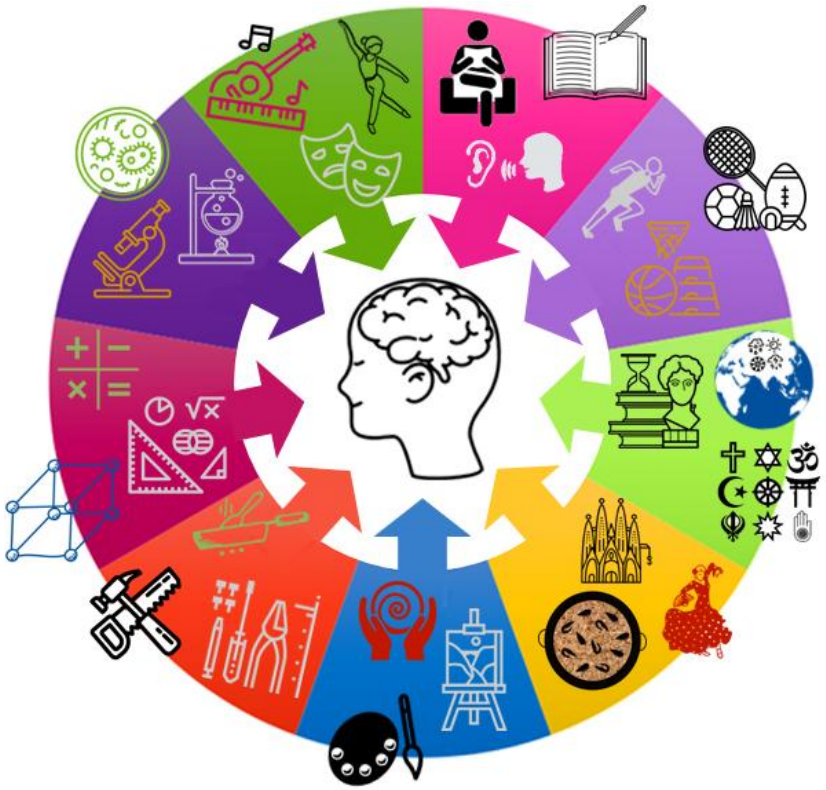
100% book - Year 10 Grammar

Aim to memorise 100% of the knowledge on these Knowledge Organisers.



Term 1

Swindon Academy 2025-26	
Name:	
Tutor Group:	
Tutor & Room:	

"If you are not willing to learn, no one can help you.
If you are determined to learn, no one can stop you."

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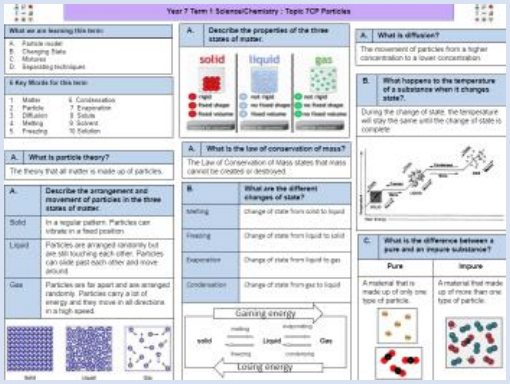
How to use your 100% book of Knowledge Organisers and Quizzable Organisers

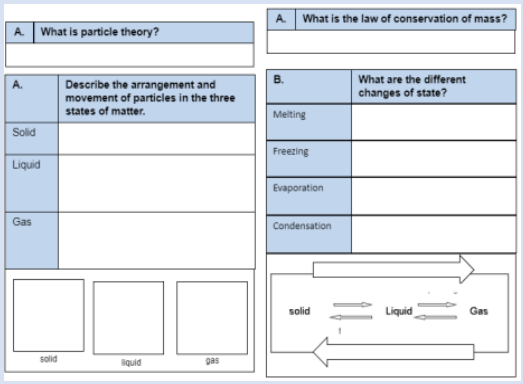
Knowledge Organisers



Knowledge Organisers contain the essential knowledge that you MUST know in order to be successful this year and in all subsequent years.

They will help you learn, revise and retain what you have learnt in lessons in order to move the knowledge from your short-term memory to long-term memory.

Quizzable Knowledge Organisers



These are designed to help you quiz yourself on the essential Knowledge.

Use them to test yourself or get someone else to test you, until you are confident you can recall the information from memory.

Top Tip

Don't write on your Quizzable Knowledge Organisers! Quiz yourself by writing the missing words in your prep book. That way you can quiz yourself again and again!

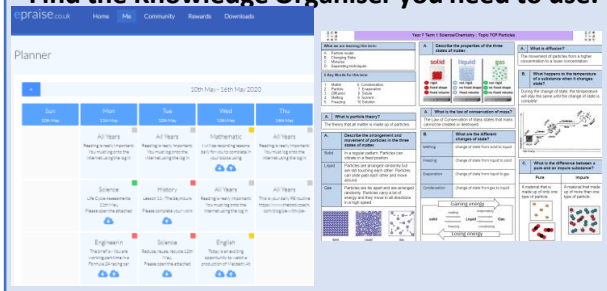
Expectations for Prep and for using your Knowledge Organisers

1. Complete all prep work set in your subject prep book.
2. Bring your prep book to every lesson and ensure that you have completed all work by the deadline.
3. Take pride in your prep book – keep it neat and tidy.
4. Present work in your prep book to the same standard you are expected to do in class.
5. Ensure that your use of SPAG is accurate.
6. Write in blue or black pen and sketch in pencil.
7. Ensure every piece of work has a title and date.
8. Use a ruler for straight lines.
9. If you are unsure about the prep, speak to your teacher.
10. Review your prep work in green pen using the mark scheme.

How do I complete Knowledge Organiser Prep?

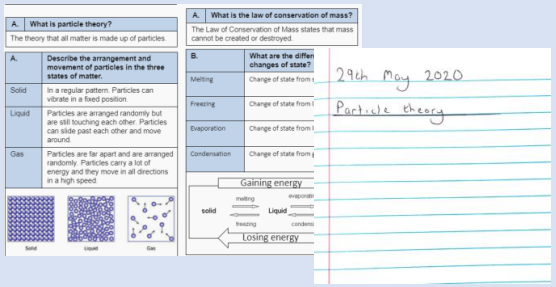
Step 1

Check Epraise and identify what words /definitions/facts you have been asked to learn. Find the Knowledge Organiser you need to use.



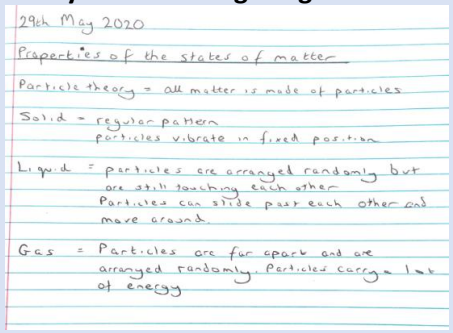
Step 2

Write today's date and the title from your Knowledge Organiser in your Prep Book.



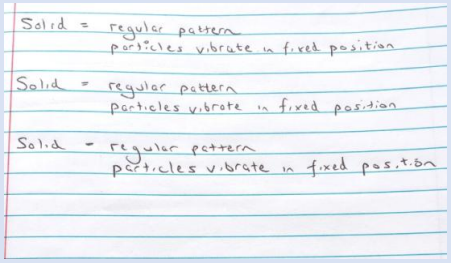
Step 3

Write out the keywords/definitions/facts from your Knowledge Organiser in FULL.



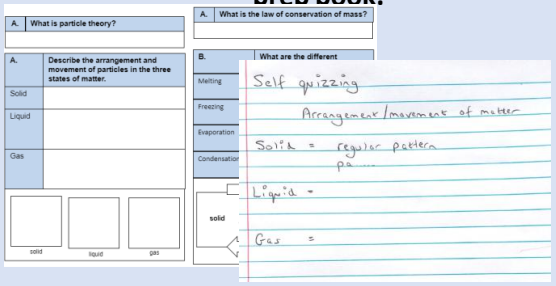
Step 4

Read the keywords/definitions/facts out loud to yourself again and again and write the keywords/definitions/facts at least 3 times.



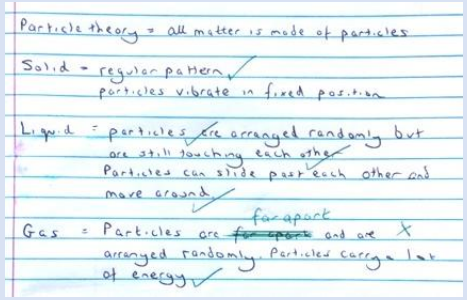
Step 5

Open your quizzable Knowledge Organiser. Write the missing words from your quizzable Knowledge organiser in your prep book.



Step 6

Check your answers using your Knowledge Organiser. Repeat Steps 3 to 5 with any questions you got wrong until you are confident.



Make sure you bring in your completed Prep notes to demonstrate that you have completed your prep.

Year 10 - ENGLISH – Poetry cluster 1: The Romantics- Grammar

Key Vocabulary	
Tyrant	A cruel and unfair ruler
Transient	Lasting for only a short time
Hubris	Having extreme pride or self-confidence
Oppression	When leaders treat people in a cruel or unfair way over a long period of time.
Patriarchy	A society where men have the most power and control
Egocentric	Thinking only of oneself
Awe	A feeling of deep respect mixed with fear or wonder
Radical	Wanting to see extreme changes in politics and society
Ephemeral	Lasting a very short time
Autocratic	A ruler who has complete power and makes decisions without asking anyone else's advice
Sinister	Something that seems evil or harmful
Revolution	A large group of people using force to change the political system of their country
Exploit	Treating someone unfairly in order to benefit from them.
Anti-establish-ment	Disagreeing with the people who have power and make decisions

Romanticism:

- A movement in literature and the arts
- From around 1800-1890
- During this time, major transitions took place in society, as dissatisfied intellectuals and artists challenged the Establishment (the church and the monarchy).
- The Romantics valued freedom, imagination, emotion and nature
- They were critical of power that institutions (such as the church and monarchy) had as they believed that they exploited the poor and restricted people's freedoms

Poem	Context	Events in the poem	Message	Form/ structure
The Prelude- William Wordsworh 	• Born in in 1770, Wordsworth was orphaned at 13 and sent to a grammar school. • Whilst he was there, he was influenced by the countryside surrounding him. • The poem you study is just a section of an epic poem and was originally going to be called 'The Recluse'. • The poem is mostly autobiographical.	• An autobiographical account of Wordsworth as a boy. • The poem focusses on a boy stealing a boat and rowing it into the middle of a lake. • Whilst there he feels as though nature is judging him and feels guilt for his theft. • He returns the boat, but the memory stays with him	• Nature has the power to inspire and destroy and so should be respected. • Nature can be overwhelming and render us feeling small and insignificant. It can remind us of our flaws and inspire us to do better. • Imagination and memories are powerful. They can cause us to permanently change our outlook.	• The poem is written in blank verse and uses iambic pentameter to mimic the conversational flow of speech. It is not split into separate stanzas but flows continuously- much like the power of nature over us. • It is an epic poem (poems that
My Last Duchess- Robert Browning 	• Browning was inspired by the writing of radical poets such as Shelley • Written in 1834, it is inspired by the actions of an Italian duke who married a young girl, who died in suspicious circumstances. • Browning moved to Italy to marry his wife because of her overprotective father. As a result, he was familiar with over-controlling patriarchs.	• The speaker of the poem (the Duke) shows a visitor through his palace. He stops before a portrait of the late Duchess who has died. • The Duke reminisces about the portrait sessions and about the Duchess. His musings give way to a rant about her disgraceful behaviour: he claims she flirted with everyone and did not appreciate his "gift of a nine-hundred-years- old name." • As his monologue continues, the reader realises that the Duke caused the Duchess's early death: when her behaviour escalated, "[he] gave commands; / Then all smiles stopped together." • Having made this admission, the Duke returns to the business at hand: arranging another marriage, with another young girl.	• Browning makes us question whether the expectations of society are too oppressive, especially for women; strict rules should not be imposed on others and there should be equality of power in society. • The power of humans is exposed as having potential dangers and Browning warns us that evil can take many forms – we should not be deceived by the outward appearance of someone; anyone can be cruel. • Furthermore, Browning shows how unattractive arrogance is; it can lead to the abuse of power. He warns us of the consuming nature of pride and jealousy: they can take over	• Dramatic monologue- reflective of the Duke's egocentricity • The regular meter and rhyme scheme (rhyming couplets) demonstrate the Duke's control over the narrative and how he has carefully constructed his argument. • However, some of the rhyming couplets are subdued by enjambment so are hidden when listening to the poem. This is reflective of the Duke's true nature. Beneath his wealth and status, he is no more than a murderous villain. • There are no breaks in the poem to split it into stanzas. This could symbolize the lack of gaps in his fortress. In a patriarchal society, a man of such a high status is protected from the repercussions of his actions.
Ozymandias- Percy Shelley 	• Shelley was considered to be a radical due to his atheism and his opposition of the church and monarchy • The poem is inspired by an Egyptian pharaoh, Ramesses II. • Rameses II was remembered for leading armies into many battles and building a huge empire. However, to do this he used slave labour and allowed his people to struggle whilst he invested huge sums of money into expanding his kingdom.	• The poem imagines a traveler describing the broken statue of Ozymandias in the vast expanse of the empty desert. • In the poem, the tyrannical Ramesses II believed himself to be 'king of kings' and that his power would be eternal. • However, where a great empire once stood, now only sand and ruins remain. • Shelley uses the poem to demonstrate the transient nature of political power and as a metaphor for his opposition of the Establishment's power.	• Shelley wanted to communicate how all power is transient – even powerful individuals are no match against nature and time. • Shelley warns tyrants that they are vulnerable; they should not be arrogant, but instead be humble and accept their own limitations and the ephemeral nature of their power. • The poem offers hope to ordinary people as they are reminded that no one's power can last forever. Shelley reminds us that the power of art and artists endures over the power of kings – particularly tyrants.	• Sonnet- Sonnets are typically love poems written in iambic pentameter. They are 14 lines long and have a strict rhyme scheme. The use of the sonnet form is reflective of Ramesses' love of power whilst the rigid structure is symbolic of both Ozymandias' oppressive rulership. It could also reflect the poet's lasting power and control over the way we remember Ozymandias – far outlasting the power of Ramesses II. • Shelley also breaks the conventional sonnet form which could symbolise how the power of tyrants is ephemeral.
London- William Blake 	• Born in London in 1757, Blake was anti-establishment and opposed many of the things he saw in London. He believed that the government, the church and the monarchy were to blame for the widespread suffering he saw on London's streets. • During this era, life was difficult for the poor. There was much sickness, disease and the children of poor parents would have had to work hard and dangerous jobs, such as chimney sweeping.	• Walking through through London's streets, the speaker notices how the course of the Thames seems to be dictated as it flows through the city. • The speaker sees sadness in the faces of every person he passes and hears pain in every voice in the city. Every law and restriction oppresses the people of London. • He hears the cry of young chimney-sweeps, whose misery brings shame on the Church authorities. Thinking of British soldiers dying in vain, the speaker imagines their blood running down the walls of a palace. • He also hears the cries of young prostitutes, who curse at their situation. This miserable sound brings misery to their tearful new-born children. The speaker also imagines this sound plaguing what the speaker calls "the Marriage hearse"—a surreal imagined vehicle that carries love and death together.	• Blake wanted to highlight the desperate suffering of the poor in 19th century Britain. • Blake believed people should be supported and cared for by institutions of power such as the church, the government and the education system. • Blake was appalled that people endured such difficulties and wanted them to break free from the oppressive control. • It could be said to be his call to revolution as he subtly hints at the French revolution in which people stood up against oppressive rulership.	• Blake uses regular stanzas and a regular rhyme scheme which reflects the monotony of the pain and suffering that the people of London face. The controlled structure is also symbolic of the control that the Establishment has over society.

Year 10 - ENGLISH – Poetry cluster 1: The Romantics- Grammar

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ENGLISH –Poetry cluster 1: The Romantics- Grammar

Romanticism:
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Key Vocabulary	
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Transient	
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Egocentric	
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Radical	
Ephemeral	
Autocratic	
Sinister	
Revolution	
Exploit	
Anti-establishment	

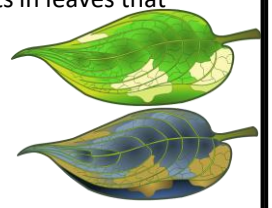
ENGLISH –Poetry cluster 1: The Romantics- Grammar

The Big Ideas	Notes
With elements of epic poetry running through it, *The Prelude* demonstrates the immensity of nature's power and its ability to transform our views.	
Browning illustrates the power and protection that wealth and gender can provide and warns of how that power can be used to oppress.	
Shelley establishes that, although power can be used to exploit and oppress, the power of tyrants is transient and can be reclaimed through art.	
Blake highlights the social injustices of London and calls upon society to revolt against the Establishment.	

T1 – Y10 – B4 - Grammar - Photosynthesis

Photosynthesis

Endothermic chemical reaction that takes place in chloroplasts in leaves that produces glucose and oxygen from carbon dioxide and water



carbon dioxide	+	water	→ (light)	oxygen	+	glucose
$6CO_2$	+	$6H_2O$	→	$6O_2$	+	$C_6H_{12}O_6$

What do plants do with the glucose?

- Stored as starch
- Stored as fats and oils
- For making cellulose (for cell walls)
- For respiration
- For making amino acids (along with nitrates from soil)

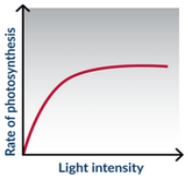
Testing the leaf for starch:

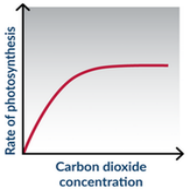
- Boil the leaf for 5 minutes to soften
- Put into heated ethanol to remove chlorophyll (turn off Bunsen burner!)
- Spread leaf on a white tile
- Add iodine
- In the places that contain starch the iodine will turn blue/black
- In a variegated leaf, only the parts containing chlorophyll turn blue black
- This shows chlorophyll is essential for photosynthesis

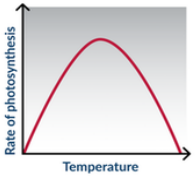
Factors the affect rate of photosynthesis

- Light
- Temperature
- CO_2 concentration

Whichever one is in the shortest supply is called the **limiting factor** – as it is the one limiting the rate of photosynthesis

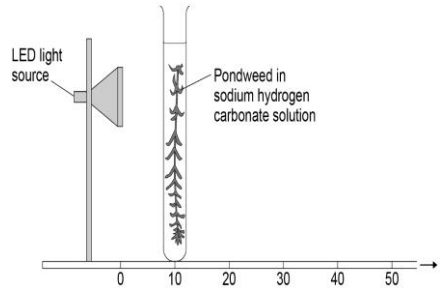






Increased light intensity increases the rate, but only up to a point, when CO_2 or temperature become limiting	Increased CO_2 conc increases the rate, but only up to a point, when light or temperature become limiting	Increased temperature increases the rate, but only up to a point, then the enzymes are denatured & rate drops

RP5 – Effect of light intensity on rate of photosynthesis



Independent variable: distance between lamp and plant (or light intensity)
Dependent variable – number of bubbles per second / rate of photosynthesis
Controls – temperature of solution, piece of pondweed

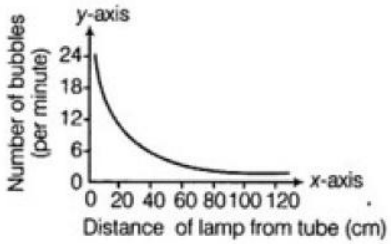
1. Measure 10cm length of pondweed and cut with scissors.
2. Place into beaker of 250ml $NaHCO_3$ solution. (this provides CO_2)
3. Place lamp 10cm away from pondweed – turn on lamp and leave for 2 minutes to adjust to light intensity.
4. Count number of bubbles produced in 60 seconds and record in table.
5. Repeat steps 3 and 4 for lamp distances of 20cm – 50cm at 10cm intervals.
6. Keep the temperature of the solution the same (LED light is used to not give off heat)

Inverse Square Law (HT only)

As distance of the lamp doubles the light intensity of the plant quarters

$$I = \frac{1}{d^2}$$

Typical results:



As the **distance** between the lamp and the pondweed **increases**, the **number of bubbles per minute decreases**

T1 – Y10 – B4 - Grammar - Photosynthesis

Photosynthesis

1. What are the two reactants for photosynthesis?
2. What are the two products?
3. Where in a cell does this reaction happen?
4. Name two uses of glucose produced in photosynthesis.
5. What else is needed for plants to produce amino acids?
6. What chemical is used to test for starch?
7. Which parts of the leaf contain starch in a variegated leaf?

Factors the affect rate of photosynthesis

1. What are the three main factors that affect the rate of photosynthesis?
2. What is a 'limiting factor'?
3. Why does increasing the temperature above a certain point cause the rate to drop?
4. Describe the effect of increasing the concentration of CO_2 on the rate of photosynthesis

RP5 – Effect of light intensity on rate of photosynthesis

1. What is the independent variable in this investigation?
2. What needs to be kept the same?
3. What is the dependent variable?
4. Why is an LED lamp used rather than a regular lamp?
5. Why is sodium hydrogen carbonate solution used?
6. What is a good range and interval for the distance measurements?
7. Why is the plant left for 2 minutes every time the lamp is moved?
8. Describe the relationship between distance and the number of bubbles per minute

T1 – Y10 – B4 - Grammar - Respiration

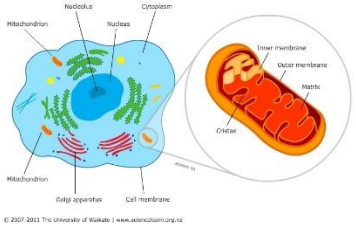
Respiration

Respiration is a chemical reaction that happens in the mitochondria of cells to release energy from glucose.
There are two types – Aerobic and Anaerobic.

Aerobic: - with oxygen

oxygen	+	glucose	→	carbon dioxide	+	water
$6O_2$	+	$C_6H_{12}O_6$	→	$6CO_2$	+	$6H_2O$

Organisms need energy for:
- chemical reactions to build larger molecules
- movement
- keeping warm.



Exercise

During exercise, more energy is needed so that muscles can keep contracting.
This means more respiration is needed.

Increased breath depth - Get more oxygen into blood per breath and remove CO_2

Increased breathing rate - Get oxygen into blood quickly.

Increased heart rate - Get more oxygenated blood to muscles.

Heart beats harder - more blood is pumped with every beat.

During intense exercise, there is just not enough oxygen getting into the body.
The muscles start to respire anaerobically.
The build up of lactic acid can cause cramp/stitch.
(HT ONLY) When exercise is over, the lactic acid has to be oxidised to CO_2 and H_2O. The amount of oxygen needed to do this is called the oxygen debt

Anaerobic respiration

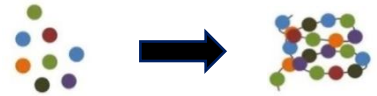
Respiration without oxygen

In animal cells = **glucose → lactic acid**
In plant/yeast cells = **glucose → ethanol + carbon dioxide**
In yeast, this is fermentation and is used in brewing and baking

	Aerobic	**Anaerobic**
Oxygen used?	Yes	No
Waste products	CO_2 and H_2O	Lactic acid (animals) Ethanol + CO_2 (plants/yeast)
Energy released	Lots	Much less

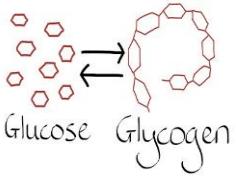
Metabolism

Metabolism is the sum of all the reactions in a cell or the body.
The 'metabolic rate' is the rate at which all of these reactions take place.
An example of a reaction = making proteins using amino acids from digestion.



amino acids **protein**

More examples:
- glucose → glycogen (in muscles/liver)
- respiration
- protein → urea
- glycerol and fatty acids → fats



T1 – Y10 – B4 - Grammar - Respiration

Respiration

1. What is respiration?
2. Where does respiration take place?
3. What does aerobic mean?
4. Give two uses for the energy released from respiration
5. What are the two types of respiration?
6. What are the reactants in respiration?
7. Write the equation for respiration below

Exercise

1. Describe two changes to breathing during exercise
2. Why does breathing need to change during exercise?
3. What happens to heart rate during exercise?
4. When does anaerobic respiration happen?
5. Which chemical builds up in muscles during anaerobic respiration?

Anaerobic respiration

1. What is anaerobic respiration?
2. What is 'fermentation'?
3. What are the waste products of anaerobic respiration in humans?
4. What are the waste products of anaerobic respiration in plants and yeast cells?
5. Which type of respiration releases most energy?

Metabolism

1. What is the metabolic rate?
2. Give two examples of metabolic reactions other than respiration
3. What is glucose stored as in muscles?
4. What are fats made of?

T1 Chemistry grammar – C4 Chemical Changes

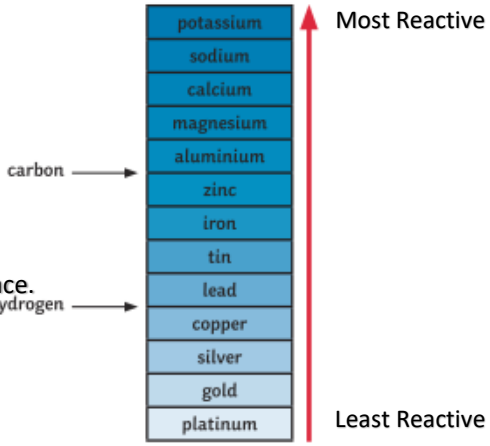
Vocabulary: Crystalisation

The Reactivity Series

- A more reactive metal will replace a less reactive metal in a compound (**displacement**)
- e.g. potassium + magnesium chloride → potassium chloride + magnesium

Potassium is more reactive than magnesium

Potassium **displaces** magnesium from the compound and takes it's place.



Extraction of Metals

- Extraction = remove metal from an ore or a compound.

Ore = a rock containing enough metal to make extracting metal worthwhile.

How to extract metals:

Less reactive than carbon – reduction with carbon

Reduction = loss of oxygen

E.g. iron oxide + carbon → iron + carbon dioxide

Oxygen has been removed to extract iron.

Carbon and the oxygen removed from the iron react to make carbon dioxide

More reactive than carbon – electrolysis is used.

- Some metals are found in **native** form (not reacted, so in element form) – usually platinum and gold as **very unreactive**.

Reaction of metals with oxygen

- Metal + oxygen → metal oxide

e.g magnesium + oxygen → magnesium oxide

$2Mg + O_2 \rightarrow 2MgO$

Oxidation reaction as metal gained oxygen

- Oxidation = gaining oxygen
- Reduction = losing oxygen

Reaction of metals with water

- Most metals don't react well with water
- Group 1 and group 2 react to form alkalis
- Metal + water → metal hydroxide + hydrogen

e.g lithium + water → lithium hydroxide + hydrogen

$2Li + 2H_2O \rightarrow 2LiOH + H_2O$

Metal hydroxides are alkaline

Reactions of acids with metals

- Metal + acid → salt + hydrogen

E.g. iron + sulfuric acid → iron sulfate + hydrogen

salt

To name salt :
1st name Metal
2nd name Acid used

Naming Salts

Acid used	Salt produced
Hydrochloric	Chloride
Sulfuric	Sulfate
Nitric	Nitrate

Reactions of acids with alkalis

- Acid + alkali → salt + water

neutralisation

Hydrochloric acid + sodium hydroxide → sodium chloride + water

salt

$HCl + NaOH \rightarrow NaCl + H_2O$

Reactions of acids with carbonates

- Acid + carbonate → salt + water + carbon dioxide

sulfuric acid + calcium carbonate → calcium chloride + water + carbon dioxide

salt

$H_2SO_4 + CaCO_3 \rightarrow CaSO_4 + H_2O + CO_2$

T1Chemistry grammar – C4 Chemical Changes

1. What is meant by displacement?
2. Name a very reactive metal
3. Name two metals which are less reactive than hydrogen.

1. Define extraction.
2. What is an ore?
3. How do you extract a metal less reactive than carbon?
4. What is meant by reduction?
5. What is meant by a ‘native metal’?
6. Give an example of a metal found in native form.

1. State the general equation for the reaction of metal with oxygen.
2. Write a word equation for the reaction of iron with oxygen.

1. State the general equation for the reaction of metal with water.
2. Are hydroxides acid/alkaline?

1. State the general equation for the reaction of metal with acid.
2. State the salts produced from hydrochloric acid, sulfuric acid and nitric acid.

1. State the general equation for the reaction of acid with an alkali.

1. State the general equation for the reaction of acid with carbonates.

T1 Chemistry grammar – C4 Chemical Changes

Redox Reactions (HT only)

- Redox = reduction and oxidation takes place at same time in a reaction.

- Metal + acid = redox reaction

Example

$H_2SO_4 + Ca \rightarrow CaSO_4 + H_2$

Ionic equation: $2H^+ + Ca \rightarrow Ca^{2+} + H_2$

Lost 2 electrons (oxidation)

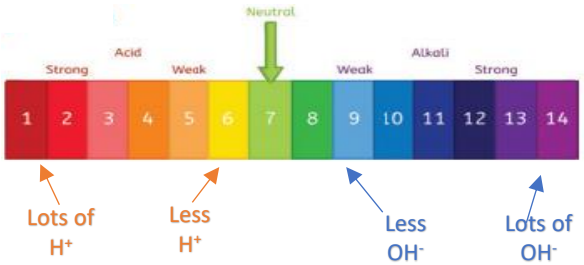
Half equation 1: $Ca \rightarrow Ca^{2+} + 2e^-$

Gained 2 electrons (reduction)

Half equation 2: $2H^+ + 2e^- \rightarrow H_2$

pH Scale

- Shows how acidic or alkaline solution is.
- pH 1-6 = acid
- pH 7 = neutral
- pH 8-14 = alkali



In aqueous solutions:
Acids – produce H^+ ions
Alkalis – produce OH^- ions

In neutralisation reactions:
$H^+_{(aq)} + OH^-_{(aq)} \rightarrow H_2O_{(l)}$

Strong/Weak Acids (HT only)

Strong acid = completely dissociates in a solution
e.g. $HCl \rightarrow H^+ + Cl^-$
Examples = nitric acid and sulfuric acid

Weak acid = partially dissociates in solution.
e.g. $CH_3COOH \rightleftharpoons CH_3COO^- + H^+$
$\rightleftharpoons$ = reversible reaction

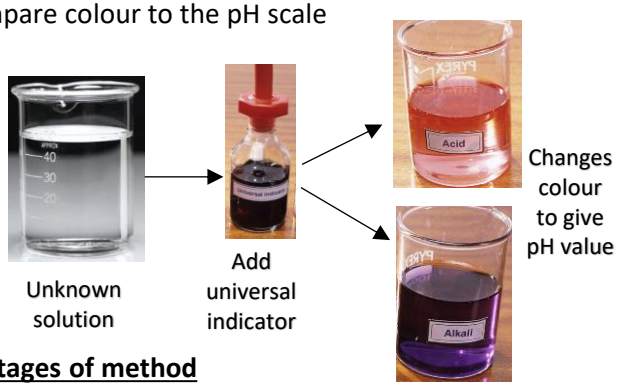
Hasn't fully turned into ions – only partially

Concentration = how much is dissolved in every cm^3
Strong/weak = how well it ionises

As **pH** decreases by 1 unit, **hydrogen ion concentration** of solution increases by factor of 10

Measuring pH of a solution

- Can use **universal indicator**
- Gives the solution a colour
- Can compare colour to the pH scale



Unknown solution

Add universal indicator

Changes colour to give pH value

Disadvantages of method

- Colour is **subjective** – different people may see different colours
- Doesn't give an exact pH number (could use **pH probe** to make more **accurate**).

T1 Chemistry grammar – C4 Chemical Changes

1. What is a redox reaction?
2. In terms of electrons, what does oxidation mean?
3. In terms of electrons, what does reduction mean?

1. Define a strong acid.
2. Give an example of a strong acid.
3. Define a weak acid.
4. What happens to H^+ concentration as the pH value decreases by 1?

1. What is the pH range for an acid?
2. What is the pH range for an alkali?
3. If a substance has a pH of 7, what type of substance is it?
4. What ions do acids produce in solution?
5. What ions do alkalis produce in a solution?
6. State the ionic equation for neutralisation reactions.

1. Describe a simple method to test the pH of an unknown solution.
2. State 2 disadvantages of using universal indicator.
3. How can pH be measured more accurately?

T1 Chemistry grammar – C4 Chemical Changes Required Practical – Preparation of soluble salts

Aim

Prepare a pure, dry sample of a soluble salt from an insoluble **oxide or carbonate.**

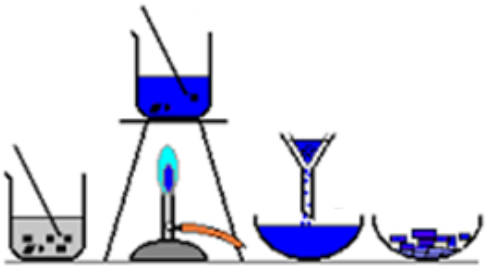
Equipment

- Beaker
- Measuring cylinder
- Bunsen burner and safety mat
- Filter funnel and filter paper
- Named acid (e.g. hydrochloric acid)
- Metal oxide or carbonate.
- Spatula
- Glass stirring rod

Change method depending on reactants in the question.

Method (example copper oxide and sulfuric acid to make copper sulfate)

1. Using measuring cylinder – 20cm^3 **sulfuric acid** → beaker
2. Warm the acid gently (not boiling)
3. Using spatula add **copper oxide** to the acid and stir
4. Keep adding until no more oxide will dissolve (excess).
5. Using a filter funnel and filter paper – filter excess copper oxide.
6. Evaporate some of the filtrate using a water bath.
7. Pour remaining filtrate into an evaporating basin – leave overnight to evaporate water
8. Pat the crystals dry.



Common questions

Q1) Why do you heat the acid before adding the oxide?

A1) To speed up the reaction (particles have more energy to react).

Q2) Why is the oxide added in excess?

A2) To make sure that all the acid has been neutralised.

Q3) Why is the solution filtered?

A3) Remove any unreacted, excess solid.

Q4) Why is the solution left overnight in a warm, dry place?

A4) To evaporate excess water, to form crystals (crystallise).

Q5) Name 2 safety precautions you should take during this practical.

A5) Safety goggles and allow equipment to cool before putting away

T1 Chemistry grammar – C4 Chemical Changes – Required Practical – Preparation of soluble salts

1. Write a method to prepare a pure, **dry** sample of copper sulfate crystals (6 marks).

Q2) Why do you heat the acid before adding the oxide?

Q3) Why is the oxide added in excess?

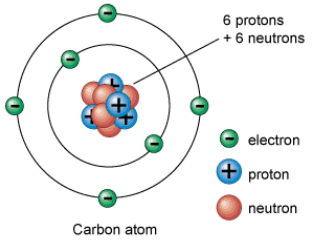
Q4) Why is the solution filtered?

Q5) Why is the solution left overnight in a warm, dry place?

Q6) Name 2 safety precautions you should take during this practical.

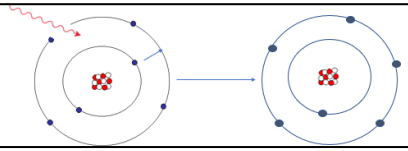
T1 Y10 Physics Grammar P4 Atomic Structure

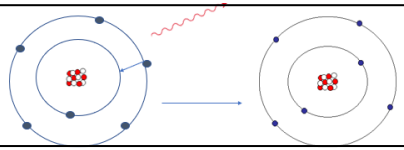
Atoms



- Atoms are tiny – around 10^{-10}m
- There is a positive nucleus made of protons and neutrons
- Electrons orbit in shells or energy levels
- The nucleus is 10,000 x smaller than the atom (4 orders of magnitude) so around 10^{-14} m

Electrons can move further away or closer to the nucleus





If EM waves (eg UV /light) are **absorbed** electrons can move up energy levels

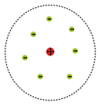
If EM waves are **emitted** by the atom, then electrons move closer to the nucleus

How the atomic model developed:

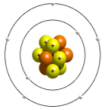
The atomic model has developed over time, when new evidence was discovered.

Atoms were first thought to be tiny spheres that could not be divided

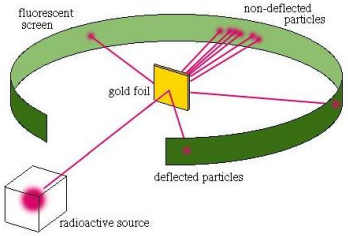
JJ Thomson then discovered the electron
Led to the plum pudding model
Atoms a cloud of positive charge with electrons randomly scattered



Rutherford discovered the positive charge is very small and in the nucleus
This discovery was from the Gold leaf experiment



Chadwick discovered neutrons
Bohr discovered the electrons orbit in shells



Rutherford's experiment:
Alpha particles fired at gold leaf
Most went straight through
Some deflected to the side
Some came straight back
This told him that most of the atom was empty space and that the positive charge was in a tiny nucleus

- Atoms of the same element have the same number of protons.
- This is the atomic (proton number)
- In an atom, the number of electrons is equal to the number of protons.
- The total number of protons and neutrons is called the mass number

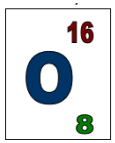
(Mass number) 23
(Atomic number) 11
Na

Sodium has :
11 protons
11 electrons
12 neutrons (23-11)

Isotopes

Isotopes are atoms with same number of **protons**, but different numbers of **neutrons** (different mass number)

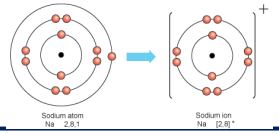
E.g.



These two isotopes both have 8 protons
One has 8 neutrons (16-8)
One has 10 neutrons (18 – 8)

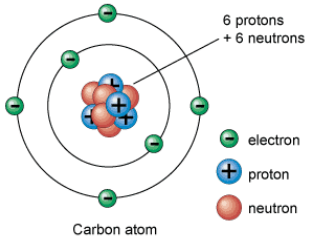
Ions

If atoms lose one or more outer electrons, they turn into positive ions

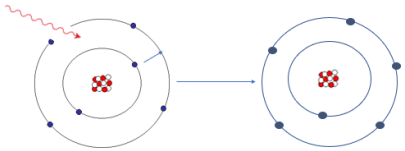


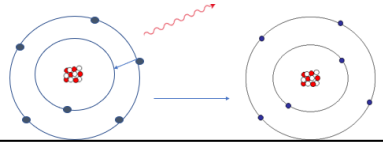
T1 Y10 Physics Grammar P4 Atomic Structure

Atoms



1. What is the size of an atom?
2. What is in the nucleus?
3. What is the size of the nucleus?
4. How many orders of magnitude smaller than the atom is nucleus?





4. What can cause electrons to move further from the nucleus?

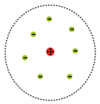
5. What can cause electrons to move closer to the nucleus?

1. What causes scientific ideas to change and develop?

2. What was the thinking about atoms initially?

3. Which particle was discovered by JJ Thomson?

4. Where is the positive charge in this model?



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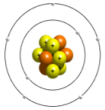
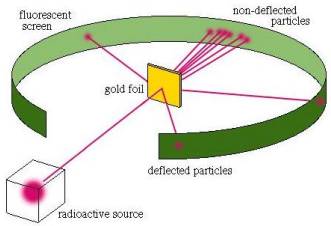


6. Who discovered neutrons?

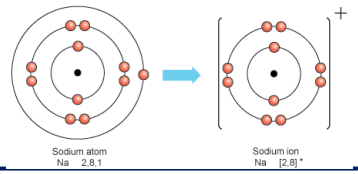
7. What was the discovery that Bohr made?



Rutherford's experiment:

1. What did Rutherford fire at gold leaf?
2. What happened to most of them?
3. What two conclusions did he come to?

1. What do all atoms of the same element have in common?
2. What does the bottom number on the elements in the periodic table represent?
3. What does the mass number show?
4. What is the number of electrons in an atom equal to?
5. What is an isotope?
6. What is an ion?
7. What type of ions are formed when atoms lose electrons?



T1 Y10 Physics Grammar P4 Atomic Structure

Nuclear radiation

If an isotope is **unstable**, then **particles** and **energy** are emitted from the nucleus.
There are 3 main types :

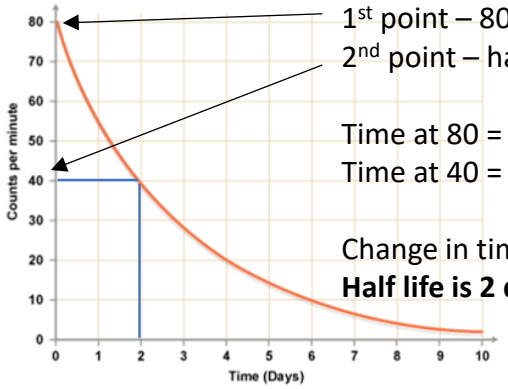
Radiation	What is it?	How far does it travel?	Ionising power	Penetrating power
Alpha α	2 protons and 2 neutrons	A few cm	Strong	Stopped by paper
Beta β	A fast moving electron	Metres	Medium	Stopped by aluminium
Gamma γ	An electromagnetic wave	kilometres	Weak	Takes thick concrete or lead to stop it

Neutrons can also be emitted from the nucleus**.**

Half life

Radioactive decay is random.
The half life of an isotope is the time it takes for half of the atoms in the sample to decay OR for the count rate to fall by half

Half life is calculated from a graph by reading two points off the y axis – one value being half the other.
Read the corresponding change in time**.**



1st point – 80
2nd point – half of that, so 40

Time at 80 = 0
Time at 40 = 2 days

Change in time = 2 days
Half life is 2 days

Isotopes are selected for use depending on their properties and half life – e.g. a medical tracer needs to have a short half life so it isn't in the body for very long

Alpha decay:

An unstable nucleus gives out 2 protons and 2 neutrons
An alpha particle is written as : $^{4}_{2}\alpha$

So when a particle gives out alpha radiation, it loses 2 from the proton number and 4 from the mass number
E.g

$$^{226}_{88}Ra \rightarrow {}^{222}_{86}Rn + {}^{4}_{2}\alpha$$

Beta decay:

In an unstable nucleus, a neutron changes into a proton and an electron.
The electron is fired out as the beta particle
Beta particles are written as $^{0}_{-1}\beta$ or $^{0}_{-1}e$

The proton number increases
The mass number stays the same
E.g. $^{14}_{6}\text{carbon} \longrightarrow {}^{14}_{7}\text{nitrogen} + {}^{0}_{-1}e$

The emission of a gamma ray **does not change the nucleus**

Irradiation is the exposure to alpha, beta or gamma radiation

Contamination is the presence of radioactive atoms on materials.

T1 Y10 Physics Grammar P4 Atomic Structure

Nuclear radiation

1. Why do atoms give out particles or energy from the nucleus?

2. Which radiation is the most strongly ionising?

3. What is an alpha particle made of?

4. Which radiation is the most difficult to stop?

5. Which radiation is a fast moving electron?

6. Which radiation can only travel a few cm?

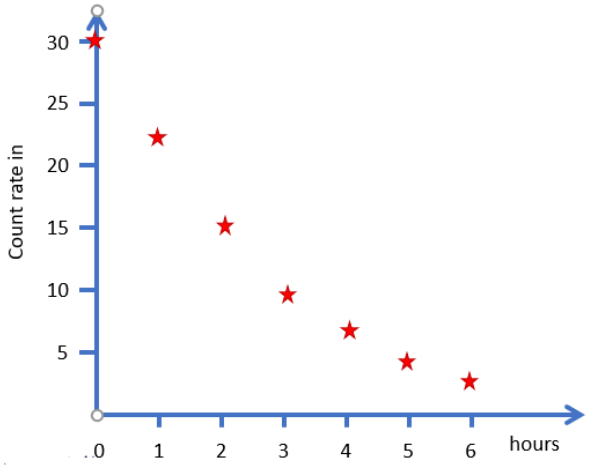
Half life

1. What is half life?

2. What is the unit missing from the Y axis on the graph opposite?

3. Draw a line of best fit onto the graph

4. What sort of half life would you want in an isotope being used as a medical tracer?



Alpha decay:

1. How is an alpha particle written?

2. What happens to the proton number of an atom when alpha decay happens?

3. What happens to the mass number when alpha decay happens?

4. What happens in the nucleus during beta decay?

5. How is a beta particle written?

6. What happens to the proton number during beta decay?

7. What happens to the mass number during beta decay?

8. What is irradiation?

9. What is contamination?

T1 Y10 Physics Grammar P4 Atomic Structure

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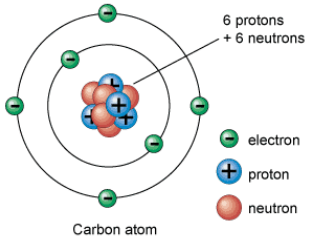

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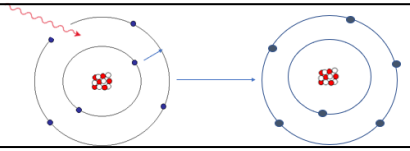

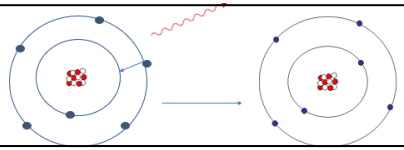

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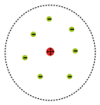

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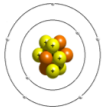

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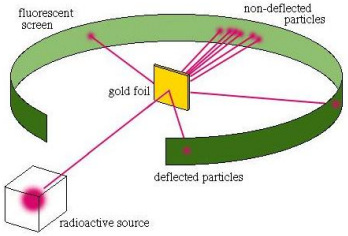

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This told him that most of the atom was empty space and that the positive charge was in a tiny nucleus

- Atoms of the same element have the same number of protons.
- This is the atomic (proton number)
- In an atom, the number of electrons is equal to the number of protons.
- The total number of protons and neutrons is called the mass number

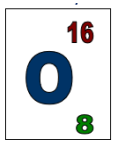
(Mass number) 23
(Atomic number) 11
Na

Sodium has :
11 protons
11 electrons
12 neutrons (23-11)

Isotopes

Isotopes are atoms with same number of **protons**, but different numbers of **neutrons** (different mass number)

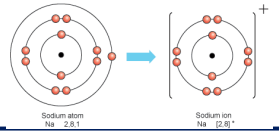
E.g.



These two isotopes both have 8 protons
One has 8 neutrons (16-8)
One has 10 neutrons (18 – 8)

Ions

If atoms lose one or more outer electrons, they turn into positive ions



T1 Y10 Physics Grammar P4 Atomic Structure

Background radiation
Background radiation is around us all of the time.

Sources of background radiation are:
• Natural sources such as rocks and cosmic rays from space
• Man-made sources such as the fallout from nuclear weapons testing and nuclear accidents

Background radiation levels
The level of background radiation and radiation dose may be affected by occupation and/or location

Radiation dose: measured in Sieverts (Sv)

Risks
Exposure to large amounts of radioactivity can cause:

- nausea
- Vomiting
- hair loss
- Diarrhoea
- Haemorrhage
- destruction of the intestinal lining
- central nervous system damage
- DNA damage which may raise the risk of cancer, particularly in young children and foetuses.
- Death

If the half-life chosen is too long, the damaging effects of the radiation would last for too long and the dose received would continue to rise

How is nuclear radiation used in medicine?
• Exploration of internal organs
• Control or destruction of unwanted tissue

How are internal organs explored in medicine?
Certain radioactive chemicals concentrate in different damaged or diseased parts of the body, and the radiation concentrates with it.

Radiation detectors placed outside the body detect the radiation emitted and, with the aid of computers, build up an image of the inside of the body.

What are risks associated with this?
When radiation collides with molecules in living cells it can damage them. This can cause a mutation. If the DNA in the nucleus of a cell is damaged, the cell may become cancerous.

How is unwanted tissue destroyed and controlled using nuclear radiation?
• Although ionising radiation can cause cancer, high doses can be directed at cancerous cells to kill them. This is called radiotherapy.

Describe the two ways this can be done
This is done one of two ways:
- From outside the body using X-rays or the radiation from radioactive cobalt
- From inside the body by putting radioactive materials into the tumour, or close to it

T1 Y10 Physics Grammar P4 Atomic Structure

1. What is background radiation

2. What are the sources of background radiation?

3. What can affect the levels of background radiation that you are exposed to?

4. What units is radiation dose measured in?

1. Give three symptoms caused by exposure to radiation?

•

•

•

2. Why are radioactive isotopes with a long half life more of a risk than those with a short half life?

1. How is nuclear radiation used in medicine?

•

•

2. Why can nuclear radiation be used to look at internal organs?

3. What are the risks associated with using nuclear medicine?

What is radiotherapy**?**

T1 Y10 Physics Grammar P4 Atomic Structure

Nuclear Fission

Nuclear fission is the splitting of a large and unstable nucleus (e.g. uranium or plutonium), into two smaller nuclei.

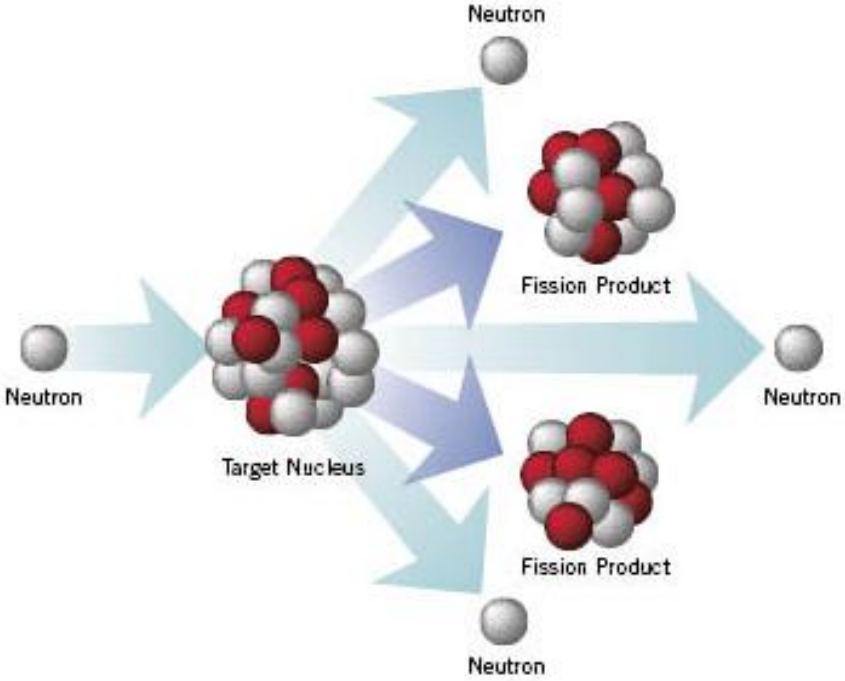
The process of nuclear fission

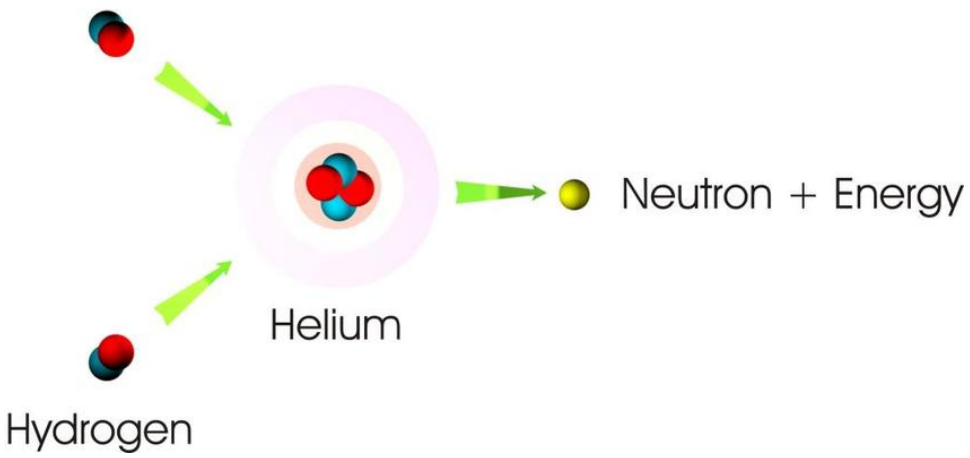
1. The large unstable nucleus absorbs a neutron.
2. The unstable nucleus splits into two smaller nuclei of roughly equal size.
3. Two or three also released
4. Energy and gamma rays are also released during this process.

Uncontrolled fission

If the fission reaction is not controlled the neutrons that are released will cause a chain reaction, releasing large amount of energy. This happens in nuclear weapons.

Fission reactions can be controlled by absorbing the neutrons emitted during the process.





Nuclear Fusion

The joining of two light nuclei to form a heavier nucleus.

Energy is released during this process.

T1 Y10 Physics Grammar P4 Atomic Structure

1. What is nuclear fission?

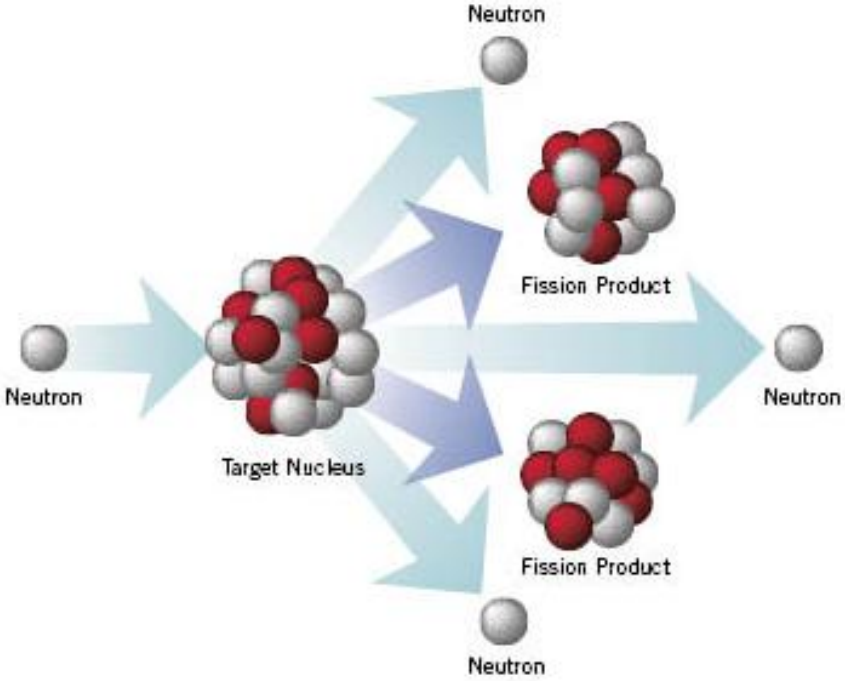
2. Describe the main events in nuclear fission
1.

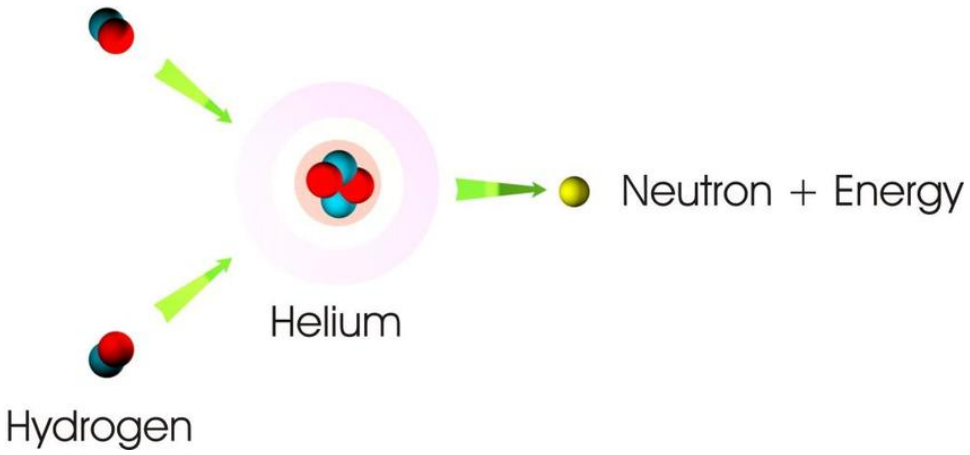
2.

3.

4.

3. What happens if nuclear fission is not controlled?





1. What is nuclear fusion

GCSE Geography. Paper 2 : 1. Urban issues and challenges

1. Global pattern of urban change

The world's population is growing rapidly; currently 50% of us live in urban areas.

Urbanisation	An increasing percentage of a country's population living in towns and cities.
HICs	Very slow rate of urbanisation. Already have high urban populations. Urbanisation happened earlier (during the industrial revolution).
NEEs	Fast rate of urbanisation due to industrialisation. Urban population is increasing rapidly.
LICs	Fast rate of urbanisation. Urban population is low as many still work in farming.

2. Factors affecting urbanisation

Rural-Urban migration	The movement of people from a rural area (countryside) to an urban area (towns and cities).
Push factors	Negative factors that make people leave an area *e.g.* drought, famine, war, few services.
Pull factors	Positive factors that attract people to an area *e.g.* better access to services, better paid jobs, access to electricity.
Natural Increase	When the birth rate is higher than death rate; the population grows. High in NEE cities as migrants are often young and health care is improving.

3. Megacities

Megacity	A city of more than 10 million people living there.
How many?	There are now 34. Rapidly increasing.
Where?	Most are in Africa and Asia.

4. Key terms

Social deprivation	The extent an individual or an area lacks services, decent housing, adequate income and employment.
Dereliction	Abandoned buildings and wasteland.
Urban Greening	Process of increasing and preserving open space in urban areas *i.e.* parks.
Urban sprawl	Unplanned growth of urban areas into surrounding rural areas.
Integrated Transport System	Different forms of transport are linked together to make it easy to transfer from one to another.
Brownfield	Land that has been used, abandoned and now awaits reuse; they are often found in urban areas.
Greenfield	A plot of land, often in rural areas or on the edges of urban areas that has not been built on before.
Commuter settlements	A place where people live but travel elsewhere for work *e.g.* Yate → Bristol.

5. Sustainable urban living

Sustainable urban living	Where people living, now, have the things they need, without reducing the ability of people in future to meet their needs.
Water conservation	Recycling grey water. ½ flush toilets. Rainwater harvesting on roofs. Permeable pavements- filters pollutants.
Energy conservation	Energy efficient appliances. Energy saving (south facing windows). Use of renewable energy sources.
Waste recycling	Recycling boxes in houses. Recycling facilities nearby. Encourage websites like 'Freecycle'.
Creating green space	Maintain green spaces around towns-Cools area, encourage exercise, happy.

6. Urban transport strategies used to reduce traffic congestion

Problems with congestion	↗ air pollution (global warming). Late for work, deliveries delayed. ↗ accidents, stress, asthma. In Bristol, 200 people die as a result of air pollution each year.
Beryl Bikes	Shared bikes in Bournemouth + Poole.
Oyster Cards	Quick and easy to pay for more than one type of public transport (London).
Park and ride	Car parks on the outskirts of a town, with buses into the city centre.
Congestion charge	Charge for entering the city centre at peak times.
Bus lanes	Stop buses being held in traffic.

GCSE Geography. Paper 2 : 1. Urban issues and challenges

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The world's population is growing rapidly; currently 50% of us live in urban areas.

Urbanisation	
HICs	
NEEs	
LICs	

2. Factors affecting urbanisation

Rural-Urban migration	
Push factors	
Pull factors	
Natural Increase	

3. Megacities

Megacity	
How many?	
Where?	

4. Key terms

Social deprivation	
Dereliction	
Urban Greening	
Urban sprawl	
Integrated Transport System	
Brownfield	
Greenfield	
Commuter settlements	

5. Sustainable urban living

Sustainable urban living	
Water conservation	
Energy conservation	
Waste recycling	
Creating green space	

6. Urban transport strategies used to reduce traffic congestion

Problems with congestion	
Beryl Bikes	
Oyster Cards	
Park and ride	
Congestion charge	
Bus lanes	

8. Introduction to Nigeria

Located just north of the equator, in west Africa.

Importance of Nigeria	
Global importance	NEE in 2014 > 21st largest economy. 5th largest contributor to UN peace keeping.
Local importance	Fastest growing economy in Africa. In 2014 they had the highest GDP.
Nigeria's context	
Political	Ⓟ Boko Haram have killed 17,000 people since 2002.
Environment	○ Rainforest- south > savanna- north.
Social	500 ethnic groups Literacy 61%, life expectancy 52 years
Cultural	Nollywood (2nd largest film industry).

9. Nigeria's changing industrial structure

Term	Definition
Industrial structure	The relative proportion of the workforce employed in different sectors of the economy (p, s, t, q).
Primary sector	Jobs that extract/collect natural resources. ↓ Decreasing due to mechanisation and industrialisation. This started rural to urban migration.
Secondary sector	Jobs making things. ↑ Increasing (industrialisation).
Tertiary	Jobs that provide a service. ↑ Increasing as people start to have more disposable income.

How does manufacturing stimulate economic development?

- Factories provide jobs > people have more disposable income > home market enlarges.
- Companies pay tax > government invests in infrastructure like roads > attracts more companies to invest. **Positive multiplier effect.**

10. Transnational corporations

Term	Definition
Transnational Corporation	Companies that operate in more than one country. (40 TNCs in Nigeria)
Host country	Country the TNC places its factories.
Footloose	Industries not tied to a certain location
Shell in Nigeria	
Advantages	+ 65,000 jobs = > disposable income. + 91% contracts to Nigerian companies (reduces economic leakage)
Dis-advantages	- Bodo oil spill 08/09. 11 million gallons of oil spilt over 20km^2.
Summary	National economic benefits vs local environmental costs in Bodo.

12. Impacts of economic development

Impact on the environment	70-80% forests destroyed. Bodo Oil spill (Shell 08/09). 10,000 illegal industries = air pollution. Loss of species (giraffes, 500 plants).
Impact on quality of life	Life expectancy ↑ from 46-52 years HDI from 0.47 to 0.53. BUT inequality has widened due to oil wealth and corruption.

13. Unilever in Nigeria

Advantages:	Disadvantages:
Unilever employs around 1500 people in Nigeria	Unilever is a British-Dutch company so some of the profit leaves Nigeria
40% of Unilever's profits go to Nigeria in Tax	Workers in factories earn very low wages and have poor working conditions
Unilever works with local communities to improve education and healthcare	.Manufacturing cause environmental problems such as water and air pollution

11. Nigeria's changing relationships

Political relationships	- Gained independence (UK in 1960). - Member of British Commonwealth.
Trading relationships	- Member of OPEC (oil). - Member of ECOWAS (Western Africa trading group). - Has strong links with China and USA.

International aid in Nigeria

Term	Definition
International aid	Money, goods and services given to help the QoL of **another** country.
Emergency aid	Usually follows a natural disaster or war. e.g. Food, water, shelter.
Develop-mental aid	Long term support by charities or governments to improve QoL. E.g. infrastructure, education, clean water
Aid in Nigeria	
What?	4% of aid given to Africa. UK gave £360 million in 2014.
Nets for life	Nets to prevent malaria. 82,500 given out in Abuja. ✓ Successful as community based.
Problems with aid	- Sometimes it isn't sustainable. - Corruption. - Can be tied (strings attached).

13. Shell in Nigeria

Advantages:	Disadvantages:
Employs 65,000 people in Nigeria	260,000 barrels of oil spilt a year in the Niger Delta
Social investment programs (e.g., 10 postgraduate scholarship)	Bodo oil spills in 2008 and 2009, 600,000 barrels of oil spilt
Brought in $17 billion in taxes	Oil bandits: 4.5 trillion barrels of oil lost

9. Introduction to Nigeria

Importance of Nigeria	
Global importance	
Local importance	
Political	
Environment	
Social	
Cultural	

10. Nigeria's changing industrial structure

Term	Definition
Industrial structure	
Primary sector	
Secondary sector	
Tertiary	
How does manufacturing stimulate economic development?	

10. Transnational corporations

Term	Definition
Transnational Corporation	
Host country	
Footloose	
Shell in Nigeria	
Advantages	
Dis-advantages	-
Summary	

12. Impacts of economic development

Impact on the environment	
Impact on quality of life	

13. Unilever in Nigeria

Advantages:	Disadvantages:

11. Nigeria's changing relationships

Political relationships	-
Trading relationships	-

International aid in Nigeria

Term	Definition
International aid	
Emergency aid	
Develop-mental aid	
Aid in Nigeria	
What?	
Nets for life	
Problems with aid	

13. Shell in Nigeria

Advantages:	Disadvantages:

Year 10 History : Medicine in Medieval England c1250-1500

What we are learning this term:
1.1 Ideas about the cause of disease and illness 1.2 Approaches to treatment and prevention 1.3 Dealing with the Black Death 1348-49

D.	Dealing with the Black Death
What is the Black Death?	• Bubonic plague – outbreak in 1348-9 – 1/3rd to 1 / 2 of the population died in England. Caused by bacteria Yersinia pestis that was thought to have originated in China and came to Britain on fleas, on rats on ships.
Causes	Miasma – bad air from the filthy conditions making you ill. Astrology – there was a weird alinement of Jupiter, mars and Saturn the previous year which was blamed for the plague Punishment from God- = People thought that society had become wicked so God had sent the plague to punish them.
Treatments	Confesses sins and pray, bleeding and purging (but seemed to make worse), sweet herbs or fire to clean air.
Prevention	Pray and fast, leave the area, carry sweet herbs, quarantine (new people stay away for 40 days), clean streets (or don't, maybe bad smell will drive out miasma)

A.	Can you define these key words?
Miasma	Bad air that was believed to be filled with harmful fumes.
Quarantine	Separating the sick from the healthy to stop the spread of a disease.
Humours	The humours were four fluids that were thought to spread throughout the body and influence its health.
Purging	To get rid of anything unwanted.
Phlebotomey	The drawing of blood by opening a vein.
Leprosy	a painful skin disease
Prevention	To stop something from happening
Treatment	giving medicine or using other means to help a person get better when sick or hurt
Apothecary	A person who mixes herbal remedies and treated patients as an alternative to a doctor as they were cheaper.
Barber surgeon	barbers and surgeons who also performed minor operations such as removal of warts .

C. Key People

Hippocrates	Galen	Physicians, apothecaries and surgeons	Hospitals
'Father of Medicine' – 4 humours, clinical observation (watch and record details, use this to help with future cases), importance of exercise, Hippocratic Oath for doctors (to preserve life)	Built on Hippocrates' ideas – theory of opposites (if cold, give something hot), also dissected animals to find out about anatomy (structure of body). Proved brain, not the heart, controls the body	• **Physicians** – diagnosed + recommended treatment, trained at university for around 7 years. Did not get to see dissections so new little about body. Learned everything from Galen's books. Only for super rich • **Apothecaries** – mixed herbal remedies (joined a guild, worked for master to train). • **Surgeons** – least qualified, also cut hair. Learned on job and only performed minor, on-invasive surgeries • **Monks and nuns –** worked in hospitals mostly prayed for patients and gave comfort. Not allowed to cut or bleed patients so could not do surgery • **Housewives and mothers** – treated most people. Mixed herbal remedies and treated minor wounds	• Ran by monks and nuns • Offered patients shelter, beds, food and very limited treatment. • Treatments mostly religious based – praying • Patients would offer share beds which led to allot of diseases spreading around the hospitals

B. What were the causes of disease in Medieval England?

Causes	Prevention	Treatments
Religious – Punishment from God God has sent an illness as punishment for sins. Especially true at times of panic such as the Black Death.	**Religious - Church** – Lead a life free of sin. Regular prayers and confessions. Offering tithes to the church to make sure sins were forgiven quickly.	**Religious – Healing prayers and incantations** Paying for a special mass to be said Fasting Pilgrimages
Rational - Miasma – You had breathed in bad air. This was thought to come from swamps or rubbish. During this period there was allot of animal much in towns and often open sewers in the streets meaning the whole place stank. In these filthy places disease was more common seemingly proving this theory	**Rational and religious - Regimen Sanitatis** – A set of instructions provided by physicians to maintain good health. Bathing was also used to prevent miasma.	**Supernatural - Astrology** – Treatments varied according the the horoscope of the patient. The alignment of the planets was checked at every stage of the treatment prescribed eg herb gathering.
Rational - The Theory of the Four Humors – The 4 liquids in your body (blood, yellow bile, black bile, phlegm) were seen to be out of balance making you ill. Recovery came from getting them back in to balance through the theory of opposites Created in ancient Greece by Hippocrates.	**Rational - Diet** – Eating to much was strongly discouraged. What and when you ate were considered to be important in preventing a humoural imbalance.	**Rational - Humoral** Treatments – Blood letting – Bad humours could be removed from the body by removing some of the blood. Purging – Purging the digestive system to remove any leftover food. Eg using a laxative.
Supernatural - Astrology – Impact of the stars and planets on health. Physicians would use star charts to examine a patient and work out what was wrong with them.	**Rational - Purifying the air** –This was achieved by spreading sweet herbs.	**Rational - Herbal remedies** – Using herbal infusions to drink, sniff or bathe in.

Year 10 History : Medicine in Medieval England c1250-1500

What we are learning this term:
1.1 Ideas about the cause of disease and illness 1.2 Approaches to treatment and prevention 1.3 Dealing with the Black Death 1348-49

C.	Dealing with the Black Death
What is the Black Death?	
Causes	
Treatments	
Prevention	

A.	Can you define these key words?
Miasma	
Quarantine	
Humours	
Purging	
Phlebotmey	
Leprosy	
Prevention	
Treatment	
Apothecary	
Barber surgeon	

Key People			
Hippocrates	Galen	Physicians, apothecaries and surgeons	Hospitals

What were the causes of disease in Medieval England?		
Causes	**Prevention**	**Treatments**

Year 10 Spanish Knowledge Organiser
Term 1
Module 1

Use this knowledge organizer to help you with revision for GCSE Spanish. You can make flashcards with the words, create vocab lists and write sentences with the words putting the vocabulary into content. This KO contains all the important words from Module 1 GCSE Spanish.

Any questions please ask your Spanish Teacher ☺

El mundo hispanohablante (pages 6–7):

La personalidad	*Personality*
Mi nombre es / Me llamo ...	*My name is / I am called ...*
Soy / Es una persona ...	*I am / He/She is a ... person.*
Soy como ...	*I am like ...*
Soy / Es ...	*I am / He/She is ...*
bueno/a	*good*
divertido/a	*funny, amusing*
interesante / **optimista**	*interesting / optimistic*
positivo/a / **práctico/a**	*positive / practical*
responsable / social	*responsible / social*
*tímido/a	*shy*
trabajador/a	*hard-working*
tranquilo/a	*calm, tranquil, relaxed*

Mi vida digital (pages 8–9):

¿Qué haces con tu móvil?	*What do you do on your phone?*
¿Qué haces con tu ordenador/portátil?	*What do you do on your computer/laptop?*
Escucho música	*I listen to music*
Mando / Recibo mensajes	*I send / receive messages*
Leo las noticias	*I read the news*
*Envío correos electrónicos	*I send emails*
*Saco fotos / **Grabo** vídeos	*I take photos / record videos*
Uso aplicaciones como ...	*I use apps like ...*
Utilizo las redes sociales	*I use social media*
No tengo ordenador	*I don't have a computer*
Chateo en línea/con mis amigos	*I chat online/to my friends*
Hago compras / *llamadas	*I shop / I make calls*
Soy *adicto/a a ...	*I am addicted to ...*
Mis amigos y yo ...	*My friends and I ...*
*sacamos fotos / subimos vídeos	*take photos / upload videos*
no jugamos mucho a los *videojuegos	*don't play videogames much*
Prefiero / Preferimos / Prefieren ...	*I / We / They prefer (to) ...*
aplicaciones como ...	*apps like ...*
compartir/subir imágenes ...	*share/upload images ...*
*enviar correos electrónicos	*send emails*
hacer compras por Internet	*shop on the Internet*
jugar *en directo a ...	*play ... live*
ver vídeos/programas	*watch videos/programmes*
ver **documentales**/series	*watch documentaries/series*

¿Cuánto tiempo pasas ...?	*How much time do you spend ...?*
Paso ... horas al día	*I spend ... hours per day*
Siempre / Todo el tiempo	*Always / All the time*
Todos los días / A menudo	*Every day / Often*
De vez en cuando	*From time to time*
A veces	*Sometimes*
(**Casi**) Nunca	*(Almost) Never*
Una vez / dos veces a la semana	*Once / twice a week*
Los fines de semana	*At the weekends*

¡Disfrutamos al máximo! (pages 10–11):

¿Qué actividades te gusta hacer?	*What activities do you like doing?*
(No) Me gusta (mucho) ...	*I (don't) (really) like ...*
(No) Me encanta ...	*I (don't) love ...*
(No) Me interesa (nada) ...	*I am (not) interested in ... (at all) ...*
Prefiero / Preferimos ...	*I prefer / We prefer ...*
escuchar música/mis canciones favoritas	*listening to music/my favourite songs*
estar en casa con mi familia	*being at home with my family*
hacer ciclismo / ir a conciertos	*going cycling / going to concerts*
jugar al fútbol/voleibol/tenis	*playing football/volleyball/ tennis*
montar a caballo	*horse riding*
salir con mis amigos	*going out with my friends*
ver películas en mi portátil/ móvil	*watching films on my laptop/mobile*
ver películas/una **comedia** en el cine	*watching films/a comedy in the cinema*
leer (libros/**novelas** de ...).	*reading (... books/novels).*
(No) Hago muchas actividades porque es/son ...	*I (don't) do many activities because it is/they are ...*
aburrido/a(s) / difícil(es)	*boring / difficult*
divertido/a(s)/ emocionante(s)	*fun / exciting*
fácil(es) / guay	*easy / cool*
relajante(s) / terrible(s)	*relaxing / terrible*

¿Qué deportes haces?	*What sports do you do?*
Juego al/a la ...	*I play ...*
Practico / Hago ...	*I practise / I do ...*
(el) atletismo	*athletics*
(el) baile / ciclismo / deporte	*dance / cycling / sport*
(el) fútbol / baloncesto / tenis	*football / basketball / tennis*
(la) natación	*swimming*
¿Qué te gusta hacer en tu tiempo libre?	*What do you like doing in your free time?*
¿Qué actividades haces en tu tiempo libre?	*What activities do you do in your free time?*
En mi tiempo libre ...	*In my free time ...*
Si tengo / tenemos tiempo, ...	*If I / we have time, ...*
Si tengo / tenemos dinero, ...	*If I / we have money, ...*
voy / vamos al/a la ...	*I / we go to the ...*
leo / veo / bailo / escucho...	*I read / watch / dance / listen to ...*
juego al/a la / hago ...	*I play / do ...*
porque me ayuda a ...	*because it helps me to ...*
estar en forma	*keep fit*
olvidarme de todo	*forget everything*
mantenerme en contacto con ...	*stay in touch with ...*
¿Eres miembro de algún club?	*Are you a member of a club?*
Soy miembro de un equipo (local).	*I am a member of a (home) team.*

Nos juntamos (pages 12–13):

¿Qué vas / vamos a hacer?	*What are you / we going to do?*
Este fin de semana / Primero	*This weekend / First*
Luego	*Later/afterwards*
*Por la mañana/tarde/noche	*In the morning/afternoon/evening*
Quiero / Queremos ...	*I / We want to ...*
Mis amigos/padres y yo vamos a ...	*My friends/parents and I are going to ...*
(No) Voy a ...	*I am (not) going to ...*
descansar / estar en casa	*rest / be at home*
hacer deporte/los deberes	*do sports/homework*
ir de compras	*go shopping*
ir al parque/cine/centro comercial	*go to the park/cinema/ shopping centre*
ir a un restaurante	*go to a restaurant*
ir a la piscina	*go to the pool*
limpiar mi habitación	*clean my bedroom*
salir (por la tarde)	*go out (in the afternoon)*
tomar un café	*have a coffee*
mandar mensajes a mis amigos	*send messages to my friends*
hacer **tareas**	*do chores*

No puedo ...	*I can't ...*
porque tengo que ...	*because I have to ...*
hacer los deberes	*do my homework*
salir con mis padres/abuelos	*go out with my parents/ grandparents*
trabajar / **cuidar** a mi perro	*work / look after my dog*

¿Tienes planes?	*Do you have (any) plans?*
(No) Tengo planes para ...	*I (don't) have plans for ...*
hoy / mañana	*today / tomorrow*
este fin de semana	*this weekend*
el viernes/sábado/domingo	*Friday/Saturday/Sunday*
la semana próxima/que viene	*next week*
Estoy libre. / No puedo ir.	*I am free. / I can't come.*
Lo siento. / ¡Claro que sí!	*I'm sorry. / Of course!*
No tengo dinero.	*I don't have (any) money.*
De acuerdo.	*OK.*
¿A qué hora quedamos?	*What time shall we meet?*
A las (diez) en (la *cafetería).	*At (ten o'clock) at (the café).*
¿Quedamos a las (cuatro)?	*Shall we meet at (four o'clock)?*

El fin de semana pasado (pages 14–15):

¿Qué hiciste ...?	*What did you do ...?*
El fin de semana pasado / Ayer	*Last weekend / Yesterday*
El sábado/domingo pasado	*Last Saturday/Sunday*
La semana pasada	*Last week*
El mes pasado	*Last month*
Hace ... días	*... days ago*
Hace una semana ...	*A week ago ...*
comí / bebí ...	*I ate / I drank ...*
compré una entrada para un partido de fútbol	*I bought a ticket to a football match*
escuché música	*I listened to music*
no hice mucho	*I didn't do much*
fui a un restaurante	*I went to a restaurant*
fui a un concierto	*I went to a concert*
gané una competición (de natación)	*I won a (swimming) competition*
me quedé en casa todo el día	*I stayed at home all day*
hablé con mi amigo en el parque	*I spoke to my friend at the park*
salí con mi amigo al centro comercial	*I went out to the shopping centre with my friend*
fui al **gimnasio** y *entrené	*I went to the gym and trained*
jugué a los *videojuegos	*I played videogames*
Mi familia y yo ...	*My family and I ...*
comimos en un restaurante (peruano)	*(we) ate at a (Peruvian) restaurant*
fuimos a la piscina	*(we) went to the pool*
salimos a comer	*(we) went out to eat*

¿Qué tal fue?	*How was it?*
¿Por qué (no) te gustó?	*Why did you (not) like it?*
Me gustó / Me encantó	*I like it / I loved it*
No me gustó (nada)	*I didn't like it (at all)*
porque fue ...	*because it was ...*
aburrido/a / emocionante	*boring / exciting*
fantástico/a / guay / terrible	*fantastic / cool / terrible*

¡Un día fatal! (pages 16–17):

¿Qué pasó el fin de semana pasado?	*What happened last weekend?*
Tuve un día ...	*I had a(n) ... day*
difícil / *estresante / *fatal	*difficult / stressful / awful*
*horroroso / malo / terrible	*horrific / bad / terrible*
porque ...	*because ...*
comí ... / no comí (nada)	*I ate ... / I didn't eat (anything)*
llegué muy tarde	*I arrived very late*
no hice los deberes	*I didn't do my homework*
pasé todo el día enfrente de la televisión	*I spent all day in front of the television*
me caí	*I fell*
Fui/Fuimos a ...	*I/We went to ...*
un concierto / un partido	*a concert / a match*
ver una película de ...	*watch a ... film*
y ...	*and ...*
la voz del cantante fue terrible	*the singer's voice was terrible*
el grupo / la banda fue *horroroso/a	*the group / band were horrific*
mi equipo perdió	*my team lost*
el sonido no funcionó	*the sound didn't work*
Perdí ...	*I lost ...*
el móvil / al perro / a mis amigos	*my mobile / dog / friends*
Lo/La/Los/Las perdí en ...	*I lost it/them in/at ...*
Lo/La/Los/Las encontré en ...	*I found it/them in/at ...*
casa / la ciudad	*home / the city*
el coche / el tren	*the car / the train*
el estadio / el metro	*the stadium / the metro/ underground*

¿Qué vas a hacer el fin de semana próximo?	*What are you going to do next weekend?*
El fin de semana próximo	*Next weekend*
El sábado próximo	*Next Saturday*
La próxima vez	*Next time*
(no) voy a ...	*I am (not) going to ...*
ir al estadio	*go to the stadium*
ver otra película de terror	*watch another horror film*
viajar en ...	*travel by ...*

1. Methods of growth

When a market is growing, it is important for a business to grow in order to retain market share.

Method of growth	Explanation
Internal/organic growth	A business can grow by creating new products, entering new markets, increasing their advertising and opening new premises.
External/inorganic growth	A business can grow by merging with another company or by winning a takeover of another company.

2. Finance for growth

A business must find sources of capital to pay for growth.

Term:	Definition:
Internal sources of financing.	A business can use 'retained profit' (capital they have saved from profit) or they could 'sell assets' (selling old or unused machinery/equipment). Internal sources of funding are from an internal sources such as an existing business owner or the business itself rather than from someone or an organisation outside of the business.
External Sources of financing.	A business could take out a loan (loan capital), or sell shares (share capital). External sources of funding are from an external sources such as a bank or an investor rather than from the business owners or the business itself.

3. Why do aims & objectives change?

As businesses evolve, they need to adapt their aims and objectives to changing circumstances.

Changing market conditions	Controlled by customer behaviour, what do customers want?
Changing technology	As technology changes, business needs to adapt to how customers use technology.
Changes in performance	If costs increase, the chances are the profit margin of the business will decrease. A business needs to be clear on whether they are aiming for quality or price.
Changes in legislation	If the law changes, this can bring uncertainty as the business may have to stop manufacturing/selling a certain product or be unable to predict future trends.
Internal Reasons	Changes in management or changes to the culture of the company.

1. Methods of growth

When a market is growing, it is important for a business to grow in order to retain market share.

Method of growth	Explanation
Internal/organic growth	
External/inorganic growth	

2. Finance for growth

A business must find sources of capital to pay for growth.

Term:	Definition:
Internal sources of financing.	
External Sources of financing.	

3. Why do aims & objectives change?

As businesses evolve, they need to adapt their aims and objectives to changing circumstances.

Changing market conditions	
Changing technology	
Changes in performance	
Changes in legislation	
Internal Reasons	

4. Globalisation

The increasing tendency for countries to trade with each other and to buy global goods such as Coca-Cola or services such as Costa Coffee.	
Imports	Goods brought into one country from another.
Exports	Goods sold to one country from another

4. Globalisation

Barriers to trade	Definition: Measures put in place by a government to control the numbers of goods imported into a country.
Tariffs	Import taxes – taxes on imported goods.
Trade blocs	An agreement between some countries to trade freely without any tariffs, but countries not within the agreement will be charged tariffs.

5. Ethics & business

How the behaviour of a business is judged against human morals.	
Term	Definition
Fair Trade	A global scheme that states that farmers or producers are paid a fair price for their goods. Business costs are higher, but customers will pay more for Fair Trade products.
Environmental	Businesses are constantly monitored for their environmental impact. Behaving in an environmentally ethically manner means to not pollute or damage the local/national/global environment – sea, land or sky.
Labour	Human morals dictate that a business should pay its workers fairly and that working conditions should be safe and clean. If a business sub-contracts work to international manufacturers in Asia, human morals dictate that those workers of the contractor are paid fairly and work in safe, clean conditions also.

6. Ways to extend the Product Life Cycle of a Product

Idea:	Explanation
Find new uses for the product	If a product can be used for multiple purposes, ensure that your target audience is aware of this
Change the appearance, format or packaging	Changing the appearance of a product can give it a new lease of life and allow the customer is perceive it as new again.
Encourage use of the product on more occasions	If a product can be used for multiples different occasions make sure the customer base is aware of this
Adapt the Product	Continue to make small adaptations to products to improve the quality of the product on offer.

4. Globalisation

The increasing tendency for countries to trade with each other and to buy global goods such as Coca-Cola or services such as Costa Coffee.	
Imports	
Exports	

4. Globalisation

Barriers to trade	
Tariffs	
Trade blocs	

5. Ethics & business

How the behaviour of a business is judged against human morals.	
Term	
Fair Trade	
Environmental	
Labour	

6. Ways to extend the Product Life Cycle of a Product

Idea:	Explanation
Find new uses for the product	
Change the appearance, format or packaging	
Encourage use of the product on more occasions	
Adapt the Product	

1. Product (Part of the Marketing Mix)

When designing a new product, the key is to design a product that matches the needs or wants of your chosen target market. Every product needs the right balance between:

Product strategy	Explanation
Economic Manufacture	Making sure that the design of the product to be made cost effectively. A complex or expensive design can lead to increased costs.
Function	The design of the product is crucial. The product must work/function effectively
Aesthetics	How much does the design of the product appeal to the senses. When designing a product it is crucial to consider the way it looks

2. Product (Key Terms)

At the heart of the marketing mix is the product

Term:	Definition:
Product Differentiation	The extent to which consumers see your product as being different from its rivals
Product Life Cycle	The theory that every product goes through the same four stages of introduction, growth, maturity and design

4. Ways to extend the Product Life Cycle of a Product

Idea:	Explanation
Find new uses for the product	If a product can be used for multiple purposes, ensure that your target audience is aware of this
Change the appearance, format or packaging	Changing the appearance of a product can give it a new lease of life and allow the customer is perceive it as new again.
Encourage use of the product on more occasions	If a product can be used for multiples different occasions make sure the customer base is aware of this
Adapt the Product	Continue to make small adaptations to products to improve the quality of the product on offer.

3. Stages of the Product Life Cycle

Term:	Explanation:
Introduction	First a company needs to spend time researching the product and the marketplace. The product will be developed, tested, and launched.
Growth	At this stage the product becomes known in the market. At this stage customer awareness increases, prices will still be high.
Maturity	At this point the market may become saturated as 'me too' products are launched into the market. Advertising is increasing to remind consumers about the quality of the product. Brand image needs reinforcing with its customers. The market is highly competitive, and prices are lower as a result
Decline	The product's sales and profit's start to fall. The product is no longing offering what customers want or new technology has made the product obsolete.

5. Promotional Strategy (Part of the marketing mix)	
Promotional strategy is the plan for how to communicate effectively with customers in order to meet sales revenue targets.	
Promotional Strategy:	**Explanation:**
Advertising	Advertising is how a business promotes its products and communicates with its customers.
Sponsorship	Sponsorship is where a business pays to have a brand or company name attached to an activity that has credibility with its customers.
Branding	Branding is a way that businesses can give their products an identity that appeals to its target audience.
Product Trials	A product trial means giving potential customers a free taste of a new product. This may entice new customers.
Special Offers	Businesses can use special offers such as 'buy one get one free' to entice customers to purchase their products.
Using Technology	In recent years, online advertising through social media and other platform such as websites and e-newsletters has become commonplace for firms.

6. Pricing Strategy	
Pricing strategy is vital for any business – pricing your products can be the difference between business success and business failure.	
Market Segment:	**Pricing Strategy**
Mass Market	In mass markets where both competition and customer consumption are high. These markets are generally characterised by low prices and very similar products.
Niche Markets	A niche market is based on a type of customer needs or wants something different to the majority. Generally these markets have few competitors but high prices.
Pricing at each stage of the Product Life Cycle	
Introduction	Pricing at the introduction phase of the product life cycle in some cases will be low to entice new customers to sample the product.
Growth	Once a product is established within a market and has a customer base, businesses will sometimes increase prices to increase revenue.
Maturity	When product growth is at an end, new pricing decisions may be needed. Business will ensure that pricing is competitive to ensure continuous revenue, other firms may decide that the brand may be in irreversible decline and will keep prices high to make a short-term profit.
Decline	When sales have made a decisive step downwards, firms tend to lower prices to ensure a steady stream of revenue. However some firms with a loyal customer base may decide to increase prices in an attempt to gain short term profits.

7. Placing Strategy

This element of the marketing mix is about how to get the product from the producer to the customer. There are three main distribution channels – traditional, modern and direct.

Type of Distribution	Explanation:
Direct Distribution	This is where a product is distributed directly from the producer to the consumers. An example of this is buying things directly from firms on the internet.
Modern Distribution	This method is common in the grocery sector, where producers will deliver to distribution depots and then the products will be taken to stores to be sold. This method became popular when supermarkets become common place in the 1980s
Traditional Distribution	This method, in the first instance involves a wholesaler buying goods directly from the consumers. From their the wholesaler will sell the products directly to firms who will then sell onto the consumers.

8. Placing Strategy – Key Terms

Term	Definition
Distribution	How ownership changes as a product goes from producer to customer
E-Tailer	An electronic retailer; in other words selling products electronically, either by e-commerce or, more likely these days, mobile commerce.
Retailer	A shop or chain of shops, usually selling from a building in a high street or shopping centre

9. Marketing mix and Business Decisions – Key Terms

Business decisions are always about the future. So, when the marketing mix is being used to inform and carry out business decisions.

Term	Definition
Budget	A ceiling on the amount of money that can be spent; a marketing budget of £1 million means the marketing manager can spend up to that figure, but no more.
Informed Decisions	Evidence that can be used to make a better decision; a company can gain a better understanding of it's customers through the 4p's, which helps in decision making

Year 10 Food & Nutrition Term 1

What we are learning this term:

A. Proteins B. Carbohydrates C. Fibre & Water D. Fats E. Minerals F. Vitamins

A. Proteins – contain amino acids

	Used for growth, repair and maintenance of the body.
Source 	Seeds, meat, fish, dairy, nuts and beans. **Alternative:** soya, mycoprotein, TVP & tofu.
Excess 	Strain on liver and kidneys. These organs process the proteins consumed.
Deficiency 	Slows growth, weak immune system, oedema, kwashiorkor, poor hair /skin / nails.
High Biological Value Proteins 	**These contain ALL the essential amino acids.** These come from mainly animals sources (as well as soya and quinoa).
Low Biological Value Proteins 	**These are missing <u>one or more</u> of the essential amino acids.** These come from plant sources.

Protein Completion: when you combine LBV proteins to get all the essential amino acids.

B. Carbohydrates – used for energy

	**Sugars –** digested quickly & energy released quickly. Monosaccharides or Disaccharides
Source 	Fruit or added to food.
	**Starch –** digested slowly & slow released of energy. Polysaccharides.
Source 	Potatoes, cereals. Have a lot of nutrients & fibre.
Excess 	Gets converted into fat (may lead to obesity), tooth decay, type 2 diabetes.
Deficiency 	Low blood sugar (hunger, dizziness, tiredness), body starts to use up fat & protein (weight & muscle loss).

Glycaemic Index (GI): show how quickly carbohydrates affect blood sugar levels.

C. Fibre & Water

Fibre	Water
• Helps with digestion • Prevents constipation • Found in fruit, pulses, nuts, veg, wholegrain foods	• Helps get rid of waste & digest food • Controls body temperature • 6-8 glasses of water a day • More during a hot day or exercising

D. Fats

Needed for energy, vitamins, insulation (warmth) and protecting your bones & organs, making cholesterol.

Saturated Fats	Unsaturated Fats
Usually come from animal sources	Mostly from vegetable sources.

Excess 	Obesity, Type 2 Diabetes, higher Cholesterol (increased risk Coronary Heart Disease).
Deficiency 	Vitamin deficiency, weight loss, less insulation / bone & organ protection.

E. Minerals

Calcium	Strong bones & teeth, healthy nerves & muscles, blood clotting
Iron	Forms part of haemoglobin in red blood cells
Sodium	Controls body's water content, helps nerves / muscle function
Phosphorus	Healthy bones & teeth
Fluoride	Helps strengthen teeth & prevent tooth decay
Iodine	Helps make some hormones

F. Vitamins

Micronutrients which help the body to function.

Fat Soluble Vitamins

Found in fatty food. Stored in fat tissue if not used up.

A	For good eyesight, healthy immune system / skin
D	Helps absorb minerals (especially calcium)
E	For healthy skin, eyes & immune system
K	Helps heal wounds, keeps immune system / bones healthy

Water Soluble Vitamins

Vitamins that dissolve in water & lost through urine – need to take daily! They are also lost when fruit and vegetables are exposed to air.

B	Keep the nervous system healthy
B1, B2 & B3	Help with energy release
B9 & B12	Help make red bloody cells.
C	Protects body from infection, heals wounds

Antioxidants

Vitamins A, C & E are antioxidants which may protect cells from **free radicals** - chemicals you encounter every day.

Year 10 Food & Nutrition Term 1

What we are learning this term:

A. Proteins B. Carbohydrates C. Fibre & Water D. Fats E. Minerals F. Vitamins

A. Proteins – contain amino acids

Source

Excess

Deficiency

High Biological Value Proteins

Low Biological Value Proteins

Protein Completion:

B. Carbohydrates – used for energy

Sugars

Source

Starch

Source

Excess

Deficiency

Glycaemic Index (GI):

C. Fibre & Water

Fibre	Water
• -	• -
• -	• -
• -	• -

D. Fats

Saturated Fats	Unsaturated Fats
	.

Excess .

Deficiency

E. Minerals

Calcium	
Iron	
Sodium	
Phosphorus	
Fluoride	
Iodine	

F. Vitamins

Fat Soluble Vitamins

A	
D	
E	
K	

Water Soluble Vitamins

B	
B1, B2 & B3	
B9 & B12	
C	

Antioxidants

Year 10 PRODUCT DESIGN Term 1

What we are learning this term:

A. Scales of Production
B. Production Methods
C. Impact on Enterprise
D. Anthropometric Data
E. Impact on People
F. Impact on Design
G. Ergonomics

A. Scales of Production

Type	How Many?	Examples
One-off Production	**1**	• Towers /bridges • Bespoke house • Custom made clothes
Batch Production	**10s-1000s**	• Baked Foods • Limited Edition • Socks • Chairs
Mass Production	**10,000s – 100,000s**	• Cars • Bottles • Microchips • Plain shirts
Continuous Production	**100,00s+**	• Energy • Water • Paper • Plastic

B. Production Methods

Flexible Manufacturing Systems (FMS)

This is where **automated** machines are adaptable and can produce different products if needed.

Lean Manufacturing

This is where waste and energy is kept to a minimum. This saves money and resources in production, as well as helping minimise the **environmental impact** of producing products.

Just-in-Time (JIT) Manufacturing

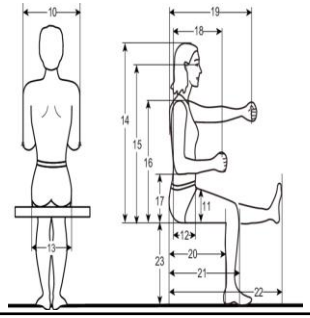
This is where manufacturers only order materials, parts, etc, when needed. This can be used in any **scale of production** but its particularly useful for one-off production.

C. Impact on Enterprise

Crowdfunding	A way of raising money from large numbers of people to launch a new product through websites.
Virtual marketing and retail	Promotion of products online and sharing experiences, reviews and recommendations.
Cooperatives	A business that is owned and managed by it's workers, all working towards a common goal.
Fair trade	An organisation that helps workers have fair trading and working conditions in developing countries

D. Anthropometric Data

The study of human measurements to ensure the products and environments are the correct size for the intended user.



E. Impact on People

Technology Push	When technological discoveries are used to drive the development or creation of a product
Market Pull	When products are developed or created to meet the needs of society or a gap in the market.
Universal Design	When designs are focused on serving the broadest range of users possible, rather than trying to address individual accessibility or inclusion objectives.
Inclusive Design	When the designer focuses on exploring ways of serving a full spectrum of people, regardless of age, gender, and disability.
User Centred Design (USD)	When designers focus on the end-user's wants and needs in each phase of the design process.

F. Impact on Design

Planned obsolescence	Designing products that will have a limited life and that will become obsolete and require to be replaced, such as disposable razors.
Design for Maintenance	Designing products that are more durable and have spare parts available to mend and maintain them, such as a push bike.
Design for Disassembly	When a product has reached the end of its life it can be taken apart and parts reused or recycled, such as a school seat.
Environmental Design	Designing products to be more sustainable and improving the overall environmental impact of a product, such as paper straws.

G. Ergonomics

This is the consideration that leads to a product being designed in a way that makes it easy to use. Such as a person sitting at their computer desk or the type of water bottle they use.

Year 10 PRODUCT DESIGN Term 1

What we are learning this term:

A. Scales of Production
B. Production Methods
C. Impact on Enterprise
D. Anthropometric Data
E. Impact on People
F. Impact on Design
G. Ergonomics

A. Scales of Production

Type	How Many?	Examples
One-off Production		
Batch Production		
Mass Production		
Continuous Production		

B. Production Methods

Flexible Manufacturing Systems (FMS)

.

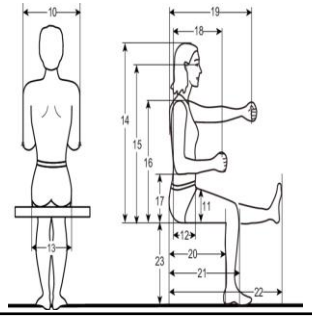
Lean Manufacturing

Just-in-Time (JIT) Manufacturing

C. Impact on Enterprise

Crowdfunding	
Virtual marketing and retail	
Cooperatives	
Fair trade	

D. Anthropometric Data



E. Impact on People

Technology Push	
Market Pull	
Universal Design	
Inclusive Design	
User Centred Design (USD)	

F. Impact on Design

Planned obsolescence	
Design for Maintenance	
Design for Disassembly	
Environmental Design	

G. Ergonomics

Year 10 Engineering Term 1

What we are learning this term:

A. Types of hazard B. dimensions and scale C. material properties D. Tools and equipment
E. Categories of materials

A. Health & Safety

Risk Assessment	A risk assessment is the analysis of the risks involved when using equipment or performing a process.

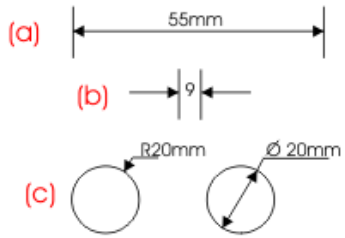
Hazard – something that may harm someone.
Risk – how likely a hazard is to happen.
Control measure – actions taken to reduce the risk of harm

Ejection hazard – material being thrown out of the machine toward the user	**Entrapment hazard –** the user being caught and pulled into the moving parts of the machine
Inhalation hazard – people in the vicinity of the hazard breathe in harmful dust or chemicals	**Sharp force hazard –** the user is cut, stabbed or scraped by the sharp material.
Slip, trip and fall hazards – common hazards caused by unclean or cluttered workspaces.	**Blunt force hazard –** a victim is crushed, hit or bruised by the blunt object. Major blunt trauma can cause fractures or internal bleeding.

B. Dimensions and scale

Dimensions are the measurements of the object being shown. Engineers use certain lines for certain types of dimensions.

Scale is the size of the drawing relative to the size of the real life object. This is shown as a ratio.
(Drawing size): (Real life size)
1:2 = the drawing is half the size of the real thing.

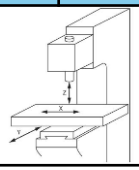
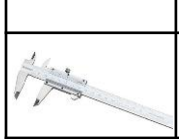


Rules for dimensions:
a) Use extension lines and arrows from the measurement you are showing
b) Measurements less than 10mm should have the arrows on the outside of the extension lines
c) The symbol for radius is R while diameter is Ø. Radius is usually used for arcs.

C. Material properties

Strength	Ability of a material to withstand compression, tension, torsion, bending, and shear.
Hardness	Ability to withstand abrasion and wear and tear.
Toughness	Materials that can withstand impact or are hard to break or snap are tough & can absorb shock.
Malleability	Being able to bend or shape easily would make a material easily malleable
Ductility	Materials that can be stretched along their length are ductile
Elasticity	Ability to be stretched and then return to its original shape

D. Tools & machines

	**vertical mill** – this machine allows you to remove material in an X, Y and Z axis with a milling bit.
	**Dividers** are used to scribe arcs and circles onto materials.
	**Scribes** are used to scratch markings on metal while marking out. The tip is brittle, so never use it like a centre punch.
	The **centre punch** is made from mild steel, with the point hardened and tempered, so that it withstands impact with the material it is marking. It is used to mark the centre of a hole to be drilled
	A **Vernier caliper**. Can take internal, external and depth measurements.

E. Material categories

Polymers (Plastics)	**Thermoforming –** melt when reheated **Thermoset –** burn when reheated
Metals	**Ferrous –** contain iron, rust and can be magnetic **Non-ferrous –** corrode instead of rusting, no iron
Timbers (wood)	**Hardwoods –** from trees that drop leaves in winter, slow growing and expensive **Softwoods –** from trees that keep their leaves in winter, fast growing and soft
Composites (combined materials)	**Sheet-based –** sheets of material glued together plywood, chipboard. Cheap and easy to manufacture with. **Fibre-based –** glass reinforced plastic, carbon fibre. Very strong and light
Smart materials	Materials that change their properties when given a stimulus. **Thermochromic –** changes colour in heat **Photochromic –** changes colour in light **Shape memory alloy –** can return to its original shape when heated

Year 10 Engineering Term 1

What we are learning this term:

A. Types of hazard B. dimensions and scale C. material properties D. Tools and equipment
E. Categories of materials

A. Health & Safety

Risk Assessment	A risk assessment is the analysis of the risks involved when?
Hazard –. **Risk –** **Control measure –**	
Give an example of an Ejection hazard –	**Give an example of an Entrapment hazard –**
Give an example of an Inhalation hazard –	**Give an example of a Sharp force hazard –**
Give an example of Slip, trip and fall hazards –	**Give an example of a Blunt force hazard –**

B. Dimensions and scale

Scale is **(Drawing size): (Real life size)**

1:2 = the drawing is _____ the size of the real thing.

5:1 = the drawing is _____ the size of the real thing.

1:3=the drawing is _____ the size of the real thing.

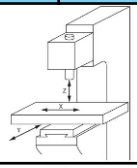
Add dimensions onto this drawing of a dog tag. Use extension lines, dimension lines, and radius measurements. Work in mm.

JKING 2025

C. Material properties

Strength	Ability of a material to withstand _____, tension, _____, bending, and shear.
	Ability to withstand abrasion and wear and tear.
	Materials that can withstand impact or are hard to break or snap are _____ & can absorb shock.
Malleability	Being able to _____ easily would make a material easily malleable
Ductility	Materials that can be _____ are ductile
Elasticity	Ability to be stretched and then _____

D. Tools & machines

	_____– this machine allows you to remove material in an X, Y and Z axis with a milling bit.
	_____ are used to scribe _____ and circles onto materials.
	**Scribes** are used to scratch markings on metal while marking out. The tip is _____, so never use it like a center punch.
	The **centre punch** is made from mild steel, with the point _____ and tempered, so that it withstands _____ with the material it is marking. It is used to mark the centre of a hole to be drilled
	A _____ **caliper**. Can take internal, external and depth measurements.

E. Material categories

Polymers (Plastics)	**Thermoforming –** _____ when reheated **Thermoset –** _____ when reheated
Metals	_____ **–** contain iron, rust and can be magnetic **Non** _____ **–** corrode instead of rusting, no iron
Timbers (wood)	**Hardwoods –** from trees that _____in winter, slow growing and expensive **Softwoods –** from trees that keep their leaves in winter, _____growing and _____
	Sheet-based – sheets of material glued together plywood, chipboard. Cheap and easy to manufacture with. **Fibre-based –** glass reinforced plastic, carbon fibre. Very strong and light
Smart materials	Materials that change their _____ when given a stimulus. **Thermochromic –** changes colour in _____ **Photochromic –** changes colour in _____ **Shape memory** _____ **–** can return to its original shape when heated

Music terms and signs

Glossary - Eduqas GCSE Music

Dynamics

pp	*p*	*mp*	*mf*	*f*	*ff*
PIANISSIMO	**PIANO**	**MEZZO PIANO**	**MEZZO FORTE**	**FORTE**	**FORTISSIMO**
very soft (v.quiet)	soft (quiet)	moderately soft	moderately loud	loud	very loud

	
crescendo (cresc.)	**diminuendo (dim.)**
gradually getting louder	gradually getting quieter

Tempo

LARGO	LENTO/ ADAGIO	ANDANTE/ MODERATO	ALLGRETTO	ALLEGRO/ VIVACE	PRESTO
v.slow	slow	walking pace/ moderate	quite fast	quick/lively	very quick

- **Accelerando:** gradually getting faster
- **Rallentando/ritardando:** gradually getting slower
- **A tempo:** return to the original speed
- **Ritenuto:** in slower time
- **Rubato:** rhythms are played in a more free/flexible way ('robbed time').

Time values

NOTE	NAME	LENGTH (duration)	REST
	**Semibreve**	4 beats	
	**Minim**	2 beats	
	**Crotchet**	1 beats	
	**Quaver**	½ beats	
	**Semiquaver**	¼ beats	
A dot after the note increases its length by half:			
	**Dotted minim**		
	**Dotted crotchet**		
Groups of quavers/semiquavers are usually beamed together:			
			

Terms and signs

#	**Sharp**	Raises a note by a semitone.
	**Flat**	Lowers a note by a semitone.
	**Natural**	Cancels a previous sharp or flat for a note.
	**Staccato**	Detached.
	**Slur**	Play smoothly.
	**Tie**	Hold the notes for the full value of the tied notes.
	**Accent**	Emphasize the note (play forcefully).
	**Pause**	Hold the note longer.
sfz	**Sforzando**	Sudden stress/ accent.

Music terms and signs

Glossary - Eduqas GCSE Music

Complete the missing key words and symbols

Dynamics

pp		*mp*	*mf*		
		moderately soft	moderately loud		

Tempo

	LENTO/ ADAGIO		ALLGRETTO		
			quite fast		

Complete the missing key words and symbols

Complete the missing key words and symbols

Time values

NOTE	NAME	LENGTH (duration)	REST

A dot after the note increases its length by half:

Groups of quavers/semiquavers are usually beamed together:

Terms and signs

#	
♭	
♮	
sfz	

Year 10 BTEC Health and Social Care- Component 1: Human Lifespan Development. LAA

What we are learning this term:

A. Key words
B. What are the main life stages
C. What are the 4 areas of growth and development (PIES)?
D. How do Humans develop physically (P)?

A.	Key words for this Unit
Characteristics	Something that is typical of people at a particular life stage.
Life stages	Distinct phases of life that each person passes through.
Growth	Increased body size such as height, weight.
Development	Involves gaining new skills and abilities such as riding a bike.
Gross motor development (**G**)	Refers to the development of large muscles in the body e.g. Legs
Fine motor development **(F)**	Refers to the development of small muscles in the body e.g. Fingers
Language development	Think through and express ideas
Contentment	An emotional state when people feel happy in their environment, are cared for and well loved
Self-image	How individuals see themselves or how they think others see them
Self-esteem	How good or bad an individual feels about themselves and how much they values their abilities.
Informal relationships	Relationships formed between family members
Friendships	Relationships formed with people we meet in the home or in situations such as schools, work or clubs
Formal relationships	relationships formed with non-family/friends – such as teachers and doctors.
Intimate relationships	romantic relationships.

B	What are the main life stages?	
Age Group	**Life Stage**	**Developmental Characteristics and Progress**
0-2 years	Infancy	Sill dependent on parents but growing quickly and developing physical skills.
3-8 years	Early Childhood	Becoming increasingly independent, improving thought processes and learning how to develop friendships.
9-18 years	Adolescence	Experiencing puberty, which bring physical and emotional changes.
19-45 years	Early Adulthood	Leaving home, making own choices about a career and may start a family.
46-65 years	Middle Adulthood	Having more time to travel and take up hobbies as children may be leaving home; beginning of the aging process.
65+ years	Later Adulthood	The aging process continues, which may affect memory and mobility.

C	What are the 4 areas of growth and development (PIES)?
Physical Development (P) 	P = growth patterns and changes in the mobility of the large and small muscles in the body that happen throughout life.
Intellectual Development (I) 	I = how people develop their thinking skills, memory and language.
Emotional Development (E) 	E = how people develop their identity and cope with feelings.
Social Development (S) 	S = describes how people develop friendships and relationships.

D.	How do humans develop physically (P)?
0-2	• Gross Motor Development (G) = life head, roll over, sit unaided, walk holding onto something, walk unaided, climb stairs, kick and throw, walk upstairs, jump. • Fine Motor Development (F) = hold a rattle for short time, reach for an item, pass item from one hand to other, hold between finger and thumb, scribble, build a tower, use a spoon, draw lines and circles, turn page of a book.
3-8	• G = ride a tricycle, catch a ball with two hands, walk backwards and step to the side, bounce a ball, run on tiptoes, ride a bike, catch a ball with one hand, balance along a thin line. • F = hold a crayon to make circles and lines, thread small beads, copy letters and shapes with a pencil, make detailed models with construction bricks, joined up writing, use a needle to sew.
9-18	• Girls = puberty starts at 10-13 years, breasts grow, hips widen, menstruation begins, uterus and vagina grow. • Boys = voice deepens, muscles and strength increase, erections, facial hair, produce sperm. • Both = pubic and underarm hair, growth spurts.
19-45	• Physically mature, sexual characteristics are fully formed, peak of physical fitness, full height, women at most fertile. • Later in the life stage people may put on weight, hair turn grey and men may lose hair, women's menstrual cycle was slow down
46-65	• People may put on weight, hair turn grey and men may lose hair, women's menstrual cycle was slow down. • Women go through the menopause – when menstruation ends and they can no longer become pregnant. • Men may continue to be fertile throughout life but decrease in sperm production in this life stage.
65+	• Women's hair becomes thinner, men may lose most of their hair, skin loses elasticity and wrinkles appear, nails hard and brittle, bones weaken, higher risk of contracting infections disease and illness. • Stamina, reaction time, muscle and senses (hearing, sight, taste) all reduce.

Year 10 BTEC Health and Social Care- Component 1: Human Lifespan Development. LAA

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D. How do Humans develop physically (P)?

A.	**Key words for this Unit**
Characteristics	
Life stages	
Growth	
Development	
Gross motor development (**G**)	
Fine motor development **(F)**	
Language development	
Contentment	
Self-image	
Self-esteem	
Informal relationships	
Friendships	
Formal relationships	
Intimate relationships	

B	**What are the main life stages?**	
Age Group	**Life Stage**	**Developmental Characteristics and Progress**
0-2 years	Infancy	
3-8 years	Early Childhood	
9-18 years	Adolescence	
19-45 years	Early Adulthood	
46-65 years	Middle Adulthood	
65+ years	Later Adulthood	

C	**What are the 4 areas of growth and development (PIES)?**
Physical Development (P) 	
Intellectual Development (I) 	
Emotional Development (E) 	
Social Development (S) 	

D.	**How do humans develop physically (P)?**
0-2	
3-8	
9-18	
19-45	
46-65	
65+	

Year 10 BTEC Health and Social Care- Component 1: Human Lifespan Development. LAA

What we are learning this term:

E. How do humans develop intellectually (I)?
F. How do humans develop emotionally (E)?
G. How do humans develop socially (S)?

E. *How do humans develop intellectually (I)?*

Infancy 	At birth brains are already well developed. Infants use all of their senses to learn about the world around them. Infancy is a time of rapid intellectual development. At 3 months infants can remember routines. At 9-12 months infants are developing their memory. At 12 months to 2 years infants understand processes and how things work. Language begins to develop during this stage.
Early childhood 	At 3-4 years of age children become more inquisitive and enjoy exploring objects and materials. They ask lots of questions and enjoy solving simple problems. At 5-6 years old children's memory is becoming well developed. This helps them to talk about the past and anticipate the future.
Adolescence 	During this time abstract thought is developed – thinking logically and solving complex problems are possible by the end of this life stage. Adolescents may find it difficult to understand the consequences of their actions but they are developing empathy – seeing things from another's point of view.
Early and Middle Adulthood 	By these life stages most adults have a good range of general knowledge. They use this knowledge and experience to solve problems that they come across in their personal and work lives.
Later adulthood 	During this life stage people continue to learn and develop intellectually, however, their speed of thinking and memory may decline. This may affect their ability to think through problems and make logical decisions.

F. How do humans develop emotionally (E)?

Infancy and Early Childhood	Adolescence and adulthood
Bonding and Attachment Bonding and attachment describe the emotional ties an individual forms with others. It starts in the first year of life between infants and their main carer because that person fulfils the infants needs which makes them feel safe and secure.	**Self-image and Self-esteem** Self-image is heightened during adolescence because of the physical changes we experience. Our self-esteem can change from day to day based on a variety of factors including employment and health status.
Security For infants and young children, security is mainly the feeling of being cared for, being safe and loved – it is closely linked with attachment.	**Security** Adolescence may feel insecure because of puberty. Adults may feel insecure about relationships, job security of income. Later in life adults may feel insecure about staying in their own home or going into a care home. Feeling secure helps us cope better with everyday situations.
Contentment Infants and young children are content if they have had enough food, love, are clean and dry and all other needs are met.	**Contentment** When people feel discontented with aspects of their life – for example, relationships or work – their emotions can be negatively affected.
Independence Independence is to care for yourself and make your own decisions. Infants are completely dependent on their carer. As children enter early childhood they develop more independence – feed self and get dressed. However, children still need a lot of help from their carer.	**Independence** Adolescence are dependent on their parents but are beginning to enjoy more independence and freedom to make their own choices. Adults enjoy living independently and controlling their own lifestyle and environment. Later in adulthood people become more dependent on others again.

G. How do humans develop socially (S)?

Life Stage	Types of relationships and social development
Infancy	• Solitary Play - From birth to 2 years, infants tend to play alone although they like to be close to their parent or carer; they may be aware of other children but not play with them.
Early childhood	• Parallel Play - From 2 to 3 years, children enjoy playing next to other children but are absorbed in their own game; they are not socialising or playing with other children. • Cooperative or social play – from 3 years upwards, children start to play with other children; they have developed social skills that help them to share and talk together; they often make up games together, such as being a shopkeeper and customer.
Adolescence	• People become more independent and build more informal and formal relationships. • Social development closely linked to emotions. • Often strongly influenced by peers – 'peer group pressure'.
Early adulthood	• Increased independence means greater control of decisions about informal relationships. • People may be developing emotional and social ties with partners and their own children. • Social life often centred on the family but social skills are required to build and maintain formal relationships.
Middle adulthood	• Children have often left home, but there are likely to still be strong family relationships. • Social circles may expand through travel, spending more time on hobbies or joining new groups.
Later adulthood	• Retired by this stage and so may enjoy more social time with family and friends or join new groups. • However, later in the life stage people may begin to feel isolated if they struggle to get out or if partners and friends pass away.

Year 10 BTEC Health and Social Care- Component 1: Human Lifespan Development. LAA

What we are learning this term:

E. How do humans develop intellectually (I)?
F. How do humans develop emotionally (E)?
G. How do humans develop socially (S)?

E.	***How do humans develop intellectually (I)?***
Infancy 	
Early childhood 	
Adolescence 	
Early and Middle Adulthood 	
Later adulthood 	

F.	**How do humans develop emotionally (E)?**
Infancy and Early Childhood	**Adolescence and adulthood**

G.	**How do humans develop socially (S)?**
Life Stage	Types of relationships and social development
Infancy	
Early childhood	
Adolescence	
Early adulthood	
Middle adulthood	
Later adulthood	

Year 10 BTEC Health and Social Care- Component 1: Human Lifespan Development. LAA

What we are learning this term:

H. Key words
I. How do physical factors affect development?
J. How does lifestyle affect development?
K. How do social and cultural factors affect development?
L. How do relationships and isolation affect development?
M. How do economic factors affect development?

H	Key words:
Genetic inheritance	Genes the person inherits from their parents
Genetic disorders	Health conditions that are passed on from parent to child through their genes. e.g. cystic fibrosis
Lifestyle Choices	Include the food you eat and how much exercise you do. They also include whether you smoke, drink alcohol or take illegal drugs.
Appearance	The way that someone or something looks
Factor	A circumstance, fact, or influence that contributes to a result
Gender role	The role and responsibilities determined by a person's gender.
Culture	ideas, customs, and social behaviour.
Role models	Someone a person admires and strives to be like.
Social Isolation	Lack of contact with other people
Material possessions	Things that are owned by an individual
Economic	To do with person's wealth and income.

I. How do physical factors affect development?

	Genetic Disorders	Disease and Illness
Physical Development	A person's physical build can affect physical abilities. Inherited diseases may affect strength and stamina needed to take part in exercise.	May affect the rate of growth in infancy and childhood. Could affect the process of puberty. Could cause tiredness and/or mobility problems. Could limit of prevent participation in physical activity.
Intellectual Development	Some genetically inherited diseases may result in missed schooling, or have a direct impact on learning – conditions such as Edward's syndrome impact learning.	School, college, university, work or training could be missed. Memory and concentration could be affected.
Emotional Development	Physical appearance affects how individuals see themselves (self-image), and how others respond to them impacts on their confidence and wellbeing.	May cause worry and/or stress. Individuals may develop negative self-esteem. Could lead to feelings of isolation.
Social Development	Physical characteristics or disease may affect opportunities or confidence in building friendships and becoming independent.	May cause difficulty in having opportunities to socialize with other and build wider relationships.

J. How does lifestyle affect development?

Lifestyle choices include**;** diet, exercise, alcohol, smoking, sexual relationships and illegal drugs, appearance.

Positive lifestyle choices lead to:
- Healthy hair, skin, nails and teeth
- Positive self-image
- Energy and stamina
- Good health
- Emotional security

Negative lifestyle choices lead to:
- Being overweight or underweight
- Lack of energy
- Ill health
- Negative self-image
- Sexually transmitted diseases (STDs)
- Unplanned pregnancy

Our **appearance** includes: body shape, facial features, hair and nails, personal hygiene and our clothing.
Our appearance can affect the way we view ourselves- self-image

Positive self-image:
- Feel good about yourself.
- Healthy hair, skin, nails and teeth
- Big social circle.
- High self-esteem.
- High self-confidence.

Negative self-image
- Low self-esteem
- Low self-confidence
- Can lead to eating disorders e.g. anorexia
- Can lead to anxiety or depression
- Can lead to self-harm
- Negative impact on building relationships- social circle decreases.

Year 10 BTEC Health and Social Care- Component 1: Human Lifespan Development. LAA

What we are learning this term:

H. Key words
I. How do physical factors affect development?
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K. How do social and cultural factors affect development?
L. How do relationships and isolation affect development?
M. How do economic factors affect development?

H	Key words:
Genetic inheritance	
Genetic disorders	
Lifestyle Choices	
Appearance	
Factor	
Gender role	
Culture	
Role models	
Social Isolation	
Material possessions	
Economic	

I. How do physical factors affect development?

	Genetic Disorders	Disease and Illness
Physical Development		
Intellectual Development		
Emotional Development		
Social Development		

J. How does lifestyle affect development?

Lifestyle choices include**;** diet, exercise, alcohol, smoking, sexual relationships and illegal drugs, appearance.

Our **appearance** includes: body shape, facial features, hair and nails, personal hygiene and our clothing.
Our appearance can affect the way we view ourselves- self-image

Year 10 BTEC Health and Social Care- Component 1: Human Lifespan Development. LAA

K How do social and cultural factors affect development

Development can be influenced by the persons **culture or religion** because it affected their:
- **Values**: how they behave
- **Lifestyle choices**: diet, appearance

Positive affects of a persons culture/religion:	Negative affects of a persons culture/religion:
• A sense of security and belonging from sharing the same values and beliefs with others. • Good self-esteem through being accepted and valued by others	• Feeing discriminated against by people who do not share their religion/culture which leads to low self-image • Feeing excluded and isolated because their needs like diet, are not catered for.

Community refers to: local area where people live, school, religious group or hobby clubs. They have common values and goals.

Belonging to a community:	Not belonging to a community:
• Brings sense of belonging essential for emotional development. • Building and maintaining relationships- social development • Feeling of security. • Increases self-image and self-confidence	• Minimal contact with others- isolation • Anxiety leading to depression • Making negative lifestyle choices • Feeling less secure • Difficulty in building relationships • Slow self-image and self-confidence

Traditionally, men and women had distinctive responsibilities and expectations which for their gender called **gender roles**. However, nowadays UK equality legislation stops people being discriminated against because of their gender.

What happens when people face discrimination because of gender:
- They might be excluded from a group
- They may be refused promotion at work
- They may be expected to carry out a particular role
- They may be paid less.

What we are learning this term:

K. How do social and cultural factors affect development?
L. How do relationships and isolation affect development?
M. How do economic factors affect development?

L How do relationships and isolation affect development?

1	In adolescence, young people often argue with parents because they want more independence- negative affect on family relationships- can lead to isolation from them.
2	In later life, older people might need to rely on their children for support. This then has a positive affect on their development because all their need are catered for.
3	Relationships are important because they provide emotional security, contentment and positive self- esteem.
4	The breakdown of personal relationships can have a negative effect on persons PIES development: Low self-esteem, loss of confidence, stress.
5	Isolation can happen when individuals do not have the opportunity of regular contact with others. They have no one to share their feelings, thoughts and worries with resulting in feeling insecure and anxious.
6	Isolation can happen because they live alone, are unemployed or retired, are discriminated against or have an illness or a disability.
7	People have role models- infants learn by copying others, and adolescence base their identity on their role models. Role models can influence how people see themselves compared to others and their lifestyle chices0 can be positive or negative.

M How do economic factors affect development

Having enough money gives individuals and their families feeling of content and security →	Not having enough money causes stress and anxiety.
Having enough money means that the whole family is eating healthy. →	Not having enough money can mean that the family is not about to eat well balanced diet, and this has a negative effect on their physical development

Elderly people rely on state pension to live which is not enough and have to cut down on travel, shopping, bills, therefore it speeds their aging process and lead to health decline.

Living in good housing with open spaces:	Living in a poor housing with cramped and damp conditions:
• Feeling good about themselves • Be more likely to stay healthy, • Space to take exercise • Feel safe ad secure • Warmth	• Have low self-esteem and self-image • Be more likely to experience ill health • Be lesson likely to exercise • Anxious and stressed.

Material possession like a new phone or coat has a positive effect on the persons development because they might have more friends as they look nicer, high self-image. →	Not having a phone or the newest trainers can have a negative affect in the persons self-image and self-esteem. They might feel isolated from others.

Year 10 BTEC Health and Social Care- Component 1: Human Lifespan Development. LAA

What we are learning this term:

K. How do social and cultural factors affect development?
L. How do relationships and isolation affect development?
M. How do economic factors affect development?

K How do social and cultural factors affect development

Development can be influenced by the persons **culture or religion** because it affected their:

- **Values**: how they behave
- **Lifestyle choices**: diet, appearance

Community refers to: local area where people live, school, religious group or hobby clubs. They have common values and goals.

Traditionally, men and women had distinctive responsibilities and expectations which for their gender called **gender roles**. However, nowadays UK equality legislation stops people being discriminated against because of their gender.

L How do relationships and isolation affect development?

1	
2	
3	
4	
5	
6	
7	

M How do economic factors affect development

Year 10 BTEC Health and Social Care- Component 1: Human Lifespan Development. LAB

What we are learning this term:

N. What are life events?
O. How do people deal with life events?
P. How is dealing with life events supported?

N.	What are life events?
Life Events	Life events are expected or unexpected events that can affect development. Examples include starting nursery, getting married or becoming ill.
Expected Life Events	Expected life events are life events that are likely to happen. Examples include starting primary school aged four and secondary school aged 11.
Unexpected Life Events	Unexpected life events are events which are not predictable or likely to happen. Examples could include divorce and bereavement (the death of a loved one).
Physical Events	Physical events are events that make changes to your body, physical health and mobility. Examples include illnesses such as diabetes and injuries and accidents such as car accidents.
Relationship Changes	Relationship changes could be new relationships such as the birth of a sibling, a new friendship or romantic relationship. Relationship changes can also be changes to existing relationships such as divorce.
Life Circumstances	Life circumstances are different situations that arise in our life that we must deal with. Examples include redundancy (losing a job), moving house or retirement (finishing work in later adulthood).

O.	How do people deal with life events?
Individual	• The effects of life events vary from person to person based on how they deal with their new situation. • Some people react to able to react to life events positively, others find it more difficult due to a range of factors.
Factors	• Factors that may affect how people cope with life events: age, other life events happening at the same time, the support they have, their disposition (their mood, attitude and general nature), their self-esteem, their resilience (how quickly they recover).
Adapting	• Adapt – to adjust to new conditions or circumstances. • Expected on unexpected life events can often force people to make changes to their lives. Individuals must find their own way to adapt to the changes that life throws at them.
Resilience	• Resilience – a person's ability to come to terms with, and adapt to, events that happen in life. • Resilience is stronger in people who have a positive outlook on life, accept that change happens, has supportive family and friends and plans for expected life events.
Time	• Sometimes people need a long time to adapt to unexpected life events. • It can take time for people to move on from and accept difficult changes in their life.

P.	How is dealing with life events supported?
Types of Support	**How this helps individuals deal with life events**
Emotional Support	Emotional support is needed to help individuals deal with all life events – expected and unexpected. Having someone to talk to helps people feel secure and adapt to change. Sometimes individuals can find this support in family and friends or professionals to process difficult life events – such as bereavement.
Information and Advice	Life events, particularly unexpected ones, can cause people to feel like they do not know what to do. Information and advice can help people to have a better understanding of their situation, which allows them to deal with it more successfully. Information and advice help them know where to go for help, the choices than are available to them and how to make healthy choices.
Practical Help	• Financial help – an individual may need money to help them adapt to a life change i.e. money to pay for a stair lift if their mobility has been effected. • Childcare – an individual may need support looking after their children i.e. a lone parent after a divorce that needs to go to work. • Transport – an individual may need support with transport if they have mobility problems i.e. a car could be adapted to support a person who has had an accident and can no longer walk.
Informal Support	Informal support is the support an individual receives from partners, family and friends. It is usually the first form of support an individual experiences after and expected or unexpected life event. Informal support can provide reassurance, encouragement, advice, a sense of security, someone to talk through options with and practical help.
Professional Support	Formal support may be provided by statutory care services (the state), private care services and charitable organizations. Professional support may include counsellors, teachers, careers advisers, occupational therapists, social workers and health specialists. Professional support may be needed to help people with a health condition, regain mobility, deal with life changes and emotions, get advice and information or change their lifestyle.
Voluntary Support	Organizations offering voluntary support are charities, community groups and religious groups. At voluntary support services, many staff are volunteers (they work for free), but they also employ qualified people who are paid by donations. Community groups work at a local level to meet the needs of people living in a specific neighbourhood i.e. foodbanks. Religious groups are formed by people who share the same religious or spiritual beliefs but they help all people in need regardless of their beliefs and background i.e. a church run soup kitchen for the homeless.

Year 10 BTEC Health and Social Care- Component 1: Human Lifespan Development. LAB

What we are learning this term:
N. What are life events?
O. How do people deal with life events?
P. How is dealing with life events supported?

N.	What are life events?
Life Events	
Expected Life Events	
Unexpected Life Events	
Physical Events	
Relationship Changes	
Life Circumstances	

O.	How do people deal with life events?
Individual	
Factors	
Adapting	
Resilience	
Time	

P.	How is dealing with life events supported?
Types of Support	**How this helps individuals deal with life events**
Emotional Support	
Information and Advice	
Practical Help	
Informal Support	
Professional Support	
Voluntary Support	

Sentence Stems: Year 10 to Year 13

Listen and Mark

Pay close attention to others and point out important moments.

- I notice you used the word / phrase ___ , which implies ___ .
- When you said ___ , it anchored the idea that ___ .
- Did anyone notice what ___ said about ___ ? This seems important because ___ .

Introduce and Invite

Begin your contribution and encourage others to participate.

- I suggest that ___ because ___ .
- ___ , what is your perspective on ___ , and why?
- We should discuss ___ because ___ .

Challenge and Verify

Disagree and ask others to prove or clarify information.

- You said ___ . How do you know?
- I think you said ___ , which implies that you believe ___ . Is that right?
- I disagree with what you said about ___ because ___ .

Defend and Unpack

Defend your perspective and explain your thought process.

- I understand your perspective on ___ , but have you thought about ___ ?
- I actually think this because ___ . (Furthermore, finally).
- Actually, [evidence] suggests that ___ .

Build and Support

Add to others' ideas and bolster points by giving evidence.

- Your point about ___ implies ___ , and I would like to further this by saying ___ .
- ___ supports the idea that ___ .
- Drawing upon points made by ___ and ___ , we can conclude that ___ because ___ .

Summarise and Map

Draw together big themes and track the discussion.

- Our main findings were ___ .
- On the whole, we believe that ___ .
- Initially, we thought ___ , but we eventually decided ___ .

SWINDON ACADEMY READING CANON

Year 7

- The Canterbury Tales
- War Horse
- Adventures of a Young Naturalist
- A Monster Calls
- The Pearl
- Number the Stars
- The Hunger Games
- Chinese Cinderella
- Sir Gawain and the Green Knight

Year 8

- The Dark Lady
- Trash
- The Diary of a Young Girl
- Ghost Boys
- The Amazing Maurice
- The Bone Sparrow
- Salt to the Sea
- The Giver
- Witch Child

Year 9

- Skin
- I am Malala
- Noughts and Crosses
- Liccle Bit
- Fahrenheit 451
- The Black Flamingo
- One
- Simon vs the Homo Sapiens Agenda
- Long Way Down
- Northern Lights
- The Boy Who Steals Houses
- The Woman in Black
- The Book Thief

Year 10

- The Underground Railroad
- The Curious Incident of the Dog in the Night-Time
- The Hate U Give
- Rani and Sukh
- Pigeon English
- The Boxer
- 1984
- Orangeboy
- The Outsiders
- The Art of Being Normal
- A Selection of Short Stories
- To Kill a Mockingbird

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