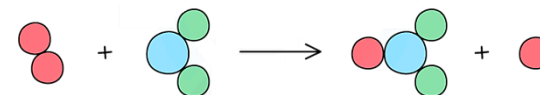
Year 10: Spring Term 1

Week 5 & Week 6: Rate of Reaction

Vocabulary: **Collision theory** – Particles must collide, with enough energy, for a reaction to happen.

Activation Energy – The minimum amount of energy particles need to react.

Knowledge: For particles to react, they must first collide. However, not all collisions lead to a reaction, the particles must also have enough energy. The minimum amount of energy needed for a reaction to happen is called the activation energy.



SUCCESSFUL COLLISION AS PRODUCT MOLECULES WERE FORMED INDICATING THE ENERGY WITH WHICH THE PARTICLES COLLIDED WAS GREATER THAN THE ACTIVATION ENERGY

The greater the frequency of collisions, the faster the rate of reaction. The different factors that affect how often (frequency) that the particles collide are:

Increasing temperature: Particles move faster, have more frequent collisions, have the activation energy needed, so the rate of reaction is faster.

Increasing concentration: More particles in a given volume, more frequent collisions, so the rate of reaction is faster.

Increasing surface area: Smaller pieces, e.g. a powder, have a higher surface area to volume ratio, there are more particles exposed, more frequent collisions, so the rate of reaction increases.

Using a Catalyst: A catalyst is a substance that speeds up the rate of reaction, by providing an alternate route with a lower activation energy. Catalysts are not used up during the reaction and can be removed at the end and reused.





Subject: Physics

Week 1 & Week 2: Newton's Laws

The three Laws of Motion explain how objects move based on the forces that are applied on them.

Newton's 1st Law

This law states that an object will remain **stationary** (not moving) or carry on moving steadily in a straight line (**uniform motion**) unless a **resultant force** acts upon it.

If there is a resultant force, it will cause the object to either **speed up**, **slow down**, or **change direction**.

Newton's 2nd Law

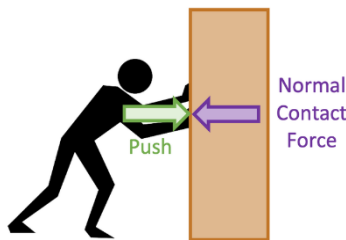
This law states that the **acceleration** of an object is directly **proportional** to the resultant **force** applied on it, and **inversely** proportional to the **mass** of the object. This also gives us the following equation:

$$F = m \times a$$

- F = force (N)
- m = mass (kg)
- a = acceleration (m/s²)

Newton's 3rd Law

This law states that if object A applies a force on object B, then object B will apply an **equal** and **opposite** force on object A.



This reaction force is called the **normal contact force**.

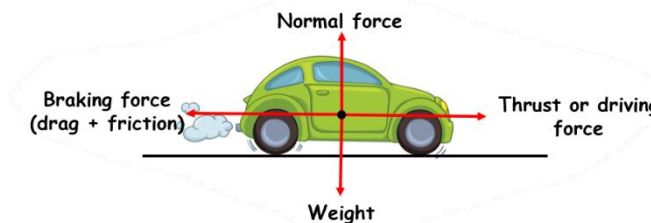
KPOW: Assessment 2

Week 3 & Week 4: Stopping Distance

Forces on a car

A moving car has four main forces acting upon it:

- **Thrust** (forwards): the **driving** force from the engine.
- **Braking force** (backwards): the force which **slows** the car down, coming from air resistance and **friction** from the wheels.
- **Gravity** (downwards): the **weight** of the car.
- **Normal contact force** (upwards): the road pushing the car back up.



Stopping distance

This is the **total distance** it takes for a **moving** vehicle to come to a **stop**. It is made of two smaller distances- the thinking distance and braking distance.

Thinking distance: the distance travelled whilst the driver is **reacting**. This is affected by **tiredness**, distractions, drugs and/or **alcohol**, the driver's natural reaction time, and the **speed** of the car.

Braking distance: the distance travelled once the driver presses the **brakes**. This is affected by the conditions of the **brakes** and **tyres**; the conditions of the **road** (**dry/wet/icy**) and the mass and the speed of the car.

Year 10: Spring Term 1

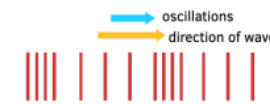
Week 5 & Week 6: Waves: the basics

Waves transfer **energy** from one place to another **without** transferring **matter** (particles).

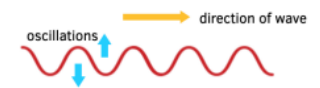
Types of Waves

- **Transverse waves:** oscillations **perpendicular** (at an angle of 90°) to direction of energy transfer (e.g., **light**, water waves).
- **Longitudinal waves:** oscillations **parallel** (side by side with the same distance between them) to direction of energy transfer (e.g., **sound**).

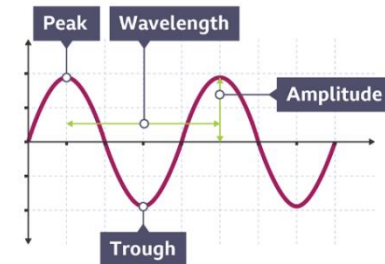
Longitudinal Waves



Transverse Waves



Labelling transverse waves



Wave speed equation

The speed of a wave can be calculated using the following equation:

$$v = f \times \lambda$$

- λ = Wavelength (m)
- f = Frequency (Hz)
- v = Wave speed (m/s)





Subject: Separate Science

Week 1 to 6: Biology

Sexual Reproduction	
Advantages	Disadvantages
<ul style="list-style-type: none"> Causes variation. Species can adapt to new environments. Diseases are less likely to affect the whole species. 	<ul style="list-style-type: none"> Requires time for gestation and finding a suitable mate. Isolated individuals cannot reproduce this way.

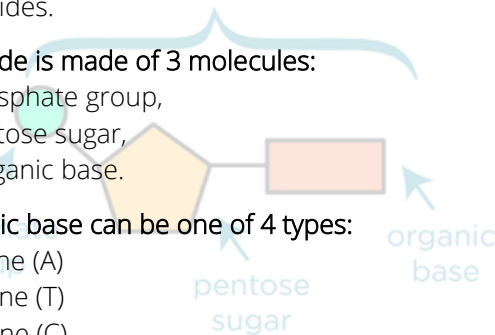
Asexual Reproduction	
Advantages	Disadvantages
<ul style="list-style-type: none"> Population can rapidly increase. Only 1 parent required. Time and energy efficient. 	<ul style="list-style-type: none"> No variation in the species. Cannot adapt to new environments. Whole species can be affected by disease.

DNA Structure

DNA molecules are a polymer made of repeating units of nucleotides.

A nucleotide is made of 3 molecules:

- A phosphate group,
- A pentose sugar,
- An organic base.



The organic base can be one of 4 types:

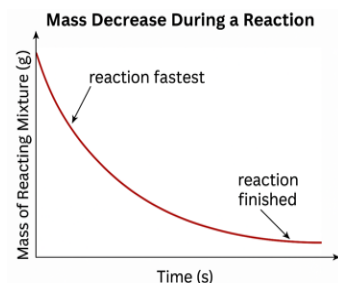
- Adenine (A)
- Thymine (T)
- Cytosine (C)
- Guanine (G)

KPOW: Assessment 2

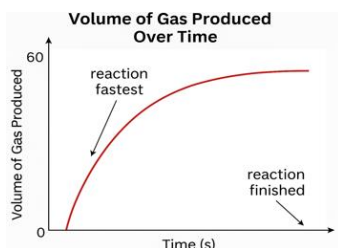
Week 1 to 6: Chemistry

Rate graphs: Rate of reaction graphs show how quickly reactants are used up or products are formed over time. They help you compare reaction speeds, calculate rates, and identify when a reaction finishes.

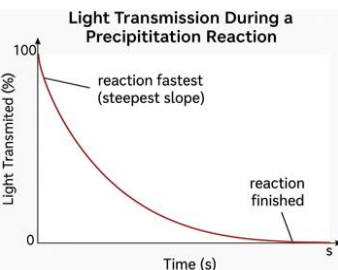
1. **Loss (decrease) of mass.** This graph displays a decrease in mass over time as a gas escapes during a reaction. The loss in mass reflects gas being released and not trapped. The curve flattens when the reaction is complete, and no more gas is formed.



2. **Volume of gas collected.** Shows the volume of gas produced increases over time. The steep initial slope means gas is forming quickly (high reaction rate). As the reaction slows, the line flattens. When it levels completely, the reaction is finished, and no more gas is produced.



3. **Solid (precipitate) forming.** Shows how light passes through a solution over time. As solid forms, the solution gets cloudier, letting through less light. The curve drops quickly at first (fast reaction), then levels off (reaction ends).



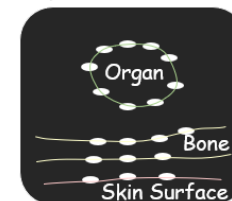
Year 10: Spring Term 1

Week 1 to 6: Physics

Ultrasound and their uses

An ultrasound is a sound wave with a frequency above 20,000Hz. Humans cannot hear ultrasounds; however, we use them for medical scans because they reflect differently off different surfaces.

This means that every time the ultrasound reaches a new boundary (for example, from muscle to bone), part of the wave is reflected towards the emitter.



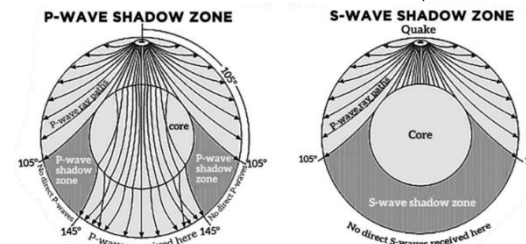
Earthquakes and seismic waves

Earthquakes travel through the various layers of the Earth (core, mantle and crust) through seismic waves.

There are three types of seismic waves:

- Primary waves: longitudinal** waves which can travel through both solids and liquids.
- Secondary waves: transverse** waves which can only travel through solids.
- Long waves: transverse** waves which travel slower than the other two. They are more violent in shallow earthquakes, and they can only travel around the Earth through the crust.

Due to the way seismic waves travel, each earthquake has shadow zones (zones in which the earthquake is not felt).





Subject: French Foundation & Higher	KPOW: School & Education	Year 10: Spring Term 1
Week 1: Adjectives	Week 2: Feminine Nouns	Week 3: Feminine Nouns Continued
affreux dreadful, awful, horrible difficile difficult dur hard ennuyeux boring facile easy faible weak fort strong, loud idéal ideal inutile useless nul / nulle rubbish passionnant exciting, thrilling pratique practical scolaire school strict strict utile useful sympathique / sympa nice, kind, friendly	La bibliothèque library La chaise chair La classe class La compétence competence, skill La cour courtyard, playground L'école school L'éducation education L'erreur mistake, error L'expérience experience La faute mistake, error, fault La géographie geography L'histoire history, story L'informatique computer science, computing La journée day La leçon lesson La langue language, tongue	La lecture reading Madame Mrs, madam, lady Mademoiselle Miss La matière subject La musique music La note mark, grade La physique physics La règle rule, ruler La réponse reply, response, answer La ressource resource La salle room La tâche task, chore La technologie technology La toilette toilet L'université university La visite visit, tour
Week 4 : Masculine Nouns	Week 5: Masculine Nouns Continued	Week 6: Verbs
Le baccalauréat / le bac (equivalent to A levels) Le bâtiment building Le collège secondary school Le concours entrance exam, competition Le cours course, lessons Le défi challenge Le déjeuner lunch Le dictionnaire dictionary Le directeur head teacher, manager L'élève pupil, student L'étudiant student L'examen exam Le futur future Le lycée college, sixth form Monsieur Sir, Mr, gentleman Le mot word Le niveau level	L'ordinateur computer Le pantalon trousers Le progrès progress Le projet plan Le résultat result Le sac bag, sack Le stage work experience Le stylo pen Le succès success Le tableau board, picture, painting Le théâtre theatre, drama L'uniforme uniform Le vêtement item of clothing Le voyage trip, journey Le livre book Les devoirs homework	améliorer to improve apprendre / apprendre à to learn / to teach choisir to choose comprendre to understand continuer to continue, to carry on corriger to correct, to mark demander / se demander to ask / to wonder discuter to discuss durer to last écrire to write étudier to study examiner to examine expliquer to explain interdire to forbid, to ban lire to read porter to wear préparer / se préparer to prepare / to get ready





Subject: French Higher	KPOW: School & Education	Year 10: Spring Term 1
Week 1: Adjectives	Week 2: Feminine Nouns	Week 3:
<p>conscient conscious, aware</p> <p>divers varied, diverse</p> <p>indépendant independent</p> <p>professionnel professional</p> <p>responsable responsible</p> <p>sabbatique sabbatical, gap</p> <p>technique technical</p>	<p>La concurrence competition</p> <p>La connaissance knowledge, acquaintance</p> <p>L'étape stage, step</p> <p>L'étude study</p> <p>L'explication explanation</p> <p>La feuille leaf, sheet</p> <p>La formation training</p>	<p>La loi law</p> <p>La passion passion</p> <p>La réception reception</p> <p>La recherche research, search</p> <p>La rentrée start of the school year, return</p> <p>La scène stage, scene</p>
Week 4 : Masculine Nouns	Week 5: Masculine Nouns Continued	Week 6: Verbs
<p>L'art art</p> <p>Le cahier exercise book</p> <p>Le chapitre chapter</p> <p>Le comportement behaviour</p> <p>Le conseil advice, counsel, council</p> <p>Le contrôle test, check, inspection</p> <p>Le développement development</p> <p>L'échec failure</p>	<p>L'essai attempt, try, test</p> <p>L'établissement establishment, organisation</p> <p>L'objectif objective, aim, goal</p> <p>Le papier paper</p> <p>Le règlement rule, regulation</p> <p>Le respect respect</p> <p>Le retard delay</p> <p>Le sujet subject, topic</p>	<p>concentrer to concentrate</p> <p>conseiller to advise, recommend</p> <p>crier to shout, scream, cry out</p> <p>enseigner to teach</p> <p>gérer to manage, handle, deal with</p> <p>inscrire to write down</p> <p>s'inscrire à to join / to enrol</p> <p>inspirer to inspire</p> <p>obtenir to get, obtain</p> <p>réaliser to realise, achieve</p> <p>respecter to respect</p> <p>tromper to cheat, deceive</p> <p>se tromper to make a mistake</p>





Subject: Geography	KPOW: Urban Cont. & Living World	Year 10: Spring Term 1						
<p>Week 1 & 2: UK Challenges & Sustainable Living</p>	<p>Week 3 & 4: Ecosystems & Tropical Rainforests</p>	<p>Week 5 & 6: Tropical Rainforests – Deforestation</p>						
<p>London's Challenges</p> <p>1) Urban Sprawl - the city growing into the countryside due to housing shortages. It has led to the growth of commuter settlements, where people live, but travel into the city for work. Solution – develop housing on brownfield sites.</p> <p>2) Air pollution – high volumes of road traffic, dense road networks and many high-rise buildings that trap the air increase nitrogen dioxide pollution. Solution – public transport (TfL services, Crossrail) and promote cycling (Super Cycle Highway).</p> <p>3) Waste management – More people = more waste. Around ¼ of London's waste goes to landfill. Solution – increase recycling rates to achieve the target of sending zero waste to landfills by 2030.</p> <p>4) Social deprivation (inequalities) - although London has experienced economic growth, housing, education, health, and employment disparities are still found in many areas. Solution – Local authorities continue to try and improve the access to services for all.</p> <p>Sustainable Urban Living. Features for creating a sustainable city include:</p> <ul style="list-style-type: none"> ☑ Urban greening. ☑ Sustainable water supplies. ☑ Sustainable energy supplies. ☑ Sustainable transport systems. <ul style="list-style-type: none"> • BedZED, south London, is a sustainable housing community that incorporated all of the above features. For example, water recycling, waste recycling, car sharing, solar panels, allotments to name a few. 	<p>An ecosystem is the (biotic) living and (abiotic) non-living parts of an environment and the relationships that exist between them.</p> <table border="1" data-bbox="795 343 1449 566"> <tr> <td>Producer</td> <td>Using energy from the sun to produce food.</td> </tr> <tr> <td>Consumer</td> <td>Eat producers or other consumers to gain energy.</td> </tr> <tr> <td>Decomposer</td> <td>Break down dead organic matter back into nutrients for the soil.</td> </tr> </table> <p>A food web has several connected food chains, whereas a food chain consists of only one chain. The arrows show the flow of energy through the ecosystem.</p> <p>Tropical Rainforests (TRF) TRF are very biodiverse, so have lots of different species of plants and animals in them. In fact, they house over 50% of all species on Earth! TRF are located on and around the Equator in an area known as the Tropics. TRF have an equatorial climate that is hot and wet all year, which gives excellent conditions for plant growth and decomposition.</p> <p>Tropical Rainforest Vegetation The TRF is split into layers, the tallest trees are in the emergent layer, and the canopy is the densest layer. Some adaptations include:</p> <ul style="list-style-type: none"> • Emergent trees have wide buttress roots on the surface of the soil. This helps to support them and allows them to access nutrients from the top of the soil. • Leaves in the rainforest have drip-tips to allow the rain to run off them so their stalks don't snap. 	Producer	Using energy from the sun to produce food.	Consumer	Eat producers or other consumers to gain energy.	Decomposer	Break down dead organic matter back into nutrients for the soil.	<p>Deforestation is the permanent removal of trees on a large scale. The Amazon Rainforest is experiencing significant rates of deforestation and 20% has been lost already.</p> <p>Causes:</p> <ul style="list-style-type: none"> • Logging – hardwoods like mahogany are sold to furniture companies. Smaller trees are used as fuel; wood or pulp (used to make paper). • Energy development – with lots of rain and rivers hydroelectric power dams have been constructed, flooding large areas of rainforest. • Agriculture (crops & cattle) – cattle ranching accounts for around 80% of deforestation. Large areas are cleared to grow crops like soybeans and palm oil. • Population growth – as more roads and industries are created, more people settlements are needed to house people. • Roads – Trans-Amazonian Highway has made new parts of the Amazon accessible to further development. • Mineral extraction – mainly gold, but also bauxite (aluminium's ore) and iron ore are mined. <p>Global impacts:</p> <ul style="list-style-type: none"> 🌍 Global warming & climate change. 🌍 Loss of biodiversity (number of species in an area). <p>Local impacts:</p> <ul style="list-style-type: none"> ☹️ Soil erosion. ☹️ Soil fertility. ☹️ water pollution. ☹️ Conflicts with indigenous tribes. 😊 Job creation. 💰
Producer	Using energy from the sun to produce food.							
Consumer	Eat producers or other consumers to gain energy.							
Decomposer	Break down dead organic matter back into nutrients for the soil.							





Subject: History	KPOW: End of Unit 1 Assessment	Year 10: Spring Term 1
Week 1 & Week 2: Increasing tension	Week 3 & Week 4: Berlin and Asia	Week 5 & Week 6: More tension!
<p>The atomic bomb was dropped on Hiroshima on 6 August 1945, ending WW2. Truman had kept its existence secret from Stalin, and the USA now possessed the most powerful weapon in the world. In 1946, Churchill made a speech announcing an 'Iron Curtain' had been drawn across Europe and that the USSR controlled the Eastern Bloc. Soviet Expansion – Determined to create a 'sphere of influence', Stalin used the presence of the Red Army to create satellite states in Eastern Europe. He ensured each had communist leaders, who would obey Moscow and ruthlessly stamped out any opposition. He also created Cominform – an organisation that represented Communist Parties across Europe which was used to increase Soviet control, by ensuring loyalty from Eastern European governments. Truman Doctrine – 1947. Often seen as the 'unofficial declaration of the Cold War'. It stated the world had a choice between communist tyranny and democratic freedom, a reversal of the USA's previous policy of isolationism. It's key feature was the idea of containment - communism should not be allowed to grow and gain territory but should be contained to the Soviet sphere of influence. 1947 – Marshall plan operated alongside the policy of containment. To prevent damaged European countries turning to communism, the USA offered financial aid to help them rebuild. However, countries had to promise to trade with the USA in return. \$13.15 billion was divided between the countries accepting aid. Stalin was suspicious of Marshall Aid, calling it 'dollar imperialism'. He banned his satellite states from accepting, and created his own alternative, Comecon.</p>	<p>Berlin Crisis - 1948 – 49. This was the first physical conflict of the Cold War. Berlin lay in the heart of the Soviet sector of Germany and Stalin resented the presence of the Western Powers. In June 1948, he blockaded West Berlin and its 2.5million inhabitants, leaving them without food, fuel and medicines. In response, the west launched the Berlin Airlift. For the next 10 months, they would fly in supplies. At its height, planes arrived every 3 minutes delivering 4000 tonnes of supplies a day. Eventually, Stalin had to back down. The crisis led to the formation of NATO and Germany being split into two separate countries. Conflicts in Asia: 1949 – China became communist, and a powerful ally to the USSR. 1950 – 53 – The Korean War. The USSR and China supported the north, and the USA supported the south. The USSR did not send troops, but provided money and weapons. The USA went to the United Nations, who sent troops, to force the removal of communist troops from the south. The war ended as it started, with Korea split along the 38th parallel. Vietnam – was controlled by the French who left in 1954. North was communist and the south capitalist. The conflict lasted nearly 20 years. The USA sent troops in 1965, but the war ended as it started, with Vietnam split along the 17th parallel. The Space Race. Both sides were in a race to conquer space. The USSR launched the first satellite Sputnik in 1957 and had the first man in space in 1961 (Yuri Gagarin). Kennedy vowed to have the first man on the moon and succeeded. Neil Armstrong was the first man to achieve this in 1969.</p>	<p>The Arms Race started in 1945 when the USA developed the first atomic bomb. Determined to keep up, the USSR had their own by 1949. By 1952, the USA developed a hydrogen bomb, followed by the USSR in 1953. Over the following decades, both sides would build up stockpiles of nuclear weapons. In theory, as long as each side had the power to obliterate each other, neither would make the first move. This was known as Mutually Assured Destruction (MAD). Stalin died in 1953 and is replaced by Khrushchev. In his 'secret speech', he called for peaceful co-existence with the West, leading some to think countries behind the Iron Curtain could have a greater level of independence. Hungarian Uprising – 1956. A new leader, Imre Nagy, announced a number of reforms. At first, Khrushchev was accepting and even removed Soviet troops. Nagy then threatened to leave the Warsaw Pact. Khrushchev was furious and sent in tanks on 4th November to crush the uprising. 4000 were killed and 200,000 fled the country. Despite asking the USA and UN for help, none was given and Khrushchev strengthened his hold on the Eastern Bloc. The event showed the USSR could do whatever they wanted behind the Iron Curtain. U2 Crisis – 1960. A US pilot, called Gary Powers, was shot down in a U2 spy plane flying over Soviet territory. At first, the USA claimed it was a weather plane, but were forced to admit they were spying when confronted with evidence. Despite this, US President Eisenhower refused to apologise or ban further flights. This led to Khrushchev walking out of the Paris Peace Summit. The two men were supposed to be discussing how to end the Cold War, but the U2 crisis simply increased the tension.</p>





Subject: Hospitality and Catering	KPOW: Theory	Year 10: Spring Term 1
Week 1 & Week 2: Unit 1.2/1.3	Week 3 & Week 4: Unit 1.3	Week 5 & Week 6: Unit 1.
<p>Unit 1.2/3</p> <p>Commercial provider: an establishment which makes a profit e.g. restaurant.</p> <p>Non- commercial: an establishment that doesn't make a profit e.g. Prison.</p> <p>Residential: somewhere that you can stay at e.g. Hotel.</p> <p>Non- residential: somewhere you can't stay over e.g. Pub</p> <p>Health and safety: regulations and procedures intended to prevent accident or injury in workplaces or public environments.</p> <p>Health and Safety at Work Act 1974. This Act of Parliament is the main piece of UK health and safety legislation. It places a duty on all employers "to ensure, so far as is reasonably practicable, the health, safety and welfare at work" of all their employees.</p> <p>Responsibilities of employers include</p> <ul style="list-style-type: none"> o Safe working environment with toilets. o The equipment must be safe and maintained. o Safety clothing must be provided where appropriate. o Clear information on health and safety issues and training. <p>Responsibilities of employees include</p> <ul style="list-style-type: none"> o To take reasonable care of your own, and others' health and safety. o To tell employers if feeling unwell. o To use work items correctly as trained. 	<p>Unit 1.3</p> <p>RIDDOR Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995</p> <p>COSHH Control of Substances Hazardous to Health (COSHH)</p> <p>Manual handling In the food industry, manual handling refers to any activity involving transporting or supporting a load with bodily force, including lifting, carrying, pushing, pulling, and moving.</p> <p>PPE In the food industry, PPE (Personal Protective Equipment) refers to gear worn to protect both workers and food from contamination and injury.</p> <p>Hazard Anything that can cause harm, for example a knife.</p> <p>Health hazard These include incidents leading to illness.</p> <p>Safety Hazard These include incidents leading to personal injury or damage to equipment or buildings.</p> <p>Security hazard These include intruders, theft of property or information, and individuals either being abducted or leaving without consent e.g. Residential homes or schools.</p>	<p>Unit 1.3</p> <p>HACCP – Hazard Analysis Critical Control point</p> <p>Potential hazards in food production can be reduced by a system called hazard analysis critical control points (HACCP). This identifies what could go wrong in the production process and establishes checks that will prevent or reduce risks. This is called hazard analysis.</p> <p>There are three main types of hazards in food production:</p> <p>Biological hazard - foods become dangerously infected by bacteria which might lead to food poisoning. Symptoms of food poisoning can include diarrhoea, vomiting, headaches and fever.</p> <p>Physical hazard - foreign materials can cause injury to the consumer. These could come from metal or plastic from factory machinery, or natural hazards like bones in fish.</p> <p>Chemical hazard - potentially dangerous chemicals like cleaning fluids or pesticides contaminate food. These could cause severe illness.</p> <p>Critical control points (CCPs) are pre-determined checks that take place at specified points in the food production or preparation process. They include:</p> <ul style="list-style-type: none"> -temperatures, using probes and thermometers Fridge/chilled 0-5°C Hot held 73°C for 2 hours max Cooked – 75°C internal temp -cooking times -ensuring food is handled correctly





Subject: Product Design

KPOW: Natural and Manufactured Timber

Year 10: Spring Term 1

Week 1 & Week 2: Forces and Stresses (cont.)

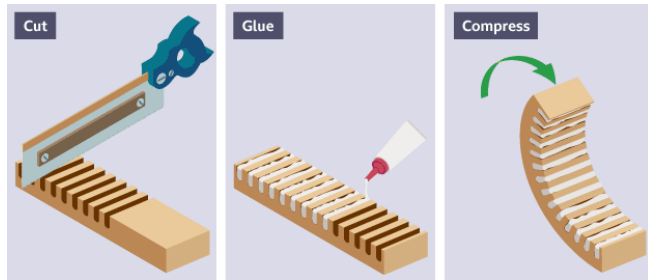
Week 3 & Week 4: Forces and Stresses (cont.)

Week 5 & Week 6: Stock Forms

Bending Timber

If timber is soaked in water or exposed to steam, it can become more flexible. Slots can be cut along the inside face of the timber to be bent allowing for the inside face to cope with the compressive force - this is called kerfing.

Kerfing – Slots cut into material to aid bending.



To reinforce or strengthen timber, there are a few methods to choose from. Plywood is strengthened by having the timber glued with the wood grain at right angles for each layer. It can also be reinforced with the number of layers. As the plywood becomes thicker, the less likely it is to flex at all. This is referred to as high cross-sectional stability and is a desirable feature.

High cross-sectional stability - The ability to withstand flexing.

Manufactured boards can be made resistant to breaking by using a technique called laminating. Thin strips of timber are layered together with adhesive to produce rigid structures. While gluing, the strips can also be shaped using a jig.

Laminating – Bonding layers of materials together to improve its strength.

Jig – A tool used to aid the repetition of a process and/or to hold a work in place.

The importance of CAM in modern high-volume production.

In modern products, designers and manufacturers use specialist equipment, known as computer aided manufacture (CAM) machines. These machines are controlled through a computer and are used in modern high-volume production.

Laser cutter - A laser is directed from a precise length onto a material which can either cut or etched. The laser is controlled from a computer using a computer aided design (CAD) drawing. Manufacturing can be restricted because of material choice and thickness.

Advantages of CAM	Disadvantages of CAM
Creates products that are identical to each other.	The software itself is expensive, so initial costs are high.
Drawings can easily be repeated for new batches.	Machinery can be expensive and time consuming to repair.

Timber is manufactured in standard sizes, known as stock form. When designing or manufacturing, it is important to know about stock sizes that timber and man-made boards are available in.



If stock sizes are known, then designs can be manufactured more economically to reduce waste. Once timber has been cut at a sawmill, it is referred to as sawn finish and uses include garden fence posts and some building work- these have a rough finish. Timber that is sold at a timber merchant can often be bought with planed edges that have been machined smooth.

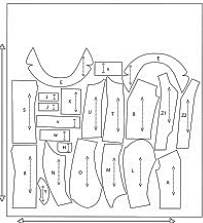
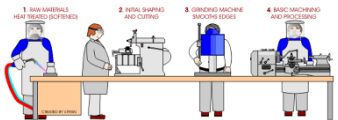
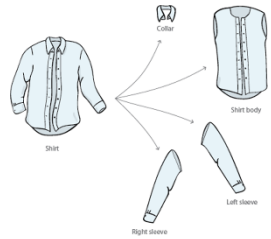
PSE and PAR

Planed timber has a higher cost due to the extra processing of the timber. PSE is a term used to indicate that the timber has a 'planed square edge'. This means that one edge will be planed smooth. PAR indicates that the timber is planed all round, meaning that both the edges and sides have been planed.

Planed timber is used for interior work where the timber is likely to be seen.





Subject: Textiles	KPOW: End of topic test	Year 10: Term Spring 1												
Week 1 & Week 2	Week 3 & Week 4	Week 5 & Week 6												
<p>Titles: Stocks forms and sizes</p> <p>Fabric sizes: Fabrics can be bought in 5 different widths. Factories create large pieces of fabric and store them in rolls.</p> <p>Common widths of fabric: 90cm, 115cm, 150cm, 200cm, 240cm.</p> <p>Standard stock forms: This means the standard sizes that a material/ component can be bought in.</p> <p>Examples of standard stock forms: Zip, buttons, press studs, fabric.</p> <p>Advantages of standard stock forms: Easy to handle/transport/it's cheaper/sizes are the same in all countries.</p> <p>Disadvantages of standard stock forms: Can create a lot of waste/can be difficult to work out how much is needed.</p> <p>Lay plan: A diagram that shows how to lay out pattern pieces to work out the quantity and cost of the fabric needed.</p> <p>Patterned & stripy fabric: You would need to think more carefully about how you position your templates onto the fabric; this will usually mean you need to use more fabric.</p> <p>Costing: This involves estimating how much each product costs to make, including materials, labour, rent and energy costs.</p> 	<p>Titles: Alternative processes and scales of production</p> <p>Scale of manufacture: The quantity or volume of a product produced.</p> <p>Manufacturing system: How the making of products is organised.</p> <p>There are 3 main scales of manufacture</p> <table border="1" data-bbox="795 518 1444 1053"> <thead> <tr> <th><u>Scale of manufacture</u></th> <th><u>Key features</u></th> <th><u>Examples of products</u></th> </tr> </thead> <tbody> <tr> <td>Mass production</td> <td>Very large orders of identical, low-cost products.</td> <td>Plain socks, towels, zips, buttons</td> </tr> <tr> <td>Batch production</td> <td>Limited/set quantities of identical products made.</td> <td>Seasonal products, high street clothing</td> </tr> <tr> <td>One-off production</td> <td>One person/small team of people assemble a product to fit an individual client.</td> <td>Theatre costumes, made to measure wedding dress</td> </tr> </tbody> </table> <p>What factors determine the scale of manufacture?</p> <p>Is it seasonal? For example, a summer dress</p> <p>What is the demand for the product?</p> <p>How much would it retail for? Is it low cost or expensive?</p> <p>Can CAM (computer aided manufacture) be used to speed up the process?</p>	<u>Scale of manufacture</u>	<u>Key features</u>	<u>Examples of products</u>	Mass production	Very large orders of identical, low-cost products.	Plain socks, towels, zips, buttons	Batch production	Limited/set quantities of identical products made.	Seasonal products, high street clothing	One-off production	One person/small team of people assemble a product to fit an individual client.	Theatre costumes, made to measure wedding dress	<p>Titles: Alternative processes and scales of production</p> <p>Retrieval- Manufacturing systems: How the making of products is organised.</p>  <p>Line production: One worker completes his/her task- they then pass product onto next worker (often in crates) so that they can do the next stage. Every operation is timed.</p> <p>Advantages of line production: Makes large number of identical products quickly/cheaply.</p> <p>Disadvantages of line production: Repetitive & workers not multi-skilled.</p> <p>Progressive bundle system:</p> <p>Each member of a team makes a part of a product (in bundles).</p>  <p>Advantage: Sewing machinists are independent of other workers so no waiting for a part to be passed.</p> <p>Disadvantage: Poor quality could be concealed (hidden) by bundles of garments.</p>
<u>Scale of manufacture</u>	<u>Key features</u>	<u>Examples of products</u>												
Mass production	Very large orders of identical, low-cost products.	Plain socks, towels, zips, buttons												
Batch production	Limited/set quantities of identical products made.	Seasonal products, high street clothing												
One-off production	One person/small team of people assemble a product to fit an individual client.	Theatre costumes, made to measure wedding dress												





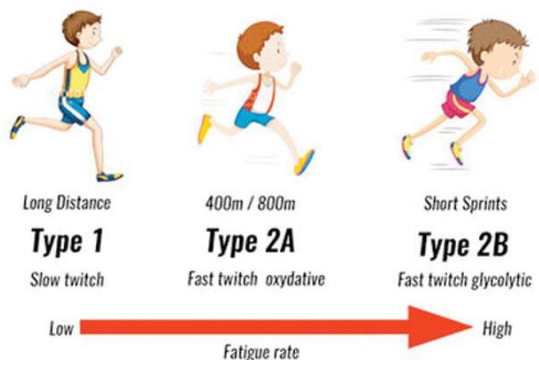
Subject: PE | KPOW: GCSE PE | Year 10: Spring 1

Week 1: Muscular System

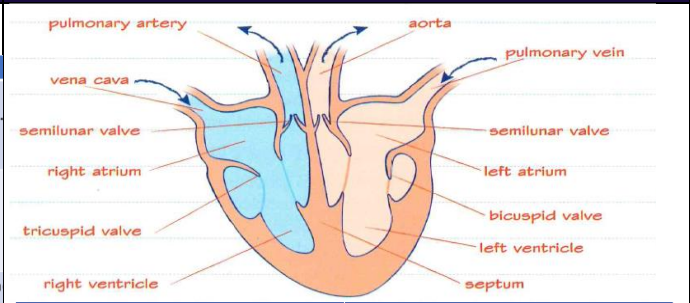
Antagonistic Muscle Pair	Sporting Example
Bicep and Tricep	Flexion and extension of the arms, at the elbow, whilst passing a rugby ball.
Quadriceps and Hamstrings	Bending and straightening the leg at the knee when kicking a football
Gastrocnemius and Tibialis Anterior	Dorsi Flexion and plantar flexion of the foot at the ankle when taking off for each part of the hop, skip and jump in the triple jump.
Hip Flexors and Gluteus Maximus	Flexion and extension of the leg at the hip when performing a pike in a dive.

Muscle Fibre Types-

- Type 1- Very good endurance / Slow speed of contraction
- Type 11a- Some endurance / Some power
- Type 11b- No endurance / Very powerful



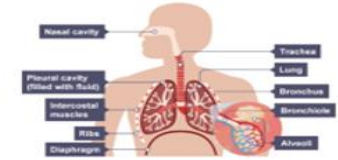
Week 2: Cardiovascular System





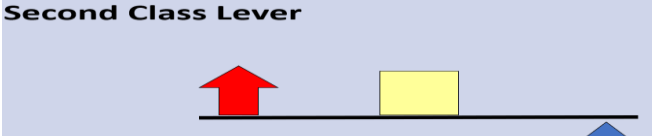
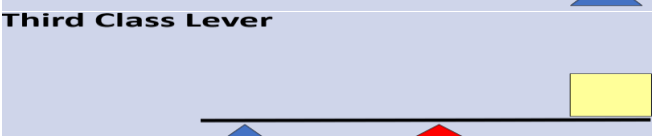
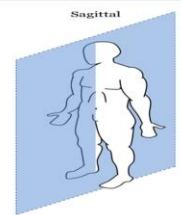
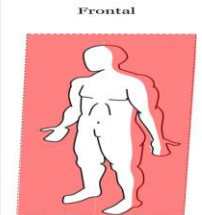
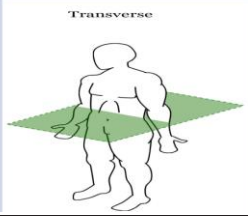
Pulmonary Artery	Receives deoxygenated blood from the right ventricle to take to the lungs to receive oxygen
Pulmonary Vein	Brings oxygenated blood from the lungs to the left atrium
Left Atrium	Receives oxygenated blood from the lungs via the pulmonary vein
Left Ventricle	Receives oxygenated blood from the left atrium
Aorta	Carries oxygenated blood away from the left ventricle to take oxygen to the working muscles
Vena Cava	Takes deoxygenated blood from the working muscles back to the heart, so it can be pumped to the lungs to collect oxygen
Right Atrium	Receives deoxygenated blood from the body via the vena cava
Right Ventricle	Receives deoxygenated blood from the right atrium via the tricuspid valve
Septum	The wall that separates the right and left side of the heart
Tricuspid, Bicuspid, Semilunar valves	Help keep the blood moving forward by shutting behind blood that has passed through, to prevent it from flowing back the way it came.

Week 3: Respiratory System

Lungs	There are two lungs left and right. The lungs allow the movement of air in and out of the body. (ventilation). Air enters the lungs during inspiration (the process of breathing in) Air leaves the lungs during expiration. (the process of breathing out)
Bronchi	The air travels to each of the lungs through the bronchi. The term for the right and left bronchus that take air to each of the lungs.
Bronchioles	The passages that the air travels down get smaller as the bronchi subdivide. These are known as the bronchioles. The bronchioles branch out throughout the lungs and carry the air from the bronchi to the alveoli.
Alveoli	The alveoli are tiny air sacs. They are attached to the branches of the bronchioles throughout the lungs. There are millions of alveoli in the lungs. At the alveoli the exchange of oxygen and carbon dioxide occurs.
Diaphragm	<ul style="list-style-type: none"> • During inspiration the diaphragm contracts and flattens to make more space in the chest so the lungs can expand to pull air in • During expiration the diaphragm relaxes and returns to a dome shape, making the chest cavity smaller. This helps force the air out of the lungs.





Subject: GCSE PE	KPOW: Key Topics	Year 10: Spring Term 1
<p>Week 4: Long term effects of exercise</p>	<p>Week 5: Levers</p>	<p>Week 6: Planes</p>
<p>Long term effects of exercise on muscular-skeletal system-</p> <ol style="list-style-type: none"> 1. Increased bone density 2. Stronger ligaments 3. Stronger tendons 4. Hypertrophy of slow twitch muscles 5. Increased size and number of mitochondria 6. Increased tolerance to lactic acid <p>Long term effects of exercise on cardiovascular system-</p> <ol style="list-style-type: none"> 1. Increased elasticity of the muscular wall of veins and arteries 2. Increase in size and strength of heart (cardiac hypertrophy). 3. Increase in resting stroke volume 4. lower resting heart rate 5. Increased maximum cardiac output 6. Increased capillarisation (the development of the capillary network), 7. Increased number of red blood cells 8. Quicker recovery rate (faster return to resting heart rate) <p>Long term effects of exercise on respiratory system-</p> <ol style="list-style-type: none"> 1. Increased number of alveoli 2. Increased strength of intercostal muscles 3. Increased strength of diaphragm 4. Increased tidal volume 5. Increased vital capacity 	<p>A lever is a rigid bar that rotates around a fulcrum to apply a force to a load. It can increase the amount you can lift or increase the speed at which you can move something. There are three classes of lever:</p> <p>First Class Lever</p>  <p>Second Class Lever</p>  <p>Third Class Lever</p>  <p><u>Sporting examples for each lever</u></p> <p>First Class Lever (EFL) Heading a Football Straightening of leg as kicking a football Straightening of arm as releasing a javelin</p> <p>Second Class Lever (ELF) Tip toes sprinting Tip toes long jump Tip toes high jump</p> <p>Third Class Lever (FEL) Bending of arm Bicep curl Bending of arm prepare for chest pass in basketball Bending of leg to kick a ball</p>	<p><u>What is a plane-</u> A plane is an imaginary line that movement direction occurs in.</p> <p>Sagittal Plane movement forwards and backwards. Splits the body sideways.</p>  <p>Names and Directions of the 3 different planes Frontal Plane movement sideways. Splits the body front and back.</p>  <p>Names and Directions of the 3 different planes Transverse Plane movement twisting in a cylinder. Splits the body top and bottom.</p>  <p><u>Sporting examples-</u> Sagittal plane- somersault Frontal plane- cartwheel Transverse Plane- Pirouette</p>





Subject: Computer Science	KPOW: Topic 3	Year 10: Spring Term 1
Week 1 & Week 2	Week 3 & Week 4	Week 5 & Week 6
<p>String Manipulation There are numerous ways that we can manipulate strings in Python.</p> <p><code>len()</code> works out the length of a string.</p> <pre>name = "Mr Falkiner" print(len(name))</pre> <p>This code would output 11 because there are 11 characters in the string "Mr Falkiner" (spaces are classed as characters too).</p> <p><code>.upper()</code> and <code>.lower()</code> are used to change the case of strings. <code>.upper()</code> will print everything in capitals and <code>.lower()</code> will print everything in lower case.</p> <pre>name = "Mr Falkiner" print(name.upper()) *** Remote Interpreter Reinitialized *** MR FALKINER</pre> <pre>name = "Mr Falkiner" print(name.lower()) *** Remote Interpreter Reinitialized *** mr falkiner</pre> <p>Concatenation is when you join multiple strings together. It is done with the + symbol.</p> <pre>a = "Mr" b = "Falkiner" print(a+b) *** Remote Interpreter Reinitialized *** MrFalkiner</pre>	<p>Types of Networks <i>LAN (Local Area Network):</i> Covers a small area (e.g., home, school) & you own your own equipment. <i>WAN (Wide Area Network):</i> Covers large areas (e.g., Internet) & requires infrastructure (satellites, telephone lines etc).</p> <p>Factors Affecting Network Performance <i>Bandwidth:</i> The amount of data transferred per second. Higher = faster. <i>Latency:</i> The delay in data transfer. <i>Errors & Retransmissions:</i> Reduce speed. <i>Number of Users:</i> More users = slower. <i>Interference & Distance:</i> Signal strength drops over distance.</p> <p>Client-Server vs Peer-to-Peer <i>Client-Server:</i> Central server provides services; easier to manage, secure. <i>Peer-to-Peer:</i> All devices equal; cheaper, harder to secure.</p> <p>Topologies <i>Star:</i> Devices connect to a central switch; easy to manage, but switch failure = network down. <i>Mesh:</i> Devices connect to many others; very reliable, expensive.</p> <p>Arrays Stores multiple values in one variable.</p> <pre>1 # 1D Array 2 numbers = [10, 20, 30] 3 print(numbers[1]) # Output: 20 4 5 # 2D Array 6 matrix = [[1, 2], [3, 4]] 7 print(matrix[0][1]) # Output: 2</pre> <div style="display: flex; justify-content: space-around;"> <div data-bbox="1299 981 1433 1117"> <p>Star Topology</p> </div> <div data-bbox="1299 1133 1433 1276"> <p>Mesh Topology</p> </div> </div>	<p>Network Hardware <i>Wireless Access Point (WAP):</i> Connects wireless devices to a wired network. <i>Router:</i> Connects networks together (e.g., LAN ↔ Internet). <i>Switch:</i> Connects devices in a LAN; sends data to correct device using MAC address. <i>NIC (Network Interface Card):</i> Hardware that connects a device to a network. <i>Transmission Media:</i> Wired (Ethernet cables, fibre optic) or wireless (Wi-Fi, radio waves).</p> <p>Global Networking <i>DNS (Domain Name System):</i> Translates domain names into IP addresses. <i>Hosting:</i> Storing websites on servers so they're accessible online. <i>Cloud:</i> Remote servers for storage and services via the Internet. <i>Web Servers & Clients:</i> Server hosts website; client requests pages via browser.</p> <p>Subprograms Blocks of code that perform a task; improve readability and reuse.</p> <p>Functions (return values) and Procedures (may not return).</p> <pre>1 def greet(name): 2 return "Hello " + name 3 4 print(greet("James")) # Output: Hello James</pre>





Subject: Creative iMedia

Week 1 & Week 2

A **storyboard** is a **visual plan** for media products such as films, TV shows, comics, and video games. It **represents** the final product and shows events in the correct order.

Storyboards normally include:

- The name of title
- Author (creator)
- Version number
- Scene number
- Sketch of scene
- Cam shots/angles /movements
- Scene Transitions
- Stage Directions

Title: Overduel!	Author: A. N. Other		
Scene 1, Shot 1 Length: 2 secs	Scene 1, Shot 2 Length: 3 secs	Scene 1, Shot 3 Length: 0.5 secs	Scene 1, Shot 4 Length: 1 sec
Transition: Fade in	Transition: Fade in	Transition: Jump cut	Transition: None
1. A lamp is turned on in a quiet library, late at night.	2. Medium close up on student studying late in library.	3. Close up on lamp as it suddenly turns off!	4. Extreme close up on eyes, terrified!

A **script** is a **written plan** for a media product that includes **dialogue, actions, and directions** for each scene. It tells **actors** what to say and do and guides the production team on how the scenes should be filmed or performed.

Scripts normally include:

- Tittle, author & date
- Locations of scene
- Characters names
- Dialogue
- Camera techniques
- Transitions
- Sounds



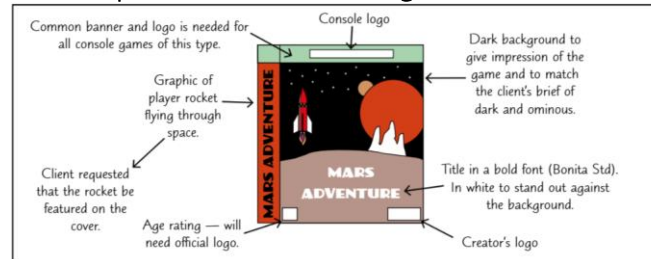
KPOW: Media Theory Part B

Week 3 & Week 4

Before a final product is produced, a **final mock-up** is created. This means the client can check they're happy with it and knows what they are agreeing to.

Visualisation diagrams are ideal for **static products** (products that don't move).

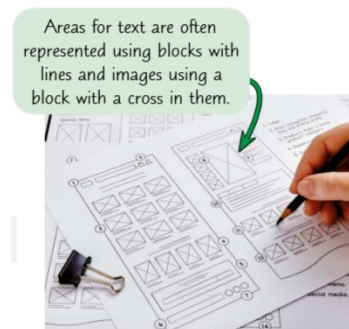
An example of a visualisation diagram is shown below.



A visualisation diagram usually includes:

Sketch	Annotations	Placeholders
Font sizes	Font types	Colours

Wireframes represent the layout of a product. Some products like websites and apps need to have the layout decided on before the content can be added. A **wireframe** layout shows where everything should go.



A wireframe usually includes:

- Titles
- Headings & subheadings
- Links
- Font styles
- Text blocks

Year 10: Spring Term 1

Week 5 & Week 6





















Lots of information is easily available in the media, but **personal information** should be kept **private**. Everyone has **individual privacy rights** to help protect them:



- Under **UK law**, permission **isn't** required to **film** or take **photographs** in **public places**.
- If you film on **private property**, you will need **permission** from the owner. Private property isn't just people's homes, it's also places like **shopping centres, agricultural land and train stations**.
- You **must** ask the police for permission if you intend to film on a **public road** or if dangerous **special effects** will be used.
- If you take a photo or record footage of an **actor, model or member of the public** that is to be used for **publishing or commercial purposes**, then a "**permission agreement**" should be made with them. This sets out how it will be used and gives details of any payment for them.
- **Defamation: (damaging someone's reputation on purpose)**.
- It can harm a person's reputation when false information (**written or spoken**) is shared about them to the public.
- Defamation can happen through:
 - o **Libel** – False accusations that are **written** or **published** in **print** or **online** (inc. social media).
 - o **Slander** – There are **false accusations** **spoken in person** and **witnessed** by others or **recorded** at the time.


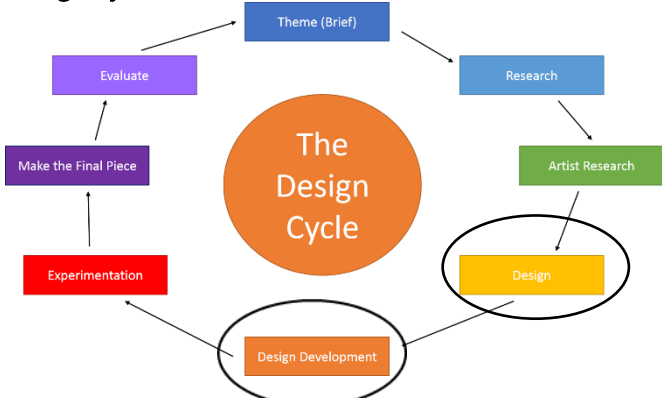

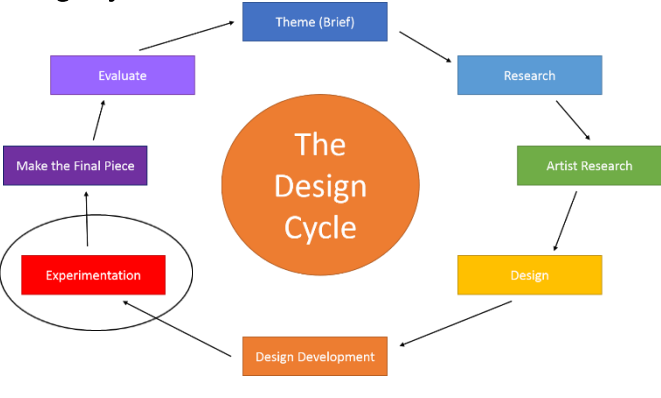




Subject: Music	KPOW: 60s and 70s	Year 9: Spring Term 1
<p>Week 1 & Week 2: Reggae Music</p>	<p>Week 3 & Week 4: Bob Marley</p>	<p>Week 5 & Week 6</p>
<p>Task 1 is SOLO PERFORMANCE.</p> <p>Warmups: A short set of exercises done before performing/practising to prepare the body or voice. It helps improve technique & focused. </p> <p> Piano Warm-Up - Play slow scales with both hands, starting softly and increasing speed gradually.</p> <p> Singer Warm-Up - Gentle lip-trills followed by humming up to warm the vocal cords.</p> <p> Drummer Warm-Up - Practice single-stroke rolls on a practice pad, starting slow then building speed to loosen wrists and improve timing.</p> <p> Guitarist Warm-Up - Finger-dexterity exercise, like scales on each string, played slowly before increasing tempo.</p> <p>What you NEED to do for Task 1:</p> <ul style="list-style-type: none"> • All about me • Skills Audit • 3 Smart Targets • Development Plan • Warm up Video • 3 Practice performance videos • Final performance • Reflection • Fortnightly Logs (include both task 1 & 2) <p>What you NEED to do for Task 2:</p> <ul style="list-style-type: none"> • Skills Audit • Smart Targets • Development Plan • Describe the Process of creating the track • Reflection • Fortnightly Logs (include both task 1 & 2)      	<p>Task 2 you to COMPOSE an original piece of music linking to the key word 'Next Wave'. This will be done on Cubase. </p> <p>How to create a Composition on Cubase:</p> <p>Step 1: Choosing a Key Signature. </p> <p>Step 2: Pick Chords for the Verse and Chorus. </p> <p>Step 3: Create a Melody. </p> <p>Step 4: Create a Bassline.</p> <p>Step 5: Add Drums.</p> <p>Step 6: Finalizing the Piece with Effects.</p> <p>Key Signature: Gives your piece a clear home set of notes, helps your melody and chords fit together and makes your music sound intentional rather than random.</p> <p>Chords: You choose ones that belong to your key signature and arrange them for a verse and chorus. Think about the mood, Major or Minor? </p> <p>Melody: The tune which we improvise using the notes from the scale. </p> <p>Bassline: The lowest sequence of the music played with single notes at the bottom end of the keyboard. We use low pitched instruments i.e Bass guitar, Double Bass or Tuba. </p> <p>Drums: Create the rhythm in the track. Helps to keep everything in time, making the music feel more professional. Special Effects: Delay repeats the sound after a short time, like an echo. Reverb makes it sound like you're playing in a big space (a hall or cathedral). </p> <p>Distortion makes the sound louder and more powerful. </p>	<p>Component 2's key word is... NEXT WAVE</p> <p>Next Wave – Task 1</p> <p>How "Next Wave" Can Inspire Your Solo Performance</p> <p>Students must choose a piece that connects to 'next wave':</p> <ul style="list-style-type: none"> • Ocean waves – music that rises and falls smoothly, flowing like water. • Technology waves – songs using electronic sounds, synths, or modern production. • New music trends – performing something from a fresh, upcoming genre or artist. <p>3 Solo Performance Song Ideas Linked to "Next Wave"</p> <ul style="list-style-type: none"> • "Ocean Eyes" – Billie Eilish • "Waves" – Mr Probz • "Blinding Lights" – The Weeknd <p>Next Wave – Task 2</p> <p>"Next Wave" can be interpreted in many creative ways when composing music. Students could use:</p> <ul style="list-style-type: none"> • Ocean waves – flowing melodies, rising and falling dynamics, whooshing sound effects. • Technology waves – electronic sounds, synths, digital glitches, repeating patterns. • New trends ('next wave' of music) – experimenting with modern genres, fresh beats, or unusual instrument mixes. • Energy waves – fast tempos, strong pulses, rhythmic builds. • Emotional waves – music that grows, swells, and shifts to show changing feelings.

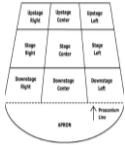











Subject: Art	KPOW: Exam Board Component	Year 10: Spring 1
Week 1 & Week 2	Week 3 & Week 4	Week 5 & Week 6
<p>Keywords and ideas:</p> <p>Consumerism – The social and economic belief that the continuous acquisition of goods and services is essential for well being. Pop Art engages with the idea of consumerism.</p>  <p>Composition: The way in which different elements of an artwork are combined or arranged.</p> <p>Influence (artist): using the work of other artists to inspire our own ideas.</p> <p>Visual methods of idea generation: E.g. Reduction, addition, distortion, repetition, duplication, juxtaposition, copying, tracing, rearranging.</p> <p>Visualising initial ideas in appropriate forms: E.g. rough tests, maquettes (draft of a sculpture), sketches, models, collages, samples, draft work, storyboards, prototype (first model).</p>	<p>Design Cycle focus:</p>  <p>Designs and Design Development Reviewing progress to make informed design decisions is a key part of successful outcomes in Art. You will generate ideas to solve creative problems by reflecting on audience needs and how others may have solved similar creative problems (artist influence). The ability to learn and apply new research, investigation and practical skills through a process of development, reflection and refinement is highly valued in the creative industries. While developing ideas in Art, you will practice transferrable skills such as organisation, time management and communication.</p> 	<p>Design Cycle Focus:</p>  <p>Experimentation Technique based and outcome-based experimentations encourage personalised responses. Experimenting involves trial and error as well as testing and reviewing to find what is right for the artist and their ideas.</p> <p>Experimentation can include: Use of media and materials, such as paint, ink, charcoal, pastel, digital media. Use of surfaces, such as paper, card, canvas, plastic, packaging and relief. Exploring formal elements, such as line, tone, texture, colour and space. Investigating design principles, such as balance, pattern and proportion. These elements result in a more informed personal outcome- there is no correct answer at this stage of exploring and experimenting.</p>





Subject: Performing Arts – Acting			KPOW: C1 Scripted Performance			Year 10: Spring Term 1		
Week 1			Week 2			Week 3		
Style & Practitioners			Script			Acting Skills		
Practitioner	Style of Theatre	Key techniques	<p>Script – The written text for a play of a film that includes stage directions.</p> <p>Annotating a script – is when an actor or a director makes notes to analyse scenes, characters, add blocking, and technical cues.</p> <p>Given Circumstances – are <i>the who, what, when, where, and why of any character you plan to take on for a role.</i></p> <p>Stage Directions - an instruction given in a script indicating stage actions, movements of performers, or production requirements.</p>			 		
Bertolt Brecht	Epic Theatre 	Direct address, Narration, Placards.						
Konstantin Stanislavski	Naturalism 	Emotional Memory, Circles of attention, do not break the 4 th wall.						
Frantic Assembly	Physical Theatre 	Round By Through, Chair duet, Lifts,						
Week 4			Week 5			Week 6		
Creative / artistic vision			Rehearsals			Performance		
<p>Set Design – is all the scenery, furniture, and props used in the production.</p> <p>Type of Stage – This term is used for the design and layout of a performance space.</p> <p>Prop – is an item used by an actor on stage to make a scene become more realistic.</p>			<p>Casting – The process of choosing individuals to portray different roles in a play or film.</p> <p>Implementing Drama Techniques – This term is used when adding techniques to a scene to help tell the story and engage the audience.</p>			<p>Stage presence – is a quality an actor projects that attracts the attention of the audience to the stage.</p> <p>Audience awareness – Positioning of an actor on stage so the audience can see them clearly</p> <p>Confidence - Self-assurance that radiates from the performer and helps them command the space effectively.</p>		
			<p>Learning lines Top Tips!</p> <ul style="list-style-type: none"> -Highlight your lines. -Read your lines out loud. -Write your lines out by hand. -Run your lines with a partner. -Regular practice. - Prioritise your weak areas. 					
								







Subject: Religious Education				Year 10: Term Spring 1								
Week 1 & Week 2: Key Words		Week 3 & Week 4: Holy Week		Week 5 & Week 6: The Lord's Prayer								
Worship	To show respect and devotion to God.	<p>Please read and learn how to answer the different types of questions:</p> <p>Holy Week – The last week of Lent, containing some of the most important days in the Christian Calendar:</p> <table border="1"> <tr> <td>Palm Sunday</td> <td> <p>What – Jesus rode into Jerusalem on a donkey.</p> <p>Importance – It shows the humility of Jesus, despite being the Son of God, he chose a donkey, not a horse – it showed that Christianity is for EVERYONE, not just the wealthy.</p> </td> </tr> <tr> <td>Maundy Thursday</td> <td> <p>What – Jesus had his Last Supper with his disciples.</p> <p>Importance – This is where Jesus introduced the Eucharist. By taking it today, Christians remember Jesus' sacrifice.</p> </td> </tr> <tr> <td>Good Friday</td> <td> <p>What – The day Jesus was crucified.</p> <p>Importance – It shows Jesus was willing to die on the cross for human sins; this provides humans with the opportunity to achieve salvation.</p> </td> </tr> <tr> <td>Easter Sunday</td> <td> <p>What – The day Jesus resurrected.</p> <p>Importance – It shows Christians that death is not the end, death is not to be feared as there is life with God after death.</p> </td> </tr> </table>		Palm Sunday	<p>What – Jesus rode into Jerusalem on a donkey.</p> <p>Importance – It shows the humility of Jesus, despite being the Son of God, he chose a donkey, not a horse – it showed that Christianity is for EVERYONE, not just the wealthy.</p>	Maundy Thursday	<p>What – Jesus had his Last Supper with his disciples.</p> <p>Importance – This is where Jesus introduced the Eucharist. By taking it today, Christians remember Jesus' sacrifice.</p>	Good Friday	<p>What – The day Jesus was crucified.</p> <p>Importance – It shows Jesus was willing to die on the cross for human sins; this provides humans with the opportunity to achieve salvation.</p>	Easter Sunday	<p>What – The day Jesus resurrected.</p> <p>Importance – It shows Christians that death is not the end, death is not to be feared as there is life with God after death.</p>	<p>Please learn the information below:</p> <p>The Lord's Prayer was given by Jesus to the disciples at the Last Supper as an example of how to pray:</p> <p style="text-align: center;"> Our Father who art in heaven, hallowed be thy name. Thy kingdom come. Thy will be done on earth as it is in heaven. Give us this day our daily bread, and forgive us our trespasses, as we forgive those who trespass against us, and lead us not into temptation, but deliver us from evil. For thine is the kingdom, and the power, and the glory, for ever and ever. Amen. </p> <p>This prayer serves many purposes:</p> <p>In red is where it <u>praises</u> God. In green it asks God for <u>forgiveness</u>. In blue it asks for God's <u>help</u>.</p> <p>It also makes reference to the <u>Trinity</u>, as well as God's <u>omnipotence</u>, as well as God's <u>eternity</u>, as well as referencing <u>life after death</u>.</p>
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Liturgical Worship	Christian worship which follows a set pattern.											
Prayer	A request or expression of adoration or thanks addressed to God.											
Pilgrimage	A journey with religious or spiritual significance.											
Holy Week	The final week of Lent, including Palm Sunday, Maundy Thursday, Good Friday & Easter Sunday.											
Ordination	Becoming a leader within the church.											
Sacraments	An outward ceremony through which God's grace is given.											
Eucharist	The ceremony remembering the Last Supper where bread and wine are consecrated and consumed.											
Baptism	This is a ceremony which a person goes through in order to become a Christian, it involves the use of water.											
Evangelism	The act of sharing the message of Jesus with others.											
Reconciliation	Bringing together people who were opposed to each other.											
Ecumenism	The movement to promote unity between different Christian denominations.											





Subject: Health and Social Care	KPOW: R032 Exam content	Year 10: Spring 1
Week 1: Topic area – Person-centred Values	Week 2: Topic area – Person-centred Values	Week 3: The 6Cs
<p>Person-centred values ensure that the service users are at the centre of all decisions made about their care.</p> <p>Mnemonic 'DCI PIPERR'</p> <p>Dignity – staff must help maintain an individual's self-respect and respect their beliefs.</p> <p>Choice – linked to rights, a person should be allowed to make their own decisions about their care or daily activities.</p> <p>Individuality – Everyone is different and has their own needs. 2 people with the same condition might require different care.</p> 	<p>Privacy – all information must be kept private and only told to those involved in the care of an individual.</p> <p>Independence – people should be encouraged and empowered to do as much as they can for themselves.</p> <p>Partnership – working with other people to ensure the best care is provided.</p> <p>Encouraging Decision-making – making sure the service users are at the heart of all decisions made.</p> <p>Rights – linked to 1.2, everyone has rights that staff must follow.</p> <p>Respect – understanding someone's feelings, needs, wishes and rights.</p> <p>Mnemonic 'DCI PIPERR'</p> 	<p>All service providers should demonstrate.</p> <ul style="list-style-type: none"> • Care – what is offered to the service user, linked to their age and needs. • Compassion – the empathy and respect shown to an individual. • Competence – the provider's ability to look after someone, making sure they have up-to-date knowledge of the patient's needs. • Communication – talking/listening to each other to ensure the best care for individuals. • Courage – ensuring the provider speaks up about any concerns. • Commitment – showing they can deliver the PVCs and treatment to a high level.
Week 4: Benefits of applying PCV	Week 5: Service user impact without PVC	Week 6: Topic area 2 Key terms
<p>Applying PCV's will help maintain a high standard of care.</p> <p>Benefits for the service provider (STAFF MEMBER) – provides clear guidelines on how to care for an individual; improves job satisfaction as they have a positive relationship; maintains or improves the quality of life as you feel supported; supports rights of choice and consultation; helps develop skills, and shares good practice</p> <p>Benefits for the service user (PATIENTS) – ensures they receive the same standard of care from all providers; improves their quality of care given increases the confidence they have in the provider; maintains or improves their quality of life as they are being correctly supported with all their needs; helps develop their strengths as they are given the opportunity and support to develop their self-efficacy.</p>	<p>Physical – the pain experienced by an individual may get worse if they don't get the correct medication, fluids, or foods they need.</p> <p>Intellectual – an individual might not develop new skills due to lack of mental stimulation. They may not be able to concentrate.</p> <p>Emotional – an individual might feel depressed, upset, angry or stressed if they don't get the correct treatment or PCVs are not applied.</p> <p>Social – an individual may feel isolated from others if they do not interact with others, they may then struggle to interact when in a social situation.</p>	<p>Topic Area 2 Keywords:</p> <p>Person-centred Values</p> <ul style="list-style-type: none"> • Individuality • Choice • Rights • Independence • Privacy • Dignity • Respect • Partnership • Decision Making <p>6Cs</p> <ul style="list-style-type: none"> • Care, compassion, competence, communication, courage, commitment • Service user • Service provider





Home Learning Schedule

Day	Subject to Learn Week A	Subject to Learn Week B
Monday	English	Maths
Tuesday	Science	Science
Wednesday	Option Subject A	Options Subject B
Thursday	Option Subject C	Options Subject E
Friday		

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

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