Minsthorpe Community College

Knowledge Organiser
Year 10 – Summer Term 1

Name:

P&A group:

Knowledge Assessment: Friday 22nd May 2026 – Period 1

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: An Inspector Calls	Year 10: Summer Term 1
Week 1: Act 1	Week 2: Act 1 Continued	Week 3: End of Act 1
Gerald's Proposal to Sheila CF / WM – Initially, Sheila is presented as the product of her middle-class parents. "Look, mummy isn't it a beauty" / "Is this the one you wanted me to have?" • Questions Gerald's loyalty, but accepts ring. • She prioritises materialism, wealth and status. • She is encouraged to marry him to socially migrate. • "mummy" highlights Sheila's immaturity – infantilised and shielded by her parents – making her naïve. • The fact that she seeks her mother's approval proves she is growing up to be just like her. **Mr Birling's Speech** CF / WM – Priestley initially crafts Arthus Birling to expose the arrogance of many middle-class capitalists. "Hardheaded businessman", "man has to mind his own business and look after himself." • Prioritises business over celebrating – avaricious. • Proud of his fixed mind set, stubbornness, and reluctance to see from other people's perspectives. • Exploits those who are inferior to benefit himself. • No social responsibility and mocks socialism. Titanic "absolutely unsinkable." • Dramatically ironic – the 1945 audience would have been aware that the titanic sank in 1912. • Mr Birling's misguided beliefs make the audience question how accurate his views on the world are. • 'Titanic' - metaphor for the elite – they believe themselves to be infallible (invincible), but Priestley is proving that even the exclusive can be taken down.	**The Inspector's Arrival** CF / WM – Priestley introduces the Inspector as the voice of socialism; his arrival foreshadows how he intends to expose the flaws of the Birling family.  "(sharp ring of the doorbell) Mr Birling stops to listen." • The Inspector interrupts Birling's selfish mindset. • He cuts off Mr Birling's capitalist thoughts to suggest Mr Birling's way of thinking is misguided. • Sound of the doorbell is intentionally uncomfortable to suggest the Inspector will be cutting/ forcing the Birlings out of their comfortable, middle-class bubble. "One person and one line of inquiry at a time." • Intentionally takes control of the situation. • Stops the Birlings using their position of social superiority to take control. • It shows that those who are socially inferior have the power to stand up against the elite. "A young woman drank some disinfectant and died, after several hours in agony." • Priestley intentionally uses dysphemism to evoke empathy from the Birlings, and in turn the audience. • The Inspector is crafted to highlight the suffering of the working class – if a horrific death such as Eva's is more favourable than living then this emphasises how bad their lives often were. • The Inspector can be considered the voice of the working class.	**The Inspector Interrogates Birling** CF / WM – Priestley exposes the arrogance and selfishness of capitalist business owners. When Eva strikes, Birling calls her a "ringleader." • Connotations of illegal activity and violence – ironically suggesting Eva was a criminal: "She had a lot to say- far too much- so she had to go." • Gets rid of anything detracting from profit. • Isn't concerned for how she will survive without a job. • Even though it won't drastically impact him financially, Birling still won't pay his work force fairly out of greed. • "Say" suggests he doesn't believe the working class (especially women) deserve a voice or rights. "I don't come into this suicide business." • No shame, guilt or responsibility. • Trivialises Eva's death by referring to it as "business." **The Inspector Interrogates Sheila** CF / WM – Priestley exposes the arrogance of the middle class. When a dress looked better on Eva, Sheila told the Milwards' owner that: "if they didn't get rid of that girl, [she'd] never go near the place again and [she'd] persuade mother to close [their] account with them." • Immature and jealous – used to being superior. • Uses her money and position to get her own way. • Because her mother had "been against" Sheila trying the dress on as it wouldn't suit her, she was forced to admit "mother had been right" – perhaps hinting at the desire to challenge her parents' authority also fuels her anger. However, she takes responsibility for her actions and becomes an advocate for the socialist ideas proposed by the Inspector: "If I could help her now, I would.".

Subject: English	KPOW: An Inspector Calls	Year 10: Summer Term 1
Week 4: Act 2	**Week 5:** Act 3	**Week 6:** The Ending

The Inspector Interrogates Gerald

CF/WM–Priestley exposes the corruption of patriarchy.

After seeing Eva wedged into a corner by Alderman Megarty, Gerald says she: "gave me a glance that was nothing less than a cry for help."

• Justifies taking advantage of Eva by presenting himself as heroic.

• He sees 'saving' her as an opportunity to disguise exploitation as chivalry.

"She was actually hungry."

• Takes advantage of her desperation

while he pretends to be "upset"; he continuously denies any wrongdoing and doesn't take responsibility: "I didn't install her there so I could make love to her."

The Inspector Interrogates Mrs Birling

CF / WM – Priestley exposes the prejudice of the rich towards the working class.

When describing how she refused to help Eva through the charity organisation she volunteers for, she says: "girls of that class" can't be trusted so: "I used my influence to have [her claim] refused".

- Ironic that Mrs Birling pretends to care for others by volunteering at a charity.
- Only volunteers to boost her social standing.
- Says Eva is lying about her situation for money.
- Ironic that she doesn't believe a middle-class man would be the father to Eva's baby as the father is her own son.

She refuses to change and accept responsibility, even though her actions caused the death of her unborn grandchild: "I've done nothing I'm ashamed of".

The Inspector Interrogates Eric

CF / WM – Priestley exposes how men often abused their patriarchal position in society.

When describing his encounter with Eva, Eric describes her as a: "good sport—" and says he: "was in that state when a chap easily turns nasty ".

- "Sport" suggests he treated Eva as a bit of fun; – his abuse of her was a game to him.
- He is oblivious to the suffering he was inflicting and convinced himself she enjoyed it.
- "Nasty" suggests that Eric is so used to getting his own way – like many middle-class Edwardian men – he used his position of dominance to control Eva and physically abuse her – he made her feel threatened, so she obeyed his desire for sex.
- Referring to himself as a "chap" while describing him sexually abusing a woman highlights his misguided judgement of his actions – "chap" has connotations of respectability, proving that he is oblivious to the severity of his actions because he follows in the footsteps of men like him.

The Inspector's Sermon

CF / WM – Priestley reinforces social responsibility.

Inspector provides warning to the family:

"Millions and millions of Eva Smiths and John Smiths."

- Common working-class names prove there are an abundance of individuals who still need help and support – despite acting selfishly in the past, it isn't too late for redemption.

"We are all members of one body."

- Everyone in society plays an equal role.
- Like the organs of a body, everyone must work together otherwise it will fail.

"If we do not learn that lesson, we will be taught in fire and blood and anguish."

- Warning that failing to learn from mistakes results in history repeating itself - outbreak of more wars if selfish behaviour continues.
- Biblical-like reference creates imagery of Hell, suggesting society will continue to grow Hellish unless it learns from the past.

The Ending

CF / WM – Priestley exposes the reluctance of the older generation to change their selfish ways, despite the warning of the Inspector. After learning the Inspector is a "hoax", Me Birling mocks: "the famous younger generation who think they know it all and they can't even take a joke."

- Proves Mr Birling trivialises the family's actions.
- He is pleased his reputation is intact for now.
- He is quick to forget that: "if it didn't end tragically, that's lucky, but it could have done."

Play ends with a "telephone ringing sharply" -genuine police inspector is coming to interrogate Birling – the cyclical structure proving history will repeat itself.

Subject: Maths

Week 1&2 (F) 1: Linear graphs review

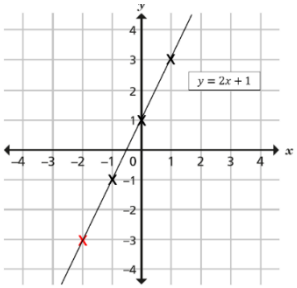
Table of values

To plot a straight-line graph, use a **table of values** to create coordinates. For example,

Plot the line $y = 2x + 1$

x	-2	-1	0	1	2	3
y	-3	-1	1	3	5	7

Complete the table by **substituting** in the values of **x** to get the values for **y**.



This creates the co-ordinate (-2, -3).

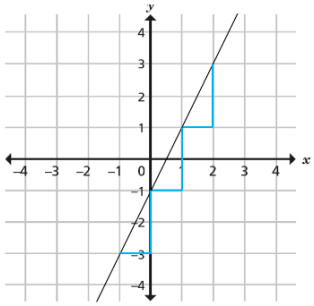
All the co-ordinates are then plotted and joined up to create a straight line:

Equation of a line

The general equation of a line is y = mx + c.

m represents the gradient of the line and c represents where the line intercepts the y-axis. Gradient is a measure of how steep the line is.

For example,



This line has a gradient of **2** and it crosses the y-axis at (0, **-1**) so the equation of this line is $y = 2x - 1$.

KPOW: Simultaneous equations

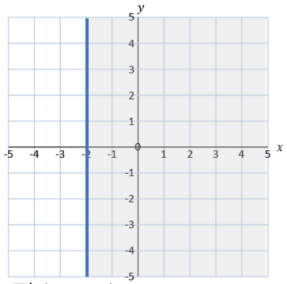
Week 2 (H): Graphical inequalities

Graphical inequalities

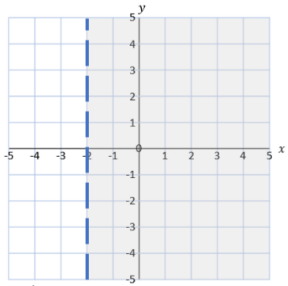
We can represent a region on a graph that satisfies the inequality.

When the inequality is less than or greater than (< , >), but equal to, use a dotted line.

When the inequality is less than or greater than (≤, ≥) and not equal to, a solid line is used. For example,



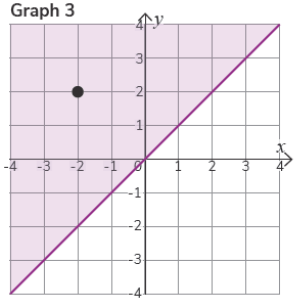
This region represents the inequality x ≥ -2.



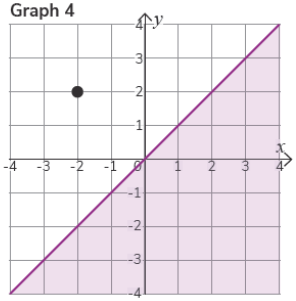
This region represents the inequality x > -2.

For the inequality y ≥ x, it is solid, but could be shaded either side of the line.

Graph 3



Graph 4



To check which area to shade, we need to pick a point (-2, 2) and see if it satisfies the inequality.

2 ≥ -2 is correct, so we want the region where this point is. Graph **3** is correct.

Year 10: Summer Term 1

Week 3&4 (H&F): Simultaneous equations

Simultaneous equations are two or more independent equations that share one or more variables such as x and y.

They are called simultaneous equations because the equations are solved at the same time with a **single solution.**

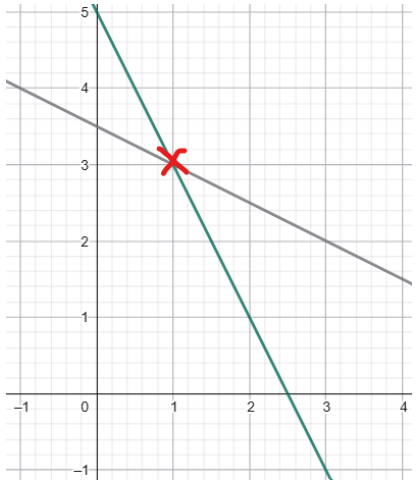
The number of variables in simultaneous equations must match the number of equations for it to be solved.

An example of simultaneous equations is:

$$4x + 2y = 10$$
$$x + 2y = 7$$

Each of these equations on their own could have infinite possible solutions. However, when we have 2 variables (x and y) and 2 equations, we can solve them using many different **methods**.

Solving **graphically**



Here are the graphs for

$4x + 2y = 10$
$x + 2y = 7$

Where they intersect is the solution: (1, 3)

x = 1
y = 3

Subject: Maths

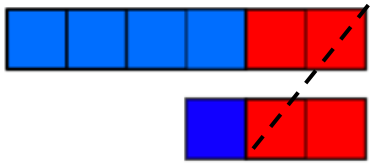
Week 3&4 (H&F): Simultaneous equations

Solving by **elimination**

Coefficient: A number multiplying a variable.

$$4x + 2y = 10$$
$$x + 2y = 7$$

When we represent these with bar models, it is clear where we can eliminate variables.



In these equations the y coefficients are matching. Therefore, we can eliminate them and solve for the x.

$$\begin{array}{rl} & 4x + 2y = 10 \\ - & x + 2y = 7 \\ \hline & \end{array}$$

$$3x = 3$$
$$x = 1$$

Now we can substitute to find y.

$$1 + 2y = 7$$
$$2y = 6$$
$$y = 3$$

If there are no matching coefficients, the first step, before eliminating is to multiply one or both equations to make one of the variables' coefficients match.

You can also solve simultaneous equations by substitution.

$$4x + 2y = 10$$
$$x = 7 - 2y \text{ (rearranged)}$$
$$4(7 - 2y) + 2y = 10$$
$$28 - 6y = 10$$
$$-6y = -18 \qquad y = 3, x = 1$$

Simultaneous equations

Week 5 (H&F): Pythagoras' theorem review

Key Words

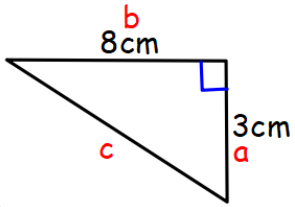
Right angle: An angle which is exactly 90°.

Hypotenuse: The side opposite the right angle in a right-angled triangle.

Pythagoras' theorem states that in a right-angled triangle the square on the hypotenuse is equal to the sum of the squares on the other two sides.

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

Using Pythagoras: Finding the Hypotenuse.



Step 1: Label the sides a, b and c.

The hypotenuse is always c.

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

Step 2: Substitute the known lengths.

$$3^2 + 8^2 = c^2$$

Step 3: Square the numbers.

$$9 + 64 = c^2$$

Step 4: Add the numbers together.

$$73 = c^2$$

Step 5: Square root to find the missing length.

$$a = \sqrt{73}$$

$$a = 8.544cm$$

Year 10: Summer Term 1

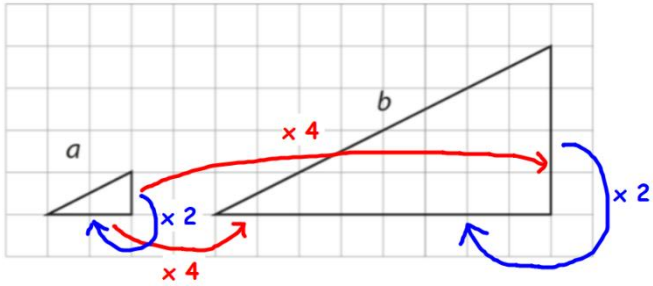
Week 6 (H): Similarity & trigonometry review

Similarity

Shapes are similar if they are the same shape, but a different size.

Scale Factor: Is the multiplicative relationship between two proportional quantities.

Similar shapes are also in the same proportions. This is called the constant of proportionality.



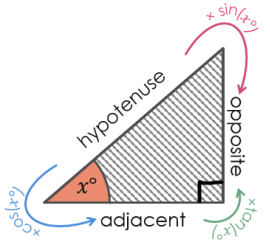
Trigonometry

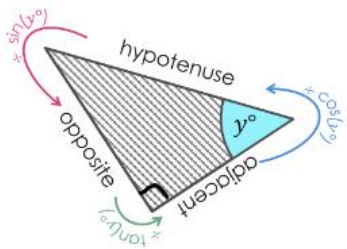
All right-angled triangles with the same acute angle are similar. The ratios of their side lengths are the same.

sinθ is multiplier to find the opposite from the hypotenuse.

cosθ is multiplier to find the adjacent from the hypotenuse.

tanθ is multiplier to find the opposite from the adjacent.





Subject: Biology	KPOW: Week 4 & 5	Year 10: Summer Term 1
Week 1 & Week 2: Ecology	**Week 3 & Week 4:** Ecology	**Week 5 & Week 6:** Ecology

Communities

Levels of organisation continue after Organism, to Population, Community & Ecosystem. Living organisms interact with their surroundings.

Key terms:

Habitat - Where organisms live.

Population – All organisms of one species in a habitat.

Community – Populations of different species in a habitat.

Abiotic Factor – Non-living parts of an environment.

Biotic Factor – Living parts of an environment.

Ecosystem - The interactions of a community of living organisms (biotic factors) with the non-living (abiotic) parts of their environment.

Biotic & Abiotic Factors

Biotic Factors are the living parts of the environment:

- Food availability
- Competition between organisms
- New predators
- New pathogens (causing disease)

Abiotic Factors are the non-living parts of an environment:

- Light intensity
- Temperature
- Water availability
- Soil pH level
- Soil mineral ion content
- Wind intensity
- Carbon dioxide concentration
- Oxygen concentration in water

Adaptations

Extremophiles have a huge variety of adaptations to survive in extreme environments, such as extreme temperatures (high and low), high acidity & alkalinity.

Adaptations are features, characteristics or behaviours that allow an organism to survive in the conditions where they live.

Animal adaptations to the desert:

- Large surface area to volume ratio
- Long legs & large ears
- Minimal fat stores under skin
- Sand-coloured fur for camouflage

Animal adaptations to the arctic:

- Small surface area to volume ratio
- Short legs and small ears
- Lots of fat stored under skin
- Snow-coloured fur for camouflage

Sampling

Sampling is used to estimate a population size, determine the changes in population over 2 areas and look at the distribution of a species.

Quadrats are square frames with a known area (e.g. $1m^2$).

Transects are lines placed across an area (usually tape measures).

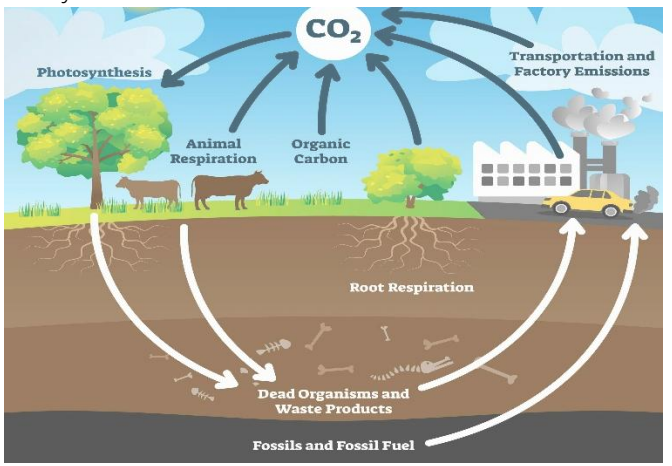
It is important that you reduce **bias** when placing quadrats.

To do this, split your area into a **grid** with **coordinates**.

Use a **random number generator** to decide where the quadrat is placed.

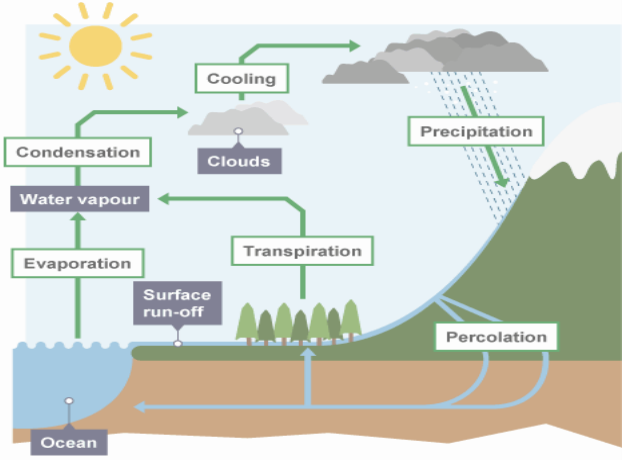
Carbon Cycle

The carbon cycle shows how carbon-containing products are recycled by photosynthesis, respiration, decay and combustion.



Water Cycle

The water cycle shows how natural process recycle water on our planet.



Subject: Chemistry

Week 1 & Week 2: Formulations

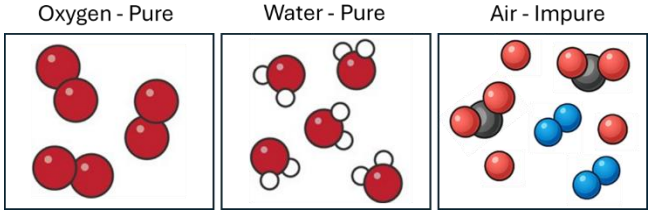
Pure substances and formulations

In an ideal world, every compound a chemist made would be 100% pure. Unfortunately, in the real world it doesn't always work out like that — but luckily, there are ways to find out how pure a substance is.

1) Everyday meaning of "pure" - usually when you refer to a substance as being **pure**, you mean that ***nothing has been added to it***, so it's in its natural state. For example: **pure milk** or **beeswax**.

2) Chemistry meaning of "pure" - In chemistry, a **pure substance** is something that ***only contains one compound or element throughout***, not mixed with anything else.

The diagram below shows **oxygen** is a **pure** substance as its only made of oxygen particles- same for **water**. **Air** is a **mixture** as it contains different particles and molecules.



Formulations are **useful mixtures** with a **precise purpose** that are made by following a **'formula'** (a recipe). Each component in a formulation is present in a **measured quantity** and contributes to the properties of the formulation so that it meets its **required function**.

Examples of **formulations** include: medicines, paints, fertilisers, cosmetics and fuels. They made examples the same each time and are designed for one job.

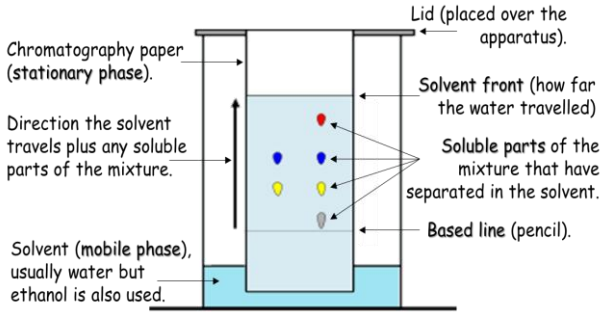
KPOW: Week 4 & 5

Week 3 & Week 4: Chromatography

Chromatography

Chromatography is a ***method*** used to **separate** and identify the components (different parts) of a **mixture** of soluble substances.

Stationary phase = The chromatography paper (**doesn't move**). ***Mobile phase*** = The solvent such as water or ethanol (**it moves**). ***Separation*** = As the solvent moves up the paper it dissolves the soluble parts of the mixture and continues moving up the paper. The more soluble something is, the further it moves up the chromatography paper.



Method

To carry out paper chromatography, first draw a light pencil line near the <u>bottom</u> of the chromatography paper and place a small spot of the <u>samples</u> you want to separate on the line.

Pour a small amount of <u>solvent</u> into a beaker thus making sure the solvent level is <u>below</u> the pencil line.

Carefully suspend the paper in the beaker so the bottom just touches the solvent.

Place a <u>lid</u> over the beaker to reduce evaporation.

As the solvent travels up the paper, it carries the <u>dyes</u> with it, separating the different components based on their solubility and interaction with the paper.

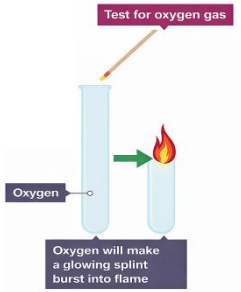
Year 10: Summer Term 1

Week 5 & Week 6: Gas tests

Testing for gases

i) Hydrogen

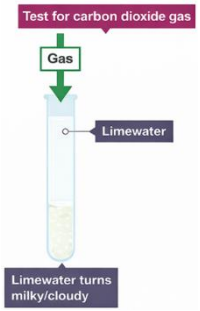
- **Test:** Hold a lit splint at the open end of a test tube containing the gas. **Positive result:** A **squeaky pop** sound.
- **Why:** Hydrogen burns rapidly with oxygen in the air thus creating the popping noise.



ii) Oxygen

- **Test:** Insert a **glowing splint** (not burning, just glowing) into the gas. **Positive result:** The splint **relights**.
- **Why:** Oxygen supports combustion, so it makes the splint burn again.

iii) Carbon dioxide



- **Test:** Bubble the gas through **limewater** (calcium hydroxide solution).
- **Positive result:** Limewater turns **cloudy / milky**.
- **Why:** Carbon dioxide reacts to form **calcium carbonate**- an insoluble white solid.

iv) Chlorine

- **Test:** Hold **damp blue litmus paper** in the gas. **Positive result:** The litmus paper turns **red**, then is **bleached white**. **Why:** Chlorine is acidic and a strong bleaching agent.

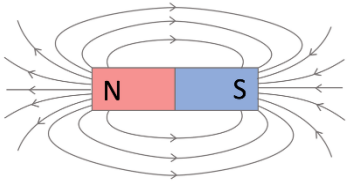
Subject: Physics

Week 1 & 2: Magnetic Poles & Fields

A **magnetic** object is an object that is **attracted** by a magnet. All magnetic objects must be made of one of the following elements:

- **Iron** (or Steel – an alloy including Iron)
- **Cobalt**
- **Nickel**

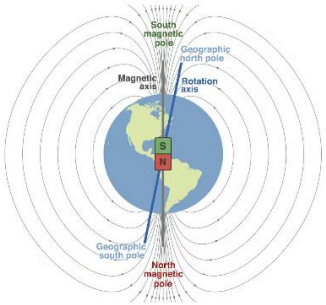
The ends of a magnet are called the poles. There are two poles: **North** and **South**. This is where the magnetic field is the **strongest**, therefore this is where the biggest magnetic **force** can be applied.



You can use a **compass** placed at different positions around a bar magnet to draw its magnetic field. You will notice two things:

- The magnetic field lines always go from **North to South**.
- The magnetic field lines are much **closer** to each other near the **poles** (because the field is stronger there).

Due to its **inner** core being made of Iron and nickel, the **Earth** has its own magnetic field. It actually protects us from events such as **solar flares**.



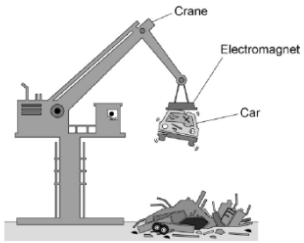
KPOW: Weeks 4 & 5

Week 3 & 4: Electromagnets

Electromagnets have two main **advantages** over permanent magnets:

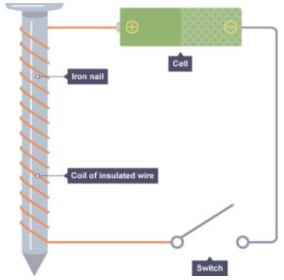
- They can be **turned** on and off.
- They can be made **stronger** (or weaker).

Electromagnets are used in several machines and appliances such as **door locks**, **cranes** in scrapyards, bullet (maglev) **trains**, etc.



To **build** a simple electromagnet, you need to **wrap** an insulated **wire** several times around a **magnetic core** (this is usually an Iron nail) and turn the current on.

Any wire with an **electric current** going through it has a **magnetic field** around it; this will turn the magnetic core into a **magnet** – but, only whilst the current is on.



To increase the strength of an electromagnet, you can:

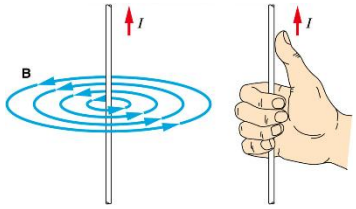
- **Increase** the **current**.
- **Increase** the number of **coils** of wire.
- **Tighten** the **coils** of wire.

To **test** how strong an electromagnet is, you can count how many **paperclips** it can pick up at once. The more paperclips, the bigger the force, the **stronger** the magnet.

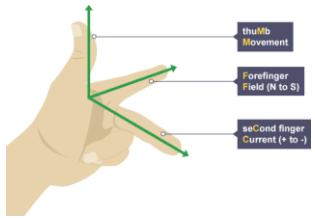
Year 10: Summer Term 1

Week 5 & 6: Electric motors

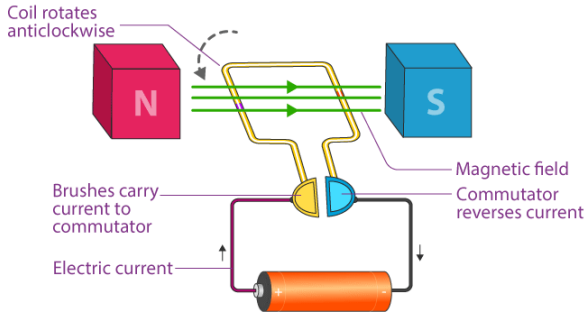
Any **current-carrying wire** has a weak circular magnetic **field** around it. The direction of this field can be predicted using the **right-hand rule**: doing a **thumbs-up** with your right hand, with your **thumb** pointing in the direction of the **current**, and the rest of your **fingers** showing which way the **field** rotates.



This magnetic field means that if the wire is placed near a magnet then they will **interact**, because they both have magnetic fields. This interaction results in a **force** applied on the wire (we call this the **motor effect**). To predict the direction of this force, we can use the **left-hand rule**.



Electric motors are devices which use the motor effect to create a **spinning motion**. They are used in a wide variety of everyday objects (**fans**, power tools, hair dryers, **cars**, etc).



Subject: Separate Science

Week 1 to 6: Biology

Decomposition (RP)

Decompose: When an organism decays (decomposition by microorganisms), the large complex molecules of that organism are broken down into simple organisms and their constituent elements & ions.

The rate of decay is affected by 4 factors:

- Temperature
- Oxygen Availability
- Water Availability
- Number of microorganisms

When microorganisms decay plant/animal waste **anaerobically**, they produce **methane** – this can be used as a **fuel** source.

Biogas generators utilise this process to produce methane on a **large scale**.

Trophic Levels, Pyramids & Transfer of Biomass

Trophic: Trophic levels refer to groups of organisms that either produce or consume food. Trophic levels are displayed in food chains and food webs.

Maize → Locust → Lizard → Snake

The arrows represent the movement of energy.

Biomass: This is the dry mass of an organism that is living, dead or recently dead. Biomass can be used as a **fuel**.

Biomass **reduces** as you move along a food chain, as not all the organism is **consumed**. At each trophic level, biomass is **lost** by **respiration** and as liquid/solid **waste**. The **efficiency** of biomass transfer is calculated using the following equation:

$$\%\ efficiency\ transfer = \frac{biomass\ in\ higher\ trophic\ level}{biomass\ in\ lower\ trophic\ level} \times 100$$

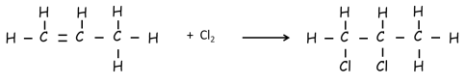
KPOW: Weeks 4 & 5

Week 1 to 6: Chemistry

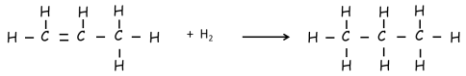
Further Organic Chemistry

Alkenes undergo addition reactions across their double bonds with 1) Halogens, 2) Hydrogen, 3) Water.

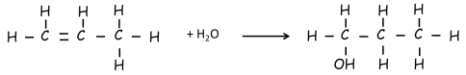
1) With halogens at room temperature



2) With hydrogen (at 150°C and with a nickel catalyst)



3) With water (steam), at high temperature (300°C) and pressure and with an acid catalyst



Alcohols contain the **–OH functional group** and are part of the homologous series with general formula $C_nH_{2n+1}OH$.

Key Reactions:

- **Combustion**: Alcohol + O_2 → CO_2 + H_2O (clean flame)
- **Oxidation**: *Alcohols* → **Carboxylic acids** (with acidified potassium dichromate)
- **Reaction with sodium**: Produces **hydrogen gas** and a **salt** (e.g. sodium ethoxide)

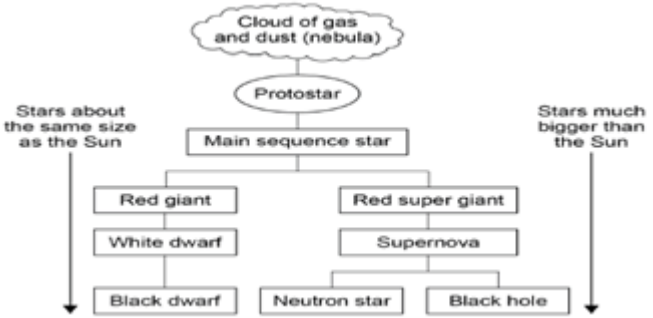
Carboxylic acids contain the **–COOH group** and are **weak acids**.

Reaction Type	Reactant	Products	Example
With metals	Reactive metal	Salt + Hydrogen	Ethanoic acid + Mg → Magnesium ethanoate + H_2
With alkalis (bases)	Metal hydroxide	Salt + Water	Ethanoic acid + NaOH → Sodium ethanoate + H_2O
With carbonates	Metal carbonate	Salt + Water + CO_2	Ethanoic acid + $CaCO_3$ → Calcium ethanoate + H_2O + CO_2

Year 10: Summer 1

Week 1 to 6: Physics

Life Cycle of a Star – The early stages



Stars begin their lives as large **nebulae** (large **clouds** of gas and dust). Particles in the nebulae are pulled together by the **gravitational** force, and start colliding with each other, more and more often as time goes. This causes these regions to **heat up**, forming a **protostar**. In a protostar, the temperature is high enough for **nuclear fusion** to begin. This marks the start of the main **sequence phase**, where the star fuses hydrogen into helium, releasing energy and **balancing** the **inward** pull of **gravity** with **outward pressure**. This phase can last **billions** of years.

The **end** of the life cycle depends on the **mass** of the star:

- **Small** stars (like our **Sun**) will expand into a red **giant**, then contract into a **white dwarf**, and eventually cool down and finish their life cycle as a **black dwarf**.
- Stars which are much more **massive** will expand into a red **supergiant** and ends up **collapsing** and triggering a gigantic **explosion** called a **supernova**. After this, the star will turn into either a **neutron** star or a **black hole**.

Subject: French Foundation & Higher	KPOW: Common Mock Exam Vocab	Year 10: Summer Term 1

Week 1:

un magasin – a shop
un jardin – a garden
un chemin – a path/way
un bâtiment – a building
à l'étranger - abroad
une maison – a house
une piscine – a pool
un château – a castle
la mer – the sea

un arbre – a tree
des vêtements - clothes
des livres - books
un cadeau – a present
des cadeaux - presents
une voiture – a car
un bateau – a boat
un vélo – a bike
un avion – a plane

une bibliothèque – a library
une boulangerie – a bakery
une mosquée – a mosque
les habitants – residents / inhabitants
une chambre – a bedroom
les pays du monde – countries of the world

Week 2:

propre – clean
sale - dirty
vieux – old
nouveau - new
célèbre - famous
cher – expensive
moins cher - cheaper
beau / belle - beautiful
sympa - nice
jeune - young
fort – strong / loud
disponible - available
fatigué - tired

seul - alone
prêt - ready
interdit – forbidden
heureux – happy
plein de vie – full of life
meilleur - better
le meilleur – the best
loin – far
trop - too
trop de – too much/many
plus - more
plus de – more (of)

Week 3:

avoir faim / j'ai faim – to be hungry / I'm hungry
avoir soif / j'ai soif – to be thirsty / I'm thirsty
le lait – milk
l'eau – water
le produit – product
le pain - bread
la viande - meat
la nourriture - food
la cuisine – kitchen / food/ cooking
un repas – a meal
équilibré - balanced
un ordinateur – a computer
un portable – a mobile phone
la taille – the size
l'écran - screen
une émission – a show / programme
des vols – thefts / flights
l'espace – space

Week 4:

le matin – in the morning
l'après-midi – in the afternoon
le jour – the day
le soir – in the evening
la nuit – the night
l'année prochaine – next year
mardi prochain – next Tuesday
plus tard - later
après - after
demain – tomorrow
aujourd'hui – today
hier - yesterday
le dernier jour – on the last day
même – same / even
devant – in front of
malgré – despite
sans - without
tout – all / every

Week 5:

la mode – fashion
une promenade – a walk
des menaces - threats
les prix – prices / prizes
mon anniversaire – my birthday-
une course à pied – a running race
l'argent - money
la récréation – break(time)
la cour - playground
les élèves / les étudiants – pupils / students
les devoirs - homework
l'anglais – English
l'informatique – IT / computing
le chômage - unemployment
un bénévole – a volunteer
un emploi – a job
les poubelles - bins
un spectacle – a show
un garçon – a boy
chez moi – at home
la fin – the end/finish
là-bas – over there

Week 6:

sortir – to go out
durer – to last
éviter – to avoid
entendre – to hear
essayer – to try
parler – to speak / talk
porter – to wear /carry
recevoir – to receive

voir – to see
fumer – to smoke
donner – to give
retourner – to return
lire – to read
dormir – to sleep
partager – to share
vivre – to live
acheter – to buy

comprendre – to understand
je ne peux pas – I can't
je peux – I can
je m'entends bien – I get along well
je me dispute – I argue
on se dispute – we argue

Subject: French (HIGHER ONLY)	KPOW: Common Mock Exam Vocab	Year 10: Summer Term 1

Week 1:

un billet – a ticket
un marché – a market
un stylo – a pen
le choix – choice
la circulation – traffic
une place – a space / room/ seat
une grève – a strike
un retard / en retard – a delay / late
un échec – a failure
les matières – subjects
les cours – lessons
la porte – door
la clé – key
le soutien – support
les conseils – advice
les gens – people

Week 2:

suffisant – enough
pratique – practical
sûr – safe
gratuit – free / no cost
facile – easy
mal – bad
lentement – slowly
loin de – far from
travailleur - hardworking
embêtant – annoying
fier / fière – proud
seul – alone
dur – hard

parfait – perfect
formidable – brilliant
bon – good
bien payé – well-paid
autre – other
déçu – disappointed

francophone – French speaking

original / originaux – original

le **plus** jeune – the young**est**

Week 3:

les événements – events
les romans – novels
un tableau – a painting
une ferme – a farm
un siècle – a century
l'enfance – childhood
la naissance – birth
une entreprise – a company
le patron – boss
un employé – an employee
un salaire – a salary
les personnages - characters
une grande marque – a big brand
le bruit – noise
un voisin / une voisine – a neighbour
une entreprise – a company

Week 4:

avant / avant de – before
moins de – less (of)
au lieu de – instead of
plein de – lots of
seulement – only
depuis – since
à ce moment-là – at that moment
déjà – already
de moins en moins – less and less
ne…jamais – never
ne…plus – no longer / not anymore
heureusement – luckily / fortunately
tout le monde – everyone
depuis **<u>cinq</u>** ans – for **<u>5</u>** years
quelque chose – something
la même chose – the same thing
pas du tout – not at all
pour – for / in order to
les mêmes goûts – the same tastes/interests

Week 5:

avoir besoin de / j'ai besoin de – to need / I need
avoir confiance – to trust / have confidence
avoir peur – to be scared / have fear
être en colère contre – to be angry with
je viens de … – I've just…
faire des progrès – to make progress
on peut – you can
on ne peut pas – you can't
j'ai perdu – I (have) lost
être là / n'être pas là – to be there / not be there
on a ri – we laughed
je le conseille – I advise/recommend it
je suis rentré – I came home

Week 6:

rencontrer – to meet
se coucher – to go to bed
commander – to order
prêter – to lend
aider – to help
ouvrir – to open
réussir – to succeed
rester – to stay
se marier – to get married
connaitre – to know
s'inscrire à – to enrol / sign up
obliger – to force / obligate

ressembler – to look like
devenir – to become
cacher – to hide
s'attendre à – to expect
tomber – to drop
offrir – to give
profiter – benefit from
envoyer – to send
suivre – to follow
fabriquer – to make

Subject: Geography

Week 1 & 2: Desertification

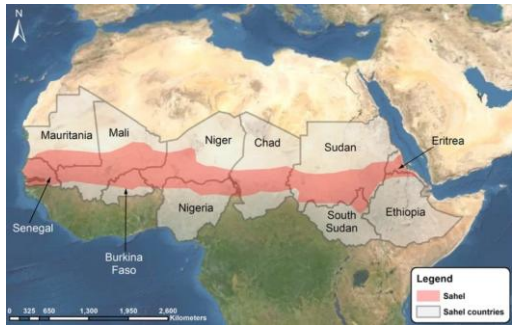
Desertification

Desertification is when soil quality degrades (declines) so much that the **land turns to desert**. Most of the areas at risk from desertification are on the **fringes** (edges) of existing deserts.

Causes of desertification:

- **Overgrazing.**
- Over cultivation.
- Collecting firewood.
- **Climate change.**

The Sahel is experiencing desertification. The area stretches from east to west across Africa at the southern edge of the Sahara Desert.



Managing Desertification

Desertification needs careful management of **land and water sources** to be reduced.

One strategy is **tree planting** which helps to reduce soil erosion. The **Great Green Wall**, across the Sahel, will hopefully:

- encourage **tree roots to bind the soil together**.
- reduce evaporation rates due to providing shade.
- be a source of sustainable fuelwood.

Provide jobs for people.

KPOW: Living World Cont. & NEW: CEW

Week 3 & 4: Development & Development Gap

Development means **positive changes that make things better for people.** Development measures how economically, socially culturally and technologically advanced a country is.

Development is **measured using both social and economic indicators**, some of which include:

- **GNI** (gross national income) – economic.
- Birth rates – social.
- Infant mortality – social.
- **Life expectancy** – social.

However, one **limitation** of this data is that it could be **unreliable**, especially if the government is **corrupt**.

HDI (human development index) is a **more reliable**, measure of development as it is a combination of GNI, health and education.

The development gap is the **difference in standards of living between the world's richest and poorest countries,** and is caused by combinations of economic, physical and historical factors, e.g.

- Historical – colonisation.
- Economic – debt.
- Physical – landlocked, poor climate.

Consequences of the Development Gap

Due to uneven development, there are **inequalities in wealth and health** across countries. Wealth can be linked to health as poorer countries struggle to provide access to health care for all.

If there are limited economic opportunities for people in a country, this can lead to **international migration** as people seek out ways to improve their standard of living and quality of life.

Year 10: Summer 1

Week 5 & 6: Reducing the Development Gap

Reducing the gap involves a range of strategies that aim to **improve a country's economy and the quality of life** of its people.

- Investment & Industrial development.
- Tourism.
- **Aid.**
- Intermediate technology.
- **Fairtrade.**
- Debt relief.
- Microfinance loans.

WaterAid works in many different countries trying to improve the access and quality of fresh **water supplies and sanitation** solutions. One such solution is a **composting toilet** which provides privacy and eventually fertiliser for agriculture.

Tourism is a tertiary industry that encourages people to travel for recreation and leisure. **Many developing countries are keen to develop tourism** to become richer and to improve **quality of life** for their people.

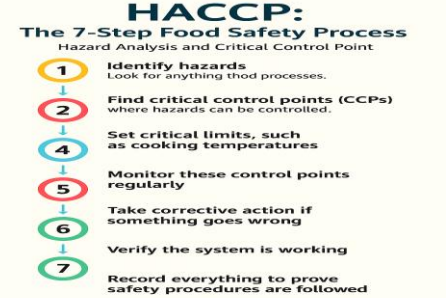
Example for Growth of Tourism – Jamaica

Jamaica, in the Caribbean, relies heavily on **tourism to support its GNI** and therefore development.

There are many positives & negatives of tourism for Jamaica:

- ☺ **Jobs** in tourist related businesses.
- ☺ **investment** in tourist areas has led to improvements in quality of life for locals.
- ☹ jobs can be **seasonal.**
- ☹ central Jamaica has seen little investment, so quality of life has seen little improvement here.

Subject: History	KPOW: Q1 and Q2 skills session	Year 10: Summer Term 1
Week 1&2: Magna Carta and Barons' Revolt	**Week 3&4:** Barons' Revolt and Peasants' Revolt	**Week 5&6:** Peasants' Revolt & Pilgrimage of Grace
1215 - Why were the Barons unhappy with King John? - John inherited heavy debts thus forcing him to raise money quickly. **He did this by charging the scutage tax.** - His reign was dominated by conflict with France. **His failures led to his nicknames, 'Lackland' and 'Softsword'.** - He argued with the Pope, which led to England being **excommunicated for 7 years** thus stopping baptisms and marriages. - John also gained a reputation for cruelty; he even **murdered his own nephew**. **So, what happened?** On **15 June 1215 at Runnymede**, John met the barons led by Fitzwalter and agreed to Magna Carta- **a set of 63 rules** designed to limit royal power. **How significant was this?** **Short term:** It **only helped freemen**; most people were left unprotected, as they were peasants. **Long term:** As more people gained their freedom, it applied to more people. Introduced the **idea that the king needs to follow the law**. 1258-65: Why were the Barons unhappy again? **Simon de Montfort** and the barons were unhappy with Henry III because he: -Repeatedly **ignored Magna Carta.** - Wasted money funding the Pope's wars. - **Favoured his foreign relatives** with land and influence. - Ignored the English barons' advice. Their frustration led to the **Provisions of Oxford (1258),** which forced Henry to accept a council of **15 barons to oversee his royal decisions.** Overtime, as he pushed back, it led the barons to declare war.	**The Barons' Revolt:** The **Battle of Lewes (1264)** saw Simon de Montfort defeat and capture King Henry III and his son Prince Edward therefore briefly giving Simon control of the country. During that time, de Montfort **invited the commons to the Great Council for the first time.** This was two knights/burgesses from each town. This earned him the nickname **'Father of Parliament'.** However, at the **Battle of Evesham (1265)**, Prince Edward regained power for the monarchy, trapped de Montfort, and killed him, restoring royal power. **Significance:** When Edward took over as king, he knew he would need to keep parliament on side. In 1295, he called the **Model Parliament** based on the Great Council called by de Montfort in 1264. This is the parliament that most closely resembles ours, but it was **still only the elite (barons) who could vote.** 1381: Why were the Peasants unhappy? -The Black Death (1348) **killed 1/3 of people**. -Less workers = peasants could **demand higher wages**. -The **Statute of Labourers** (1351) forced wages back to pre-plague levels, angering peasants. -King Richard II **lost costly wars** with France. -He charged **Poll Tax in 1381,** which angered the peasants who were forced to pay the same as the rich. -Priests, like **John Ball, preached equality.** **Events:** Inspired by Ball, the peasants began **refusing to pay taxes**. Led by Wat Tyler, they attacked officials, and marched to London, where they destroyed property and **demanded fairer treatment**. **King Richard II promised pardons**, and freedom, for villeins, **but later broke his word**. After Tyler was killed, the revolt collapsed and the **leaders were executed**.	**Peasants Revolt: Significance: Short term -** The **1381 revolt shocked the nobility** and showed the danger of large peasant uprisings. **Richard II promised reforms**, but these were **cancelled** once the revolt was crushed. **Wat Tyler and other leaders were killed**. **In the short term, the revolt failed** to achieve its main aims. **Overtime:** The revolt showed that **ordinary people could challenge authority.** 100 years later all villeins were made free**, ending Feudalism.** 1536: Why were people unhappy with Henry VIII? ·**Prices continued to rise** under Henry **and landowners lost influence.** ·His key advisor, **Cromwell was unpopular** as he helped to **shut down monasteries**. ·**People wanted the Pope** back as the head of Church. **Events:** People from **different classes protested** the religious changes = **Pilgrimage of Grace**. It began in **Yorkshire in 1536** and was led by **Robert Aske**. He said the rebels were loyal to the king, but against his advisors. **They wanted**: **Monasteries** restored. The **Pope** as head of the Church and **Thomas Cromwell removed** due to his bad advice. The rebels met Henry's representative; however, they outnumbered the king by **30,000 to 8,000**. Aske and the rebels agreed to go home as **Aske was invited** to spend **Christmas with Henry VIII**, where he could state the rebels' demands. **Henry promised** to give the rebels what they wanted, but this was a **lie. Significance**: Henery VIII proved he was an **absolute monarch**. He built a stronger army and went back on his promises. Aske and other **leaders were executed**. The rebellion failed, **Church reforms sped up;** it was the first time **rich and poor people teamed up**.

Hospitality and Catering	KPOW: Theory	Year 10: Summer Term 1
Week 1 & Week 2: Unit 1.4	Week 3 & Week 4: Unit 1.4	Week 5 & Week 6: Unit 1.3
Food-related Causes of Ill Health *Biological contamination*: this is the most common cause of food-related illness. It happens when harmful microorganisms enter food. These microorganisms can multiply quickly if food is stored incorrectly or not cooked properly. Examples include: • **Bacteria** e.g. *Salmonella*, *E. coli*, and *Campylobacter* • **Viruses** like Norovirus • **Moulds and yeasts** *Chemical contamination:* occurs when harmful substances get into food, for example: • **Cleaning products** (e.g., bleach or disinfectants) • **Pesticides** (often sprayed on crops) Chemicals may cause poisoning or allergic reactions making safe storage and correct chemical use important in all food environments. *Physical contamination:* happens when physical objects (foreign objects) accidentally enter food. They can cause choking, injury, or damage to teeth. Examples include: • **Hair, nails, jewellery** • **Packaging materials** (e.g. plastic, cardboard, staples) • **Broken glass or metal shards** Physical contaminants often come from the environment where food is prepared – from either: 'people' (food handlers), 'premises' (the food prep room), 'packaging' or 'pests' (e.g. flies, rodent droppings).	**Preventative Control Measures of Food-Induced Ill Health** Hospitality and Catering businesses can prevent food-related illness by using safe working practices to stop contamination, protect customers, and ensure legal compliance (i.e. avoid breaking Food Safety laws). *Cross-contamination* happens when harmful bacteria move from one surface or food to another. Prevention can include: • Using separate chopping boards for raw and cooked foods • Washing hands regularly • Storing raw meat on the bottom shelf of the fridge *Storing and Cooking foods* at the correct temperature also helps to prevent food-related illness: • Cooking foods thoroughly (e.g. meats must reach a safe internal temperature of 75°c) • keeping chilled foods at low temperatures (0°c - 5°c in the fridge) • Keeping frozen foods at a constant temperature (-18°c to -25°c in the freezer) • Cooling cooked foods quickly *Good personal hygiene* reduces the risk of food handlers contaminating food, protecting customers from illness. Good personal hygiene includes: • Washing hands frequently • Wearing clean protective clothing (e.g. apron) • Keeping hair tied back or covered • Not wearing jewellery (e.g. rings) • Avoiding handling food when ill	**Food Safety Management Systems: HACCP** HACCP stands for **Hazard Analysis and Critical Control Point**. It is a Food Safety Management System (a written document) used across Hospitality and Catering to identify, prevent, and control food safety hazards. It ensures that food served to customers is safe to eat by analysing every stage of food production, from delivery to service. A hazard is anything that could make food unsafe. HACCP helps businesses to identify biological, chemical and physical hazards (see week 1 and 2) and decide where controls (preventions) are needed. When creating a HACCP plan, a food provider will: • Look carefully at *what could go wrong* during food preparation • Identify *critical control points* – these are key points in the food prep process where hazards can be reduced or removed • Set *actions* to take if something goes wrong • *Monitor* actions to make sure they are working • *Keep records* as evidence of safe practice 

Subject: Product Design

KPOW: Natural and Manufactured Timber

Year 10: Summer Term 1

Week 1 & Week 2: Joining Methods

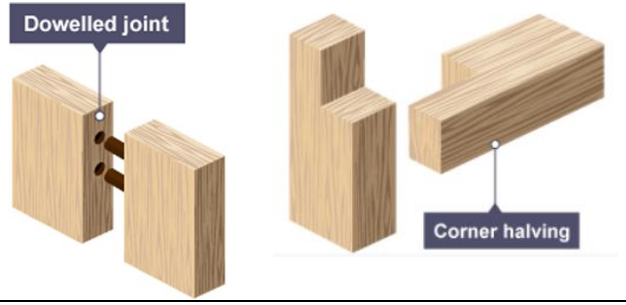
Wood Joints

There are a range of different joints for different situations that provide different levels of **strength** and **structure**.

Wood joints are classified into two construction categories: **Frame** or **Box.**

Frame Joints

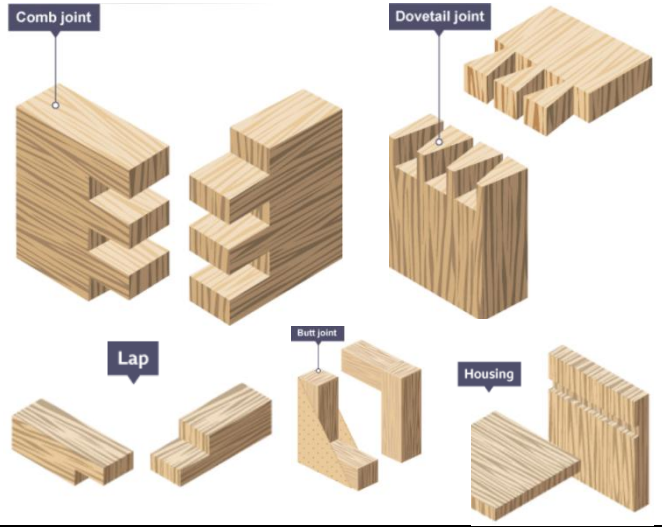
Dowel	Uses a wooden or plastic peg, called a **dowel**, which fits into aligned holes to **reinforce** the joint.
Corner halving	Strong joint due to the surface area available for gluing, the shoulder gives extra **mechanical** strength.
Mortise and tenon	Very strong joint can be cut with a tenon saw and **mortise chisel** –in production, a mortise machine will likely be used.
Bridle	Similar to a mortise and tenon – however, the cuts are made to the **full width** of the timber.
Mitre	Cut at a **45-degree** angle and glued together, used for picture frames.



Week 3 & Week 4: Joining Methods

Box Joints

Butt	Simple join where the edges of the timber are glued together, so it is easy to make, but **weak.**
Housing	Simple **slot** into one piece, usually cut by a **router**, often used in shelving.
Lap	Stronger joint due to the surface area that can be glued, and a **shoulder** is cut from the edge one piece.
Dovetail	Similar to a mortise and tenon – however, very strong and looks good, but **complex** and difficult to cut (jigs can be used to aid this process), often used in **high-quality** furniture.
Comb	Easier to make than a dovetail, offers good contact for gluing and the pieces of the wood **interlock** providing strength, often used in wooden boxes.



Week 5 & Week 6: Joining Methods

Permanent fixings

Materials are joined permanently by using adhesives, a substance that bonds surfaces together.

Polyvinyl acetate (PVA) - Used as a general-purpose woodworking glue, some PVA adhesives are water resistant. Used to join woods, papers and boards.

Epoxy resin (ER) - Used for joining woods to other materials such as metals and plastics. It is waterproof, but is a two-part glue that must be mixed up immediately before use.

Contact adhesive - Used for joining a range of materials, such as fixing plastic laminates to a wooden base, and provides a strong bond. It needs to be applied to both materials and allowed to dry before joining.

Temporary Fixings

Temporary fixings will often be done using fastening components, such as screws or knock-down fittings, which are most commonly used in joining flat-pack furniture.

They can be easily put together, or removed if needed, using basic tools such as a screwdriver.

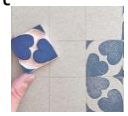
Knock Down Fixings (KDF)

Most knock-down fittings consist of corner blocks or bloc-joint fittings and are usually made from a plastic such as nylon.

Subject: Textiles

Week 1 & Week 2:

Titles: Surface decoration

Different decoration techniques	
Method	**Description**
Tie-dye 	**Resist** type of dying where you fold/twist, fabric and bind it with rubber bands or string before applying dye.
Applique 	Sewing technique where you cut out fabric shapes and sew or stick them onto a larger piece of fabric to create a picture.
Batik 	Batik is a dyeing technique using wax **resist**. Patterns are drawn on the fabric using hot wax. The fabric is then dyed.
Stencilling 	A stencil is a stiff sheet of material with a design or image cut out of it. When you apply paint to the stencil, the design is printed on the surface.
Block print 	Block, or **relief**, printing includes lino prints, woodblock prints, rubber stamping.
CAM embroidery 	CAM embroidery refers to using a computer to control a specialised embroidery machine that automatically stitches a design onto fabric.

KPOW: End of topic test

Week 3 & Week 4:

Titles: Surface decoration continued

Dying techniques

Tie dye, batik and dip dying

Advantages	Disadvantages
Every piece of fabric will be unique.	Outcome is unpredictable.
Equipment is cheap and readily available.	Cannot repeat the same pattern/effect.

Environmental impact

Most dyes are made from chemicals that can damage the environment by polluting rivers and killing fish; but you can make natural dyes from red cabbage, beetroot and many other food sources.

Key terms used in exam questions check

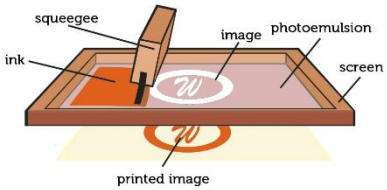
Key word	Meaning
Function	The purpose or job of something.
Aesthetics	What the product looks like: Colour, texture, shape, form…
Benefit	The advantage or profit gained from something, e.g. "Why has the designer chosen to use such techniques?"

Year 10: Term summer 1

Week 5 & Week 6:

Titles: Surface decoration- printing

Silk screen printing : A design is transferred onto a mesh screen, blocking certain areas so ink cannot pass through. A squeegee is used to push ink through the screen. For multiple colours the process is repeated with a different screen for each colour.



The squeegee is held at 45 degrees.

Roller printing: Roller printing on fabric is a mechanical textile printing method using engraved copper rollers, each carrying a different colour to continuously transfer detailed, repeating patterns onto cloth as it passes through the machine.

Discharge printing: Like screen printing, but instead of normal ink, discharge inks are used, which remove the fabric's dye instead of putting a colour on top of the fabric.

Subject: PE	KPOW: Key Words- Injuries	Year 10: Summer Term 1

Week 1: PAR-Q

What does PAR-Q stand for?

Physical Activity Readiness Questionnaire

Why do we use PAR-Q's?

A PAR Q is designed to identify any potential health problems that means physical exercise would not be recommended.

What do PAR-Q's look like?

1. Personal physical details for example weight.
2. Family health history, for example, any heart disease.
3. Known health problems for example high blood pressure.
4. Lifestyle for example smoking.

Week 2: Fractures

Fractures happen when the force on the bone is stronger than the bone itself.

Types of fracture.

Compound or open fracture.

Where the broken bone causes the skin to break.

Simple or closed fracture.

Where the bone does not break the skin.

Stress Fracture.

Commonly caused through overuse. This is where a small crack forms in the bone.

Greenstick Fracture.

Common in younger children. This where the bone bends on one side and breaks on the other.

Week 3: Concussion

Concussion is a mild head/brain injury. It is caused by a blow to the head or by whiplash (sudden and severe movement of the head) shaking the brain inside the skull.

Signs and Symptoms.

Confusion.
Dizziness.
Unconsciousness.
Nausea.

Caused by a blow to the head or whiplash.

American Football clash of heads.
Ice Hockey collision with wall.

How to treat a concussion.

Seek medical advice and monitor closely to make sure the symptoms do not get worse.
Rest.

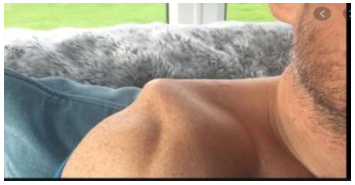
Week 4: Dislocation

Where one of the bones at a joint comes out of place.

Caused by a fall or blow to the area. For example, falling when running and putting out your arms to save yourself can result in a dislocation at the wrist or shoulder.

Signs and Symptoms.

Pain.
Misshapen joint.
Swelling.



How to treat a dislocation.

RICE- Rest, ice, compression and elevation.
Seek medical help.

Week 5: Sprain

A sprain is an injury at a joint where some of the fibres of the ligament are torn. It happens when the joint goes through a greater range of movement than normal.

Signs and Symptoms.

Pain.
Bruising.
Swelling.

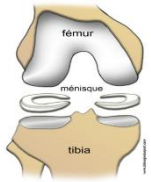
Caused by forcefully twisting or overstretching the joint e.g. a basketballer going over on ankle when stretching their leg out.

How to treat a sprain.

RICE- Rest, ice, compression and elevation.
Seek medical help.

Week 6: Torn Cartilage

Cartilage acts as a cushion at the end of the bones. Torn cartilage is an injury at a joint where small tears appear in the cartilage. It is a common injury in many sports.



Signs and Symptoms

Swelling
Stiffness at the joint

Caused by forcefully twisting or sudden impact e.g.- footballer turning studs stuck in turf. Football and rugby Impact from a tackle.

How to treat torn cartilage.

Rest and strengthening exercises.

Subject: Computer Science

Week 1 & Week 2:

Network Threat Prevention

Firewall – Blocks unauthorised access.
Anti-malware – Detects/removes malicious software.
Encryption – Scrambles data; can't understand if intercepted.
User Access Levels – Limits what users can access/do.
Strong Passwords – Harder to guess/brute force.
Updates/Patches – Fix security weaknesses.

Ethical, Cultural & Legal Issues

Ethical:

- Privacy + data use
- Bias in algorithms
- Environmental impact (e-waste, energy)

Cultural:

- Digital divide
- Job automation
- Social media influence

Legal:

- DPA 2018 (GDPR): Protects personal data
- CMA 1990: Illegal to hack/modify data
- Copyright Act: Protects creators' work

Search & Sort Algorithms

Search:

- Linear Search – Checks each item one by one.
- Binary Search – Halves a sorted list each step.

Sort:

- Bubble Sort – Repeated swaps; simple, but slow.
- Merge Sort – Split/merge; fast, needs extra memory.
- Insertion Sort – Builds sorted list; good for small/almost-sorted data.

KPOW: Topic 4

Week 3 & Week 4:

Environmental Issues

E-Waste: Old devices discarded; harmful materials; must be recycled responsibly.

Energy Use: Data centres + servers use large amounts of electricity.

Raw Materials: Mining for metals (e.g., lithium, rare earth metals) affects ecosystems.

Cloud Storage Impact: More data stored = greater energy demand for cooling + maintenance.

Green Computing: Low-power devices, efficient algorithms, renewable-powered data centres.

Defensive Design

Input Validation - Ensures data is sensible before being processed (e.g., numbers only, required fields).

Authentication - Confirms a user is who they claim (passwords, MFA).

Planning for Misuse - Anticipate incorrect inputs, unexpected behaviour, or attempts to break the system.
Maintainability - Clear variable names, indentation, comments → easier to update and debug.
Modular design so parts can be changed without breaking the whole system.

Year 10: Summer Term 1

Week 5 & Week 6:

Purpose of Testing

- Check the program works as intended.
- Find and fix errors (logic, runtime, syntax).
- Ensure reliability, security, and correct output.

Types of Errors

- Syntax Error – Code breaks the rules of the language; won't run.
- Logic Error – Program runs, but gives wrong result.

Runtime Error – Error occurs while program is running.

Types of Testing

Iterative Testing:

- Tests carried out during development.
- Developers fix issues as they build.

Final/Terminal Testing:

- Testing after development is complete.
- Checks the whole program works from start to finish.

Test Data Types

- Normal Data – Expected, valid input.
- Boundary Data – On the edge of allowed ranges.
- Invalid Data – Correct data type, but outside the range expected.
- Erroneous Data – Incorrect data type.

Subject: Creative iMedia

Week 1 & Week 2:

Health and safety protects everyone during media production — from planning to filming — by reducing accidents and injuries.

Common Hazards	
Physical	**Electronics**
• Working outdoors or on unfamiliar sets. • Fatigue from long hours.	• Electrical risks from lighting, cables, and equipment. • Trip hazards and eye strain.
Chemicals	**Firearms / Effects**
• Cleaning products, makeup, smoke effects can cause irritation or allergic reactions.	• Risks of burns, hearing damage or injury when using weapons or pyrotechnics.

Risk Assessments

A risk assessment identifies dangers and how to reduce them. It must include:

- What the risk is and who may be harmed.
- How to reduce the risk.
- Who is responsible.

Should be reviewed if something changes or after any incident.

Examples

- **Slippery ground:** Wear suitable footwear.
- **Dangerous props/equipment:** Provide safety training.
- **Long working hours:** Plan regular breaks.

KPOW: Media Theory - Mock Exam

Week 3 & Week 4:

Online Platforms:

Online platforms distribute media online through apps, streaming services and websites.

Advantages		
Access anywhere, anytime.	Larger audience reach across many devices.	Easy to upload, update and distribute content.
No need for physical materials → cheaper and environmentally friendly.		
Disadvantages		
Requires a reliable internet connection.	New content can get lost due to volume.	Some websites may use or store personal data unsafely.
Piracy and illegal distribution are more common.		

Physical Platforms

Physical platforms include DVDs, printed products, CDs, and devices that access offline media.

Advantages

- Common in most homes; widely accessible.
- Smart TVs/devices allow both paid and free viewing.
- Many devices support offline downloads.

Disadvantages

- Physical media becomes outdated quickly (e.g. VHS, DVD's)
- Small devices can be hard for some users to operate.
- Different devices/formats may require creators to adapt content.

Year 10: Summer Term 1

Week 5 & Week 6:

Lossy Compression

- Reduces file size by **removing non-essential data**.
- Results in **smaller files,** but a **loss of quality** that cannot be restored.
- Used when very small file sizes are needed (e.g., **faster loading, streaming**).
- Best for images, audio and video where slight quality loss is acceptable.

Lossless Compression

- **Rewrites data** to make it more compact **without removing anything**.
- File becomes smaller, but quality stays exactly the same when reopened.
- Can be **slower to open** and files won't compress as much as lossy.
- Used when the original quality must be preserved (e.g., **text, graphics, print files**).

Bitmap Images:	
Made from pixels.	Used in photos.
Pixelates when enlarged.	Often large file sizes.
Vector Images:	
Made from mathematical lines and curves.	Used in logos and icons.
Rescales with no loss of quality.	Files sizes are smaller.

Image Files:	JPEG	PNG	TIFF
Audio Files:	MP3	WAV	AAC
Moving image Files:	MP4	AVI	GIF

Subject: Music

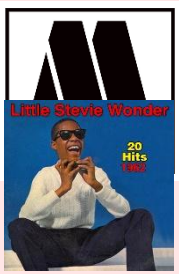
KPOW: Component 3 Preparation

Year 10: Summer Term 1

Week 1 & Week 2: C3 Preparation

MOTOWN Origin: Detroit, Michigan, USA
Decade: 1960s
Musical Elements:
- Catchy melodies
- Tight harmonies with backing singers
- Polished, danceable rhythms
- Strong backbeat

Instruments:
- Bass guitar
- Drum kit
- Strings and horns
- Backing vocals
- Tambourine

Key Artists:
- The Supremes
- Stevie Wonder
- Jackson five

ROCK Origin: USA & UK
Decade: 1970s
Musical Elements:
- Strong guitar riffs
- Powerful vocals
- Verse–chorus structure
- Distorted guitars

Instruments
- Electric guitar
- Bass guitar
- Drum kit
- Vocals

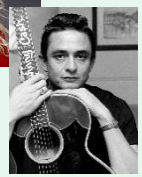

Key Artists
- AC/DC, Queen
- Guns n Roses

Week 3 & Week 4: Genres

COUNTRY Origin: Southern USA (Appalachia, Tennessee)
Decade: 1920s
Musical Elements
- Story-based lyrics
- Simple harmonies
- Steady rhythms
- Blend of folk, blues, and Americana
- Often uses twangy vocal style

Typical Instruments
- Acoustic guitar
- Banjo
- Fiddle / violin
- Double bass / bass guitar






Key Artists
- Dolly Parton
- Johnny Cash
- Shania Twain

INDIE
Origin: UK & USA **(independent music scenes)**
Decade: 1980s
Musical Elements:
- Raw, unpolished sound
- Emphasis on lyrics and identity
- Simple but catchy chord progre

Typical Instruments
- Electric and acoustic guitar
- Bass guitar
- Drum kit
- Different vocal style

Key Artists
- Arctic Monkeys
- The Smiths, The 1975

Week 5 & Week 6: Genres

HIP-HOP Origin: Bronx, New York, USA
Decade: 1990s
Musical Elements
- Rapping
- Sampling
- Strong beats and loops
- DJ scratching
- Focus on rhythm & storytelling


Typical Instruments
- Drum machines
- Samplers
- Turntables
- Synths

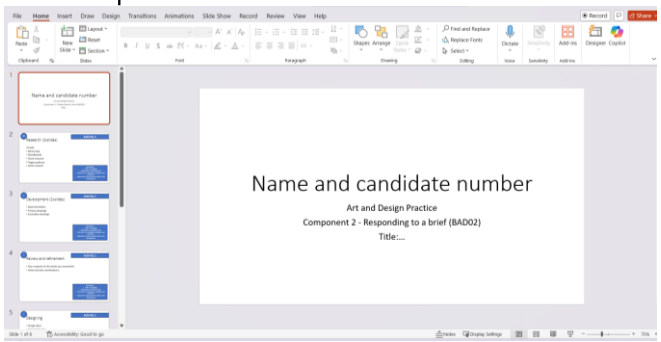


Key Artists
- Kanye West
- TLC
- 50 Cent

FUNK Origin: USA **Decade:** 1970s
Musical Elements
- Strong, syncopated basslines
- Emphasis on groove
- Repeated riffs
- Off-beat rhythms ("on the one")
- Horn stabs


Typical Instruments
- Bass guitar (very prominent)
- Electric guitar (clean + rhythmic)
- Drum kit
- Brass section
- Keyboards


Key Artists
- James Brown, Prince, Sly & The Family Stone

Subject: Art	KPOW: Digital portfolio	Year 10: Summer Term 1
Week 1 & Week 2:	Week 3 & Week 4:	Week 5 & Week 6:
Keywords and ideas Skills development and preparation for Component 2 Interpret (a brief)- To explain, understand or translate the meaning of something. Digitising – The process of converting physical information e.g. paper outcomes into a computer readable format. Portfolio – A curated collection of materials or projects that showcase an individual's skills, experiences and accomplishments.  An example of an outcome in Art. This is an interpretation of the brief which can be digitised and included in a digital portfolio.	Digital portfolio. Component 2 requires a digital portfolio outcome. The terminology below will be used frequently when creating this outcome. Presentation – a structured method of conveying information e.g. our response to the brief. PowerPoint – widely used presentation software that enable users to create, edit and share. OneDrive – cloud-based hosting service that allows users to store photos, documents and files. Jpeg – the most common, industry standard file format for digital photos. PDF – a universal file format that preserves formatting. This allows files to appear exactly the same regardless of software. Upload – the process of transferring data e.g. files and photos from a computer/phone to a server or system. Photograph – an image created by capturing light on a light sensitive surface. Rename – in relation to our digital portfolios, this is replacing a previous title e.g. changing a file name on a computer.	Layout of portfolio Create a digital portfolio using images created of own work. The presentation should be visually interesting and presented in a logical sequence. Portfolios must demonstrate an ability to reflect and review your work in relation to the requirements of the brief. On going annotations throughout the production process and within your presentation is evidence of your ideas, research and development. Process – you will be given a template to help you structure your digital portfolio. This will be a PowerPoint presentation that you will edit (adjust and personalise) to show your own interpretation of the brief to the examiner. Slide template -  Editing Cropping – digital removal of the edges of an image. Resolution – image sharpness measured in pixels per inch (PPI).

Subject: Performing Arts – Acting

KPOW: Devising Theatre

Year 10: Summer Term 1

Week 1:

Stimulus – A starting Point for a Performance.

Types of stimuli
An image
A quote or text
A piece of music
A theme (e.g. conflict, power, identity)
A news story or event

<u>When you first see a stimulus, ask:</u>
What is happening?
What emotions are shown?
What themes are suggested?
What questions does it raise?

Week 2:

Concept and style in Theatre

The "concept" is the overall vision; It includes the message, mood, and atmosphere of a performance.
The "Style" of a play dictates the specific acting approach used.
Genre is the specific types of drama, such as comedy, tragedy, or melodrama.
Practitioner Influence is applying techniques from specific theatre practitioners (e.g., Brecht, Stanislavski, Frantic Assembly).

Week 3:

Voice

Projection: Speaking loudly and clearly enough for the entire audience to hear.
Tone: Conveying emotion through voice, such as happy, angry, or nervous.
Pitch: Utilising high, low, or natural voice.
Pace: Controlling the speed of speech (fast, slow, hesitant).
Diction/Clarity: Pronouncing words clearly.
Accent/Dialect: Adopting specific regional or social speech patterns.

Week 4:

Physicality

Gait: The unique way a character walks or moves (e.g., slumped, confident, quick pace).
Facial Expression: Displaying emotions through facial features (e.g., raising eyebrows, narrowing eyes).
Gesture: Moving hands or arms to express emotions.
Posture: The positioning of the spine, indicating, for example, confidence or anxiety.
Body Language: Using the body to convey feelings or intentions.

Week 5:

Key Aspects of Teamwork in

Ensemble Building - Theatre relies on a community where everyone plays a vital role, supporting one another to create a shared vision.
Effective Communication - Performers must listen, articulate ideas, and respond to peers, directors, and technicians.
Trust and Reliability - Participants learn to depend on others for cues and support, building trust.

Week 6:

A brief in drama is a set of instructions, guidelines, given to a group of performers to initiate the creative process.

Target Audience - Definition of who the performance is aimed at, guiding the style and content.

Subject: Religious Education

Year 10: Term Summer 1

Week 1 & Week 2: Sanctity of Life

Please learn the information below:

'Sanctity of Life' is a phrase meaning that Christians believe life is holy/special because it comes from God.

This is because of what is written in the Bible:

Only humans were made in the image of God, meaning only humans can have a relationship with God therefore implying that human life must be special.

St Paul describes the human body as a Temple because God's spirit (Holy Spirit) is in humans. This means human life must be special.

Relevance for Christians Today:

The belief in sanctity of life will impact upon a Christians' views on a range of issues...

Abortion – they might disagree as it involves ending a life; a life which contains God's spirit.

Euthanasia – they might disagree as it is ending the life of a person who was made in God's image.

Capital punishment – they might disagree as it is ending the life of a person whose life came from God.

Week 3 & Week 4: Key Words

Please learn the definitions of the following 12 words:

Tawhid	The oneness of Allah (God).
Shi'a	The minority group of Muslims.
Sunni	The majority group of Muslims.
Hadith	The collection of the sayings of Muhammad.
Immanence	The belief that Allah is close to humans and can be connected by humans.
Shariah	The holy law of Islam- it covers all aspects of Muslim life.
Nubuwwah	The messengers of Allah (prophets) such as Isa, Ibrahim & Muhammad.
Malaikah	Meaning angels – immortal beings without free will, used to pass Allah's message to humans.
Usul-ad-din	The 5 roots in Shi'a Islam (Tawhid, Adl, Nubuwwah, Imamah & Judgement).
Isa	The Arabic name for Jesus – Jesus is believed to have been one of Allah's prophets.
al Qadr	Meaning predestination – that everything in the universe is following a divine plan.
Akirah	The belief in the Last Day and life after death.

Week 5 & Week 6: Revision – Evil & Suffering

Please read and revisit the information below:

Imagine a Christian sees a story about suffering on the news, how could they RESPOND?

A RESPONSE is something that a person SAYS or DOES.

What might a Christian SAY?

Christians might SAY that suffering is caused by humans when they misuse their free will – it is not God's fault.

Christians might SAY that suffering exists to allow humans to develop their soul. By helping those who suffer, Christians are developing their soul.

What might a Christian DO?

Christians might pray to God to ask for his help for those who suffer or for his support whilst they suffer.

Christians might donate to a charity such as Christian Aid. Christians know it is their duty to try and reduce suffering; it is their job to help others (Parable of the Sheep and Goats).

Subject: Health and Social Care	KPOW: R032 Exam content	Year 10: Summer Term 1
Week 1: Topic Area 4	**Week 2**: 4:1 Safeguarding.	**Week 3**: 4.2 Infection Prevention.
Protecting service users and providers. Protecting the health and wellbeing of all individuals, so they can live free from harm, neglect or abuse. Every setting must have a DSL with responsibility for safeguarding, but all staff are responsible for reporting concerns. Every setting must have a safeguarding policy which is reviewed every year. All staff must receive training and report any concerns. Staff should be aware of signs of abuse or harm and know how to report these.	The impacts of lack of safeguarding can be: • physical (deterioration of health conditions) • intellectual (poor language skills) • emotional (low self-esteem) • social (struggle to interact with others) DBS checks are carried out on all staff to ensure they are suitable to work in the setting – standard checks, Enhanced checks, the barred list.	Infections can enter the body in 3 ways – • Inhalation • Ingestion • Broken skin
Week 4: 4.2 Infection Prevention.	**Week 5**: R4.3 Safety procedures and measures	**Week 6:** 4.4
One of the most effective ways to reduce the risk of infection is **general cleanliness** – anti-bacterial sprays, cleaning toys/equipment, mopping floors, cleaning toilets, and correct disposal of waste. **Personal hygiene** will also prevent cross-contamination e.g. hair tied back/covered, plasters, no jewellery, no nail polish, hand washing, showing/hair washing, brushing teeth, disposal of tissues/wipes. The use of **PPE** is also essential in protecting individuals e.g. Disposable aprons, disposable gloves, rubber gloves, face masks, hair nets, overalls, overshoes, scrubs.	**Safety procedures** are set processes that are followed to reduce the risk or danger; they are usually something that is written down or carried out before something happens e.g. first aid policy, risk assessments, staff training, fire evacuation, fire drill, equipment considerations (fit for purpose, safety checked, reporting damage). **Safety measures** are specific actions taken to reduce the risk of harm, e.g. fire safety notices, warning signs (wet floor, no entry). These are important so that the service user feels safe and so that the service provider knows what they need to do to protect individuals in their care.	**How security measures protect service users and staff.** **Security measures can ensure the safety of individuals, who have access to areas/information and help to maintain confidentiality.** **Identifying staff –** makes it easy to recognise staff through uniforms or lanyards. **Monitoring keys –** limits the number of people who have access to information. **Receiving and monitoring visitors** through signing in/out books, staff on duty at entrances and issuing visitor badges. **Reporting concerns to line managers**. **External doors, restricted access** through pin codes, electric swipe systems, buzzer entry. **Window locks** to help keep vulnerable people safe.

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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