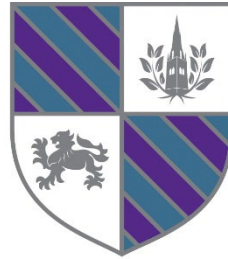


Student Name:



MAGNUS
CHURCH OF ENGLAND
ACADEMY

Knowledge Organiser: November 2025

Year 11

“Wise men and women are always learning, always listening for fresh insights.”
Proverbs 18:15 (The Message)

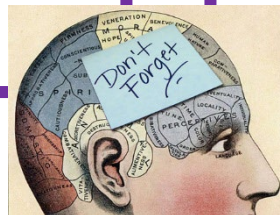
Determination – Integrity – Ambition – Humility – Compassion

Using Your Knowledge Organiser

Your teachers have worked hard to produce this document for you and have selected the most important knowledge that you will need to know to make good progress in their subjects. **You should aim to learn all the information in your knowledge organiser off by heart.**

Try out some of the strategies listed here to help you achieve this.

1. Read the knowledge organiser and ensure you understand it.
Try and make links between the information on it and what you already know and do.
2. Look, Cover, Write, Check – the traditional way of learning spellings!
3. Create a Mnemonic – Using the first letters of keywords create a memorable sentence or phrase.
4. Create an acronym – using the first letters of keywords to create a word to prompt you to remember all of the information.
5. Write it out in full on a blank version of the same format.
6. Write it out in note form, reducing it to key ideas or words. Try the same format but a smaller piece of paper.
7. Recreate the knowledge organiser as a series of images and words
8. Write a set of test questions for yourself using the organiser.
 - Answer these without the organiser the next day.
 - Swap your questions with a friend to increase challenge.
 - Turn your questions in to a game by putting them on cards and playing with friends.
9. Chunk the knowledge into smaller bitesize sections of around 5 pieces of information. Concentrate on mastering a chunk before you start on the next.
10. Try to make connections between the information and people you know. E.g. Visualise yourself trying these strategies with a specific teaching group.
11. Talk about the information on the knowledge organiser with another person. Teaching someone else about it helps us learn it.
12. Say the information out loud – rehearse it like learning lines for a play, or sing it as if you are in a musical!



Year 11 — Component 1 English Language

Box 1 Vocabulary: Character Traits– Jonathan and Frances

Term	Definition
Judgmental	Having or displaying an overly critical point of view.
Self-righteous	Having or characterized by a certainty, especially an unfounded one, that one is totally correct or morally superior.
Impatient	Having or showing a tendency to be quickly irritated or provoked; restlessly eager; intolerant.
Unsympathetic	Not feeling, showing, or expressing sympathy; uncaring; cold.
Demanding	Making others work hard or meet high standards; not easily satisfied; severe.
Sarcastic	Marked by or given to using irony in order to mock or convey contempt; derisive.
Vulnerable	Exposed to the possibility of being harmed (physically or emotionally).
Emotional	Having feelings that are easily excited and openly displayed; sensitive.
Disillusioned	Disappointed in someone or something that one discovers to be not as good as one had believed.
Pride	A feeling of deep pleasure or satisfaction derived from one's own achievements, the achievements of those with whom one is closely associated, or from qualities or possessions that are widely admired.
Insensitive	Showing or feeling no concern for others' feelings; blasé.
Takes advantage of/ exploits	Uses for one's own benefit; uses.

Box 2 Vocabulary: Character Traits: Ruby Lennox

Term	Definition
Attentive	Pays close attention to something; concentrating.
Loner	A person that prefers not to associate with others;
Detached	Separate or disconnected; isolated.
Considerate	Careful not to inconvenience or harm others; caring;
Sensitive	Having or displaying a quick and delicate apprecia-

Box 3: Varying Sentence Starts:

Narrative/

Fiction Writing (C1):

- ☐ **When it happened,**
- ☐ **Where it happened,**
- ☐ **Adverb start,**
- ☐ **Pair of pairs,**
- ☐ **With a +action,**
- ☐ **Verb start,**
- ☐ **Simile start,**
- ☐ **No..... No.... No....., only....**
- ☐ **It wasn't just....., it was.....,**
- ☐ **Adjective start,**
- ☐ **So, so, so:**
- ☐ **Show three: tell one,**
- ☐ **Triple adjective: ...**

Year 11 — English Literature Paper 1 Revision

A Christmas Carol, Charles Dickens		Conflict Poetry	
'Hard and sharp as flint [...] as solitary as an oyster'	The adjectives 'hard' and 'sharp' imply Scrooge has a tough exterior, but the simile 'as flint' suggests if hit hard enough it could spark a fire inside to create change. The simile comparing him to an oyster emphasises this by focusing on a hard exterior that if cracked open, may hold a pearl (something of beauty).	<i>Exposure</i>	'but nothing happens' <i>Repeated at the end of every stanza. Could show frustration that the war continues or that the soldiers are waiting, or that men are left to die of exposure.</i> <i>'merciless iced east winds that knife us' Personification of the wind as relentless and constant. The verb 'knife' makes the wind sound stabbing and lethal.</i>
'If they would rather die, they had better do it, and decrease the surplus population'	Scrooge shows his callous, selfish attitude towards the poor by viewing them as better off dead and simply a 'surplus', viewing them in monetary terms as opposed to human beings.	<i>The Prelude</i>	'small circles glittering idly in the moon' <i>The patterns in the water as he rows. A sense of peace, beauty and serenity. 'Idly' and 'small' suggest calm and tranquillity. 'Glittering' creates a sense of magic.</i> <i>'huge peak black and huge' A total contrast to how the natural world was perceived earlier. He's lost for words, or overwhelmed – repetition x 2 'huge'. 'Black' makes it seem looming, sinister.</i>
'I wear the chain I forged in life...The chain was made up of cash boxes...ledgers...heavy purses'	Marley's Ghost tells Scrooge that unless he changes he will have a chain holding him to the earth, forged by his sins 'boxes, ledgers, purses' (money). This is used to scare Scrooge and make him realise where his sins lie.	<i>Poppies</i>	'leaned against it like a wishbone' <i>Wishing to be reunited with her child. Leaning against the memorial as if tired or grieving.</i> <i>'intoxicated' Drunk with excitement at an adventure (to war?) contrasts to the mother's difficulty in letting go. Youth vs experience/ naivety vs experience.</i>
'A solitary child, neglected by his friends is left there still – Scrooge sobbed'	The Ghost of Christmas Past shows Scrooge his time as a child at school, and Scrooge shows a moment of emotion. The reader is given a reason to sympathise with Scrooge, and Scrooge is given a reminder of who he was and how he felt.	<i>Half-Caste</i>	'explain yusef wha yu mean' <i>Deliberate misspellings to convey the sound of a Caribbean accent. Pride in ethnicity, culture. Anger, demanding an explanation for the racist language 'half caste'.</i> <i>'de whole o yu eye an de whole o yu ear an de whole o yu mind' A playful command for people to be more open minded. The irony is that people who use the term 'half caste' are themselves only 'half' aware.</i>
'They are Man's. This boy is ignorance. This girl is Want. Beware for I see that written which is Doom.'	Dickens explains that Mankind's ignorance and want has poisoned them, and that ignorance especially will cause 'Doom'. This summarises his message to the upper class, that their ignorance will lead to the death of people and ultimately society.	<i>A Poison Tree</i>	'my wrath did grow' <i>Wrath = extreme anger, the strong emotion grows even bigger as the speaker 'waters' it with their 'fears' an example of the extended metaphor of negative feelings as a tree that we can choose to nurture. Free will, choices, conflict in relationships.</i> <i>'apple bright' links to Biblical imagery (Eve ate the apple, Original Sin and temptation)</i>
'It was shrouded in a deep black garment... left nothing visible except one outstretched hand.'	The Ghost of Christmas Yet to Come does not speak to Scrooge, as Scrooge must decide to change by himself and without guidance. He is dressed as the Grim Reaper to emphasise that ultimately Scrooge will end up dead and without mourners if he does not change.	<i>The Destruction of Sennacherib</i>	'like a wolf on the fold' <i>The Assyrian is described as a predator in this simile, rhymes with the next line 'gleaming purple and gold' to create a rhyming couplet; a pattern which is repeated throughout – beat like horse hooves</i>
'I will honour Christmas in my heart. I will live in the Past, the Present and the Future. I will not shut out the lessons that they teach'	By Stave 5, Scrooge is a changed man and promises to keep the lessons of all three Ghosts in his heart. The repetition of 'I will' shows that he has changed and that he now has a more positive and charitable attitude in life.	<i>The Man He Killed</i>	'quaint and curious war is!' <i>unusual choice of words to describe war, ironic, shows how strange it is to shoot someone you would be friends with if there wasn't a war on. Similarities between the young men are greater than their artificial differences.</i> <i>'because – because he was my foe // Just so' a critical view of war and conflict, deceptively simple showing up the concept of 'foes' and 'enemies' as ridiculous</i>

Conflict Poetry	
<i>The Charge of the Light Brigade</i>	'the six hundred' <i>repeated to show how many soldiers died, glorifying conflict and personal sacrifice</i> <i>'volley'd and thunder'd ' the movement and sounds of the cannon balls, contracted to fit the anapaestic tetrameter (horse hoof beat)</i>
<i>War Photograph her</i>	'arbitrary as a blood stain on a wall' <i>arbitrary = can mean whimsical, by chance OR tyrannical, absolute and domineering. The war photographer has seen terrible things and knows the photographs don't tell the full story just like a blood stain. Shadows of conflict.</i> <i>'I took a pair of peach, sun-gilded girls' took shows the power of a photographer to create meaning to choose what to show and what not to show. Contrast between the subjects she photographs.</i>
<i>Belfast Confetti</i>	'It's raining exclamation marks' <i>Carson uses punctuation as a metaphor for how conflict and violence not only physically damages a population but mentally affects it.</i> <i>'where am I coming from? Where am I going? A fusillade of question marks' Punctuation used to represent bomb explosions throughout the poem. Links between language and conflict. A sense of confusion and loss of identity caused by conflict.</i>
<i>The Class Game</i>	'well, Mate' <i>colloquial language, sarcastic in tone but also pride in working class dialects.</i> <i>'cos we live in a corpy' Liverpool dialect word for council house (corporation)</i>
<i>No Problem</i>	'I am not de problem' <i>Caribbean dialect, proud of 'non Standard English' ways of speaking, identity and accent are linked.</i> <i>'sum of me best friends are white' a play on a racist expression that some white people use to show affinity with black people's fight for equality. A playful take on a very serious matter – humour is powerful.</i>

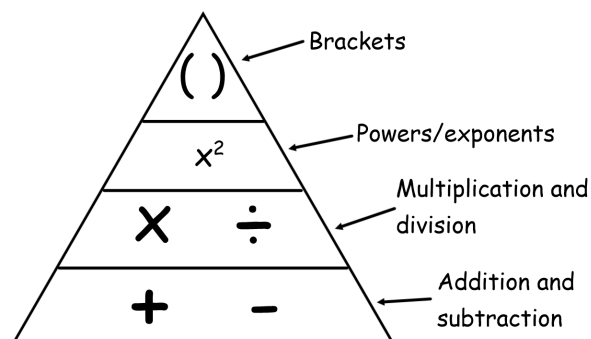
Year 11 — English Literature ‘Conflict Poetry’

Key Vocabulary

Charge of the Light Brigade	Brigade —military unit (or group of people) Sabres —swords	Dismayed —upset Plunged —Steeplly dropped	Blundered —made a mistake Sundered —torn away
The Man He Killed	Ancient —very old Foe —enemy	Nipperkin — a half-pint Quaint —attractively old-fashioned	Infantry —a branch of an army made up of soldiers Half-a-crown —old british coin
Poppies	Armistice —peace agreement with Spasms —extreme pains/muscle jerks with fruits Rounded up —collected/gathered together Intoxicated —drunk	Graves —places where bodies are buried Blockade —something that prevents access to and from a place Impulse —sudden desire Skirting —avoiding/going around the edge	Crimped —folded/interfered Blackthorns —bushes Ornamental —pretty Reinforcements —additional things that strength or add support Inscriptions —written sayings
The Prelude	Unloosed —released/gave/given Craggy —rough and rocky Lustily — energetically (with sex on the mind) Stature —height Mooring —anchoring	Glittering —shining and twinkling Utmost —extreme Heaving —lifting up Strode —walked Solitude —quiet aloneness	Idly —in a lazy way Boundary —Edge/border Instinct —gut feeling Covert —secret Spectacle —sight to see
The Destruction of Sennacherib	Cohorts —associates/groups of people On the morrow —on the next day Distorted —twisted/lied about	Gleaming —shining Heaved —lifted up/threw Lances —knives	Sheen —shine Steed —horse Wail —loud cry Gentile —non-Jewish person
A Poison Tree	Wrath —anger Deceitful —dishonest	Wiles —tricks Beheld —looked/saw	
Catrin	Fierce —strong Rosy —wonderful	Confrontation —argument Defiant —angry and uncooperative	Environmental —relating to surrounding conditions Glare — angry
Cousin Kate	Cottage —house Mindful —aware/careful Shameless —without shame Howl —yell	Maiden —young unmarried woman Flaxen —pale yellow Pure —total/totally/nothing else mixed in Writ —official written order	Contented —satisfied and happy Lured —attracted Thereof —of that/of it Outcast —person who is disliked Fret —worry

English Literature Paper 1

How long is it?	1 hour, 45 minutes.
How many questions are there?	You have to answer two questions on Macbeth (1 hour) and one question on An Inspector Calls (45 minutes).
How do I answer 1(a) Macbeth? This is an extract question.	Read the question carefully, find the key words. Highlight/underline at least three different quotations you can explore that help answer the question. Be clear in your answer that you know when the extract is from in the text. Write at least three analytical paragraphs, using quotations in each one. WHAT HOW WHY Ensure that you unpick the language of each quote to further your analysis.
How do I answer 1(b) Macbeth? This is an essay question.	Read the question carefully, find the key words. Make a quick bullet point plan of moments in the play you can write about linked with the question, for example a question about Guilt will reference the moment in Act 2 when Macbeth returns from killing Duncan. Remember you cannot use the scene from the extract in this question. Write at least three analytical paragraphs, (WHAT, HOW, WHY) referencing different moments in the play. You don't need to use quotes here, you can just talk about the moment in the play. In your analytical paragraphs, you must discuss how the play links with the context (great chain of being, supernatural, James I, patriarchal society etc.)
How do I answer 7 or 8 An Inspector Calls? This is an essay question.	Read the question carefully, find the key words. Make a quick bullet point plan of moments in the play you can write about linked with the question, Write your introduction, ensuring you write about the context of the play in detail before linking it to the question. Write at least five analytical paragraphs (WHAT, HOW, WHY), referencing different moments in the play. You don't need to use quotes here, you can just talk about the moment in the play. In your analytical paragraphs, you must discuss how the play links with the context in detail (socialism, capitalism, younger generation v older generation, patriarchal systems)

Order of Operations**Inverse Operations**

$$+ \longleftrightarrow -$$

$$\times \longleftrightarrow \div$$

$$\square^2 \longleftrightarrow \sqrt{\square}$$

$$\square^3 \longleftrightarrow \sqrt[3]{\square}$$

Multiplying Integers

If the signs are the same, the result is positive.

$$+ \times + = + \quad - \times - = +$$

$$+ \times - = - \quad - \times + = -$$

Adding Negative Numbers

$+ \text{ add } +$	Add the numbers; end result is a positive E.g. $3 + 5 = 8$
$+ \text{ add } -$	Find the difference between the numbers; end result takes the sign of the number with largest magnitude. E.g. $3 + -5 = -2$
$- \text{ add } -$	Add the integers; end result is a negative $-3 + -5 = -8$

Square Numbers

$$1 \times 1 \text{ or } 1^2 = 1$$

$$2 \times 2 \text{ or } 2^2 = 4$$

$$3 \times 3 \text{ or } 3^2 = 9$$

$$4 \times 4 \text{ or } 4^2 = 16$$

$$5 \times 5 \text{ or } 5^2 = 25$$

$$6 \times 6 \text{ or } 6^2 = 36$$

$$7 \times 7 \text{ or } 7^2 = 49$$

$$8 \times 8 \text{ or } 8^2 = 64$$

$$9 \times 9 \text{ or } 9^2 = 81$$

$$10 \times 10 \text{ or } 10^2 = 100$$

$$11 \times 11 \text{ or } 11^2 = 121$$

$$12 \times 12 \text{ or } 12^2 = 144$$

Cube Numbers

$$1^3 = 1 \times 1 \times 1 = 1$$

$$2^3 = 2 \times 2 \times 2 = 8$$

$$3^3 = 3 \times 3 \times 3 = 27$$

$$4^3 = 4 \times 4 \times 4 = 64$$

$$5^3 = 5 \times 5 \times 5 = 125$$

Column Addition

$$\begin{array}{r} 1 \\ 29 \\ + 35 \\ \hline 64 \end{array}$$

9+5=14
14 is more than 10!

Column Subtraction

$$\begin{array}{r} 5 \cancel{6} \cancel{4} \\ - 27 \\ \hline 37 \end{array}$$

(10+4=14)

Written methods**Multiplication (Grid method)**

$$26 \times 5$$

$\times$	20	6
5	100	30

The 26 is broken into 20 and 6. These numbers are multiplied as shown.

The results are then added, $100 + 30 = 130$.

Division (Bus stop)

$$186 \div 6$$

$$\begin{array}{r} 0 \ 3 \ 1 \\ 6 \overline{) 1 \ 8 \ 6} \end{array}$$

6 doesn't divide into 1, so the 1 carries.

6 divides into 18, 3 times.

6 divides into 6, once.

Rounding (to different degrees of accuracy)

*** 5 and above rounds up ***

$$24.356$$
 To the nearest integer (whole number)

$$24$$

$$24.356$$
 To 3 significant figures (starting at first non-zero digit)

$$24.4$$

$$24.356$$
 To 2 decimal places (digits after the decimal point)

$$24.36$$

Draw in your line then check the number to the right

Algebra can be seen in many forms. The ones you will see most often are in an equation, expression, inequality and identity

Expression: $x + 3$

An expression is made up of terms and never has an equals sign

Equation: $x + 3 = 4$

An equation always has an equals sign

Inequality: $x + 3 < 4$

An inequality has either a $<$, $>$, $\leq$ or $\geq$ sign

Identity: $2x \equiv x + x$

The two sides are always equal no matter the value of x

Inverse Operations

A pair of inverse operations are when two operations performed on a number (or variable), results in the original number (or variable)

+	←→	-
$\times$	←→	$\div$
a^2	←→	$\sqrt{a}$
a^3	←→	$\sqrt[3]{a}$

Subject Terminology

Term	A term is either a single number or variable, or numbers and variables multiplied together.
Co-efficient	A number used to multiply a variable.
Simplify	Collect like terms (with same variable) to make an expression or equation simpler
Solve	To find a value (or values) we can put in place of a variable that makes the equation true.
Substitute	To replace variables with given values
Form	To represent problems algebraically
Expand	Multiply each term inside brackets by terms on the outside of the brackets.
Factorise	Factorising is the inverse of expanding brackets by finding what to multiply to get an expression.

Expanding and Simplifying Double brackets

To expand two binomials, we multiply each term by both terms in the other bracket

Expand $(a + b)(c + d)$

Example: Expand $(a + 2)(a - 3)$

$\times$	a	$+2$
a	a^2	$2a$
-3	$-3a$	-6

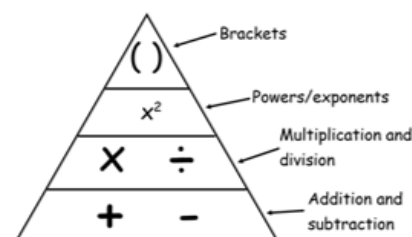
$$ac + bc + ad + bd$$

$$a^2 - a - 6$$

Expanding and Factorising

$$3(x + 2) \Rightarrow 3 \begin{array}{|c|c|} \hline x & +2 \\ \hline \end{array} \Rightarrow 3x + 6$$

Order of Operations



Solving equations

$$\begin{array}{l} 4x + 7 = 31 \\ -7 \quad \quad \quad -7 \\ \hline 4x = 24 \\ \div 4 \quad \quad \quad \div 4 \\ \hline x = 6 \end{array}$$

Subject terminology	
Indices	Another name for powers, these can be positive, negative, integer or fractional.
Algebraic Fractions	Fractions which involve variables, either to solve or simplify
Re-arrange	Change the subject of an equation
Equations	A process which has an equal sign, used for solving
Simultaneous Equations	Two equations with two different variables, both of which can be solved
Elimination (simultaneous equations)	When there is a common term in both equations, these can be cancelled out
Substitution (simultaneous equations)	When there is a common variable in both equations, one can be substituted into the other
Variable	The letter which is used in algebra

General rule: $a^m \times a^n = a^{m+n}$

$2^5 \times 2^7 = 2^{5+7} = 2^{12}$ $x^3 \times x^8 = x^{3+8} = x^{11}$ **Key Fact**

General rule: $a^m \div a^n = a^{m-n}$ **Remember:**

$2^{14} \div 2^7 = 2^{14-7} = 2^7$ $x^{10} \div x^8 = x^{10-8} = x^2$ $p = p^1$

General rule: $(a^m)^n = a^{m \times n}$ $p^0 = 1$

$(5^4)^2 = 5^{4 \times 2} = 5^8$ $(4h^9)^3 = 4^3 \times h^{9 \times 3} = 64h^{27}$

Negative indices: A negative power performs the reciprocal

General rule: $a^{-m} = \frac{1}{a^m}$

$3^{-1} = \frac{1}{3}$ $\left(\frac{3}{4}\right)^{-1} = \frac{4}{3}$ $7^{-2} = \frac{1}{7^2} = \frac{1}{49}$ $2^{-3} = \frac{1}{2^3} = \frac{1}{8}$

Fractional indices: The denominator of a fractional power acts as a root. The numerator acts as a normal power.

General rule: $a^{\frac{m}{n}} = (\sqrt[n]{a})^m$

$27^{\frac{2}{3}} = (\sqrt[3]{27})^2 = 3^2 = 9$ $\left(\frac{25}{16}\right)^{\frac{3}{2}} = \left(\frac{\sqrt{25}}{\sqrt{16}}\right)^3 = \left(\frac{5}{4}\right)^3 = \frac{125}{64}$

Simultaneous Equations
Solving through elimination $\begin{array}{r} 3x + 8y = 23 \\ \times 3 \quad \quad \quad \times 3 \\ \hline x + 2y = 7 \\ \times 3 \quad \quad \quad \times 3 \\ \hline 3x + 6y = 21 \end{array}$ ★ $2y = 2$ $y = 1$ ★ $3x + 6(1) = 21$ $3x + 6 = 21$ $3x = 15$ $x = 5$
Solving through substitution ① $3x + 2y = 21$ ② $y = x + 3$ A) Substitute y and solve to find x. ① $3x + 2(x + 3) = 21$ $3x + (2x + 6) = 21$ $5x + 6 = 21$ $5x = 15$ $x = 3$ B) Input x to find y. ② $y = (3) + 3$ $y = 6$

Adding algebraic fractions

To add algebraic fractions

- 1) Find the common denominator of the fractions
- 2) Cross multiply and write as a single fraction
- 3) Expand and simplify any brackets

Example: $\frac{4}{x+3} + \frac{5}{x-2}$

$$\frac{4}{x+3} + \frac{5}{x-2} = \frac{4(x-2) + 5(x+3)}{(x+3)(x-2)}$$

Find a common denominator.

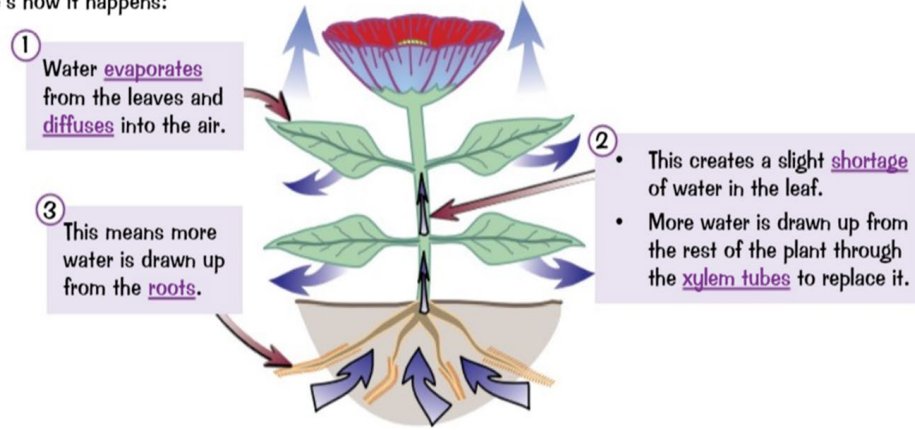
$$= \frac{4x - 8 + 5x + 15}{(x+3)(x-2)}$$

Write as a single fraction straight away.

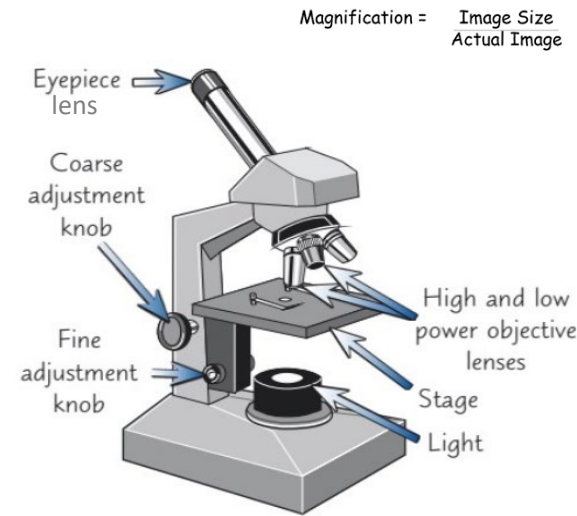
$$= \frac{9x + 7}{(x+3)(x-2)}$$

Transpiration is the Loss of Water from the Plant

- 1) Transpiration is caused by evaporation and diffusion of water from a plant's surface (mainly the leaves).
- 2) Here's how it happens:

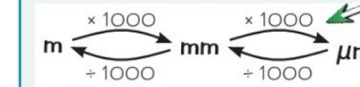


- 3) There's a constant stream of water through the plant. This is called the transpiration stream.

Microscopes core knowledge**Using a microscope method**

1. Clip the slide to the stage
2. Start with the lowest magnification objective lens
3. Twist the coarse adjustment knob to move the stage up to just below the lens
4. Move the stage down until the image is in focus
5. Move the fine adjustment knob to get a clear image

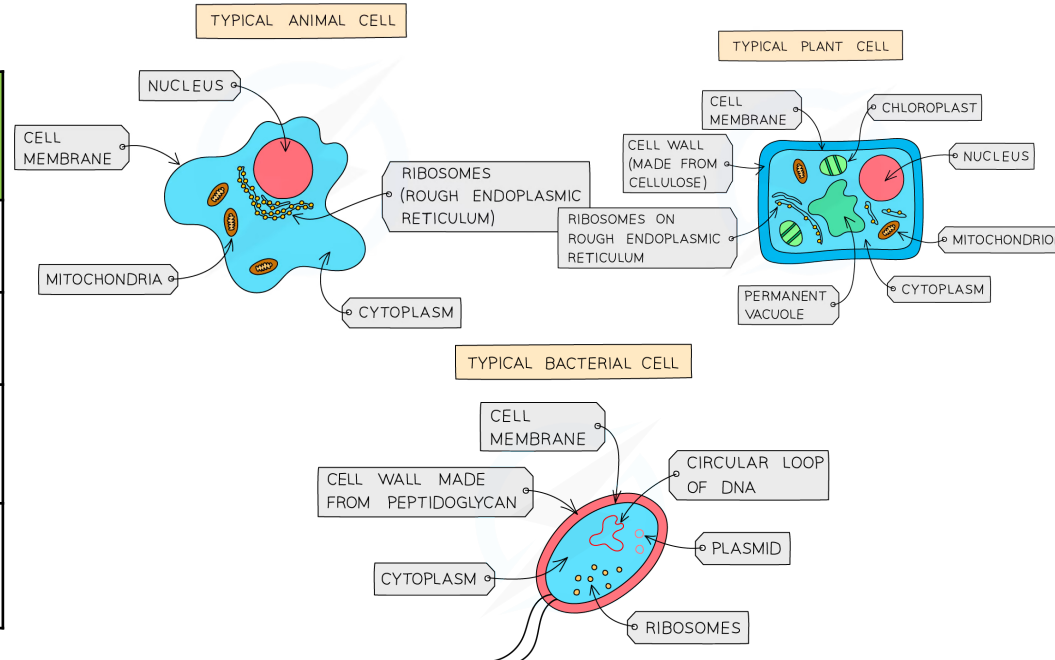
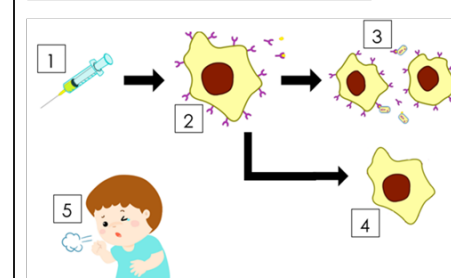
Length can have lots of units, including m, mm, and μm .



MULTIPLY to go from a bigger unit to a smaller unit.

Subject Terminology

Key Word	Definition
Resolution	The ability to distinguish between 2 points on a picture
Transpiration	The evaporation of water from a leaf through the stomata
Communicable disease	A disease that can be transmitted from person to person
Vaccine	A dead or inactive pathogen used in vaccination to develop immunity to a disease

**How a vaccination works****1. Vaccination given**

Injected with a small amount of dead or inactive pathogen

2. Antibodies produced

White blood cells produce antibodies to attack antigens

3. Attract more white blood cells

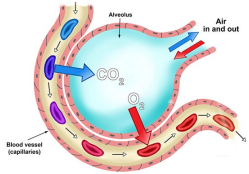
More white blood cells produce antibodies

4. Memory cells

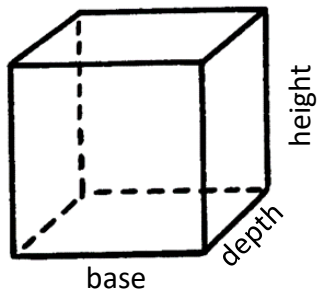
These cells stay in the blood in case we are infected in the future. Infection with same pathogen later on

5. White blood cells can quickly respond and produce antibodies to kill pathogens

Exchange surfaces and specialised cells

Specialised cell / exchange surface	Function	Adaptations
Alveoli 	Gas exchange in the lungs. Oxygen moves into the blood and carbon dioxide moves out	Large surface area Short diffusion pathway Steep diffusion gradient
Root hair cells 	To absorb water and minerals from the soil in plants	Large surface area Short diffusion pathway Steep diffusion gradient

Surface area to volume ration of a cube



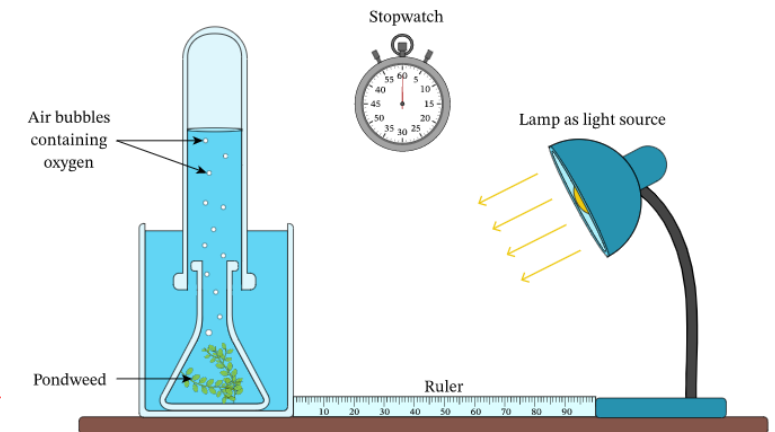
1. Calculate the surface area of 1 side of the cube by using base x height
2. A cube has 6 sides so to calculate the total surface area x the surface area of one side by 6.
3. Calculate the volume of the cube by doing base x height x width
4. Now divide surface area by the volume to get the ratio

Subject Terminology

Key Word	Definition
Photosynthesis	The process by which plants make glucose using carbon dioxide and water and energy from light
Limiting factor	Anything that slows down the rate of photosynthesis
Diffusion	The movement of particles from an area of high to low concentration
Alveoli	Tiny air sacs found in lungs that maximise the rate of gas exchange

Photosynthesis key practical

1. Set up a test tube rack containing a boiling tube at a distance of **10 cm** away from the light source
2. Fill the boiling tube with the sodium **hydrogen carbonate solution**.
3. Place the piece of **pondweed** into the boiling tube with the cut end uppermost. Gently push the pondweed down with the glass rod.
4. Leave the boiling tube for 5 minutes.
5. Start the stop watch and count the **number of bubbles produced in one minute**
6. Record the results in a table
7. **Repeat** the count twice more so that the mean number of bubbles per minute can be calculated.
8. Move the test tube rack to a distance of **20 cm from the light** source and repeat steps 4–6.
9. Repeat using distances of **30 cm and 40 cm** between the test tube rack and the light source.



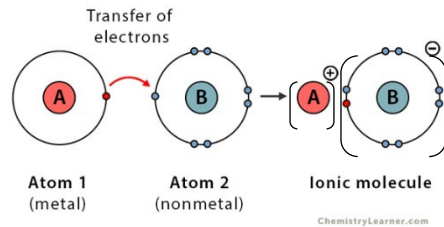
Independent variable = Light intensity

Dependent variable = Number of bubbles per minute

Control variables = Temperature (L.E.D), concentration of sodium hydrogen carbonate solution, same pondweed cutting

Bonding

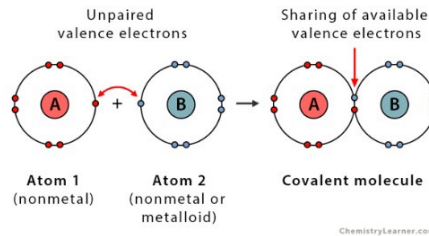
Ionic Bond



The **metal** atom will lose an electron and become a positively charged ion the **non metal** will gain the electron and become a negatively charged ion.

An ionic bond is the strong electrostatic force of attraction between oppositely charged ions.

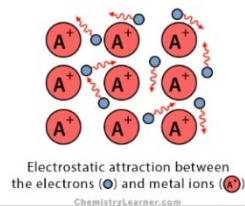
Covalent Bond



Two or more non metal atoms will share electrons to fill their outer shell.

A covalent bond is the strong force of attraction between the nuclei of two atoms that are sharing one or more pairs of electrons

Metallic Bond



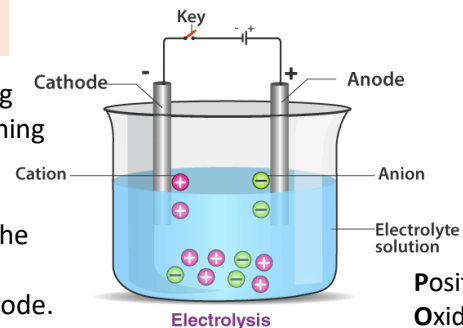
Metals need to lose electrons to become stable. If there are only metal atoms around the electrons have nowhere to go and become delocalised – they are free to move from ion to ion.

A metallic bond is the strong electrostatic forces of attraction between delocalised electrons and metal ions.

Electrolysis

Electrolysis is the breaking down a substance containing ions using electricity.

When a charge is set up the ions will move to the oppositely charged electrode.



Electrolysis will only work if an electrolyte is used. An electrolyte is the molten or dissolved substance that contains ions that can carry charge.

**Positive Anode Negative Is Cathode
Oxidation Is Loss Reduction Is Gain**

Subject Terminology

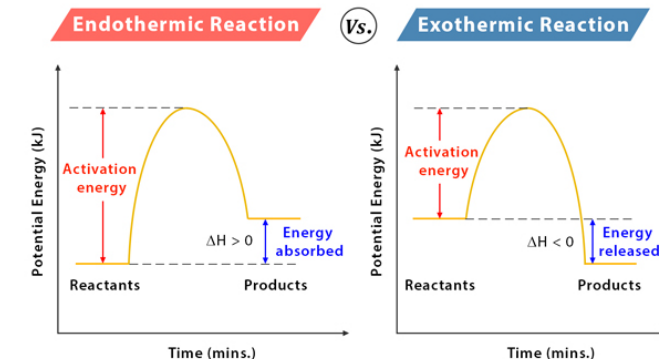
Key Word	Definition
Intermolecular forces	Weak forces of attraction between covalent molecules.
Electrostatic attraction	Forces of attractions between oppositely charged ions in a giant ionic lattice.
Atomic Mass	The number of protons and neutrons in the nucleus of an atom
Activation energy	The minimum amount of energy required to start a reaction
Overall energy change	The difference in the energy of the reactants and products in a reaction

Energy Changes

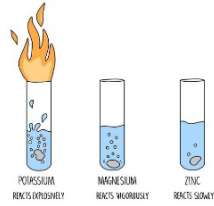
Exothermic reactions release heat energy into the surroundings. The energy in the bonds in the products have less energy than the bonds in the reactants.

Endothermic reactions takes in heat from the surroundings. The energy in the bonds in the products have more energy than the bonds in the reactants.

Endothermic and Exothermic Reactions Energy Graph



Reactivity



↑ increasing reactivity

potassium
sodium
calcium
magnesium
aluminium
carbon
zinc
iron
tin
lead
hydrogen
copper
silver
gold
platinum

More reactive than
carbon
Extracted by electrolysis

Less reactive than
carbon
Extracted by reduction

Very unreactive
Found in their native
state

The reactivity series allows us to predict how metals will react.

A more reactive metal will displace a less reactive metal from a compound.

Oxidation is the loss of **electrons** from a substance. It is also the gain of oxygen by a substance.

Reduction is the gain of electrons by a substance. It is also the loss of oxygen from a substance.

Subject Terminology

Key Word	Definition
Acid	A substance that when dissolved in water it has a pH of less than 7 and release H ⁺ ions.
Alkali	A substance that when dissolved in water it has a pH of more than 7 and release OH ⁻ ions.
Base	A substance that can neutralise acids, they can be soluble (alkali) or insoluble.
Salt	A compound formed when some or all of the hydrogen in an acid is replaced by a metal.

Periodic Table – Group 1, 7, 0

Properties as you go DOWN Group 1, 7 and 0.

Group 1	Group 7	Group 0
Reactivity increases	Reactivity decreases	Unreactive
Melting and Boiling points get lower	Melting and Boiling points get higher	Boiling point gets higher
Relative atomic mass goes up	Relative atomic mass goes up	Relative atomic mass goes up

Group 1 Elements

- 1 electron in the outer shell. This makes them very reactive.
- Easily lose one electron in outer shell to form a full outer shell.
- They form positive ions.
- They're soft.
- They have a low density.

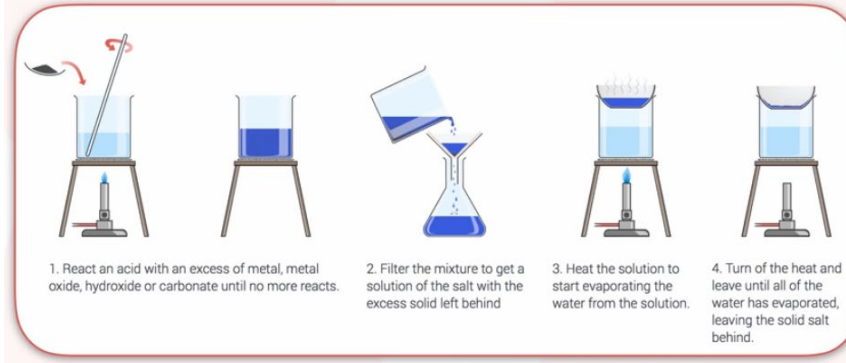
Group 7 Elements

- Also called the halogens.
- As elements they form molecules that contain two atoms.
- E.g. Cl₂ is chlorine

Group 0 Elements

- Also called the noble gases.
- Colourless gases at room temperature.
- All have 8 electrons in the outer shell, apart from Helium which has 2 - stable full outer shell.
- Unreactive.

Making Salts required practical



Identify the variables

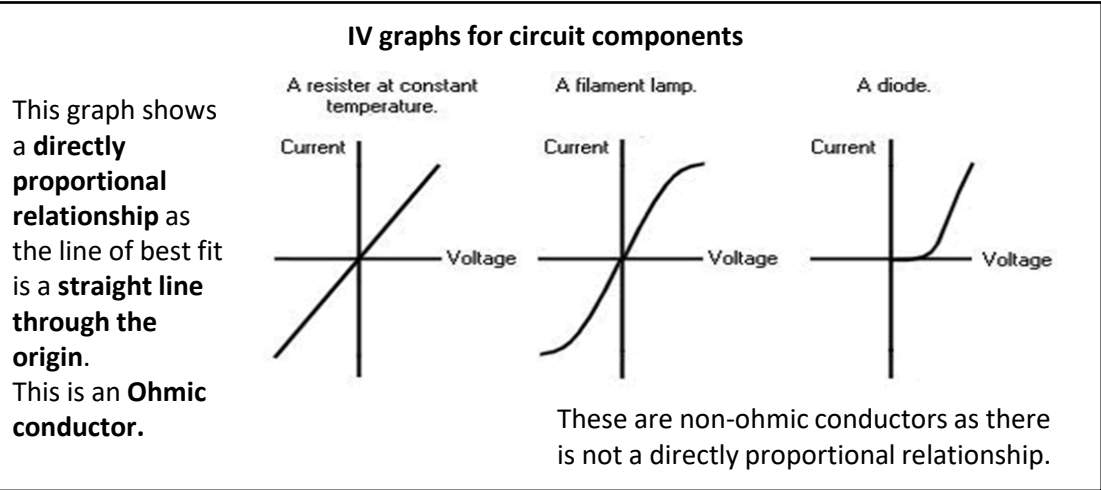
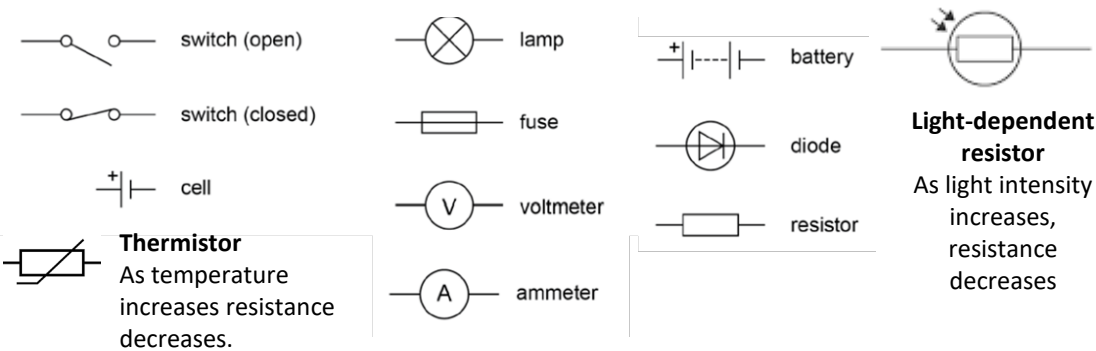
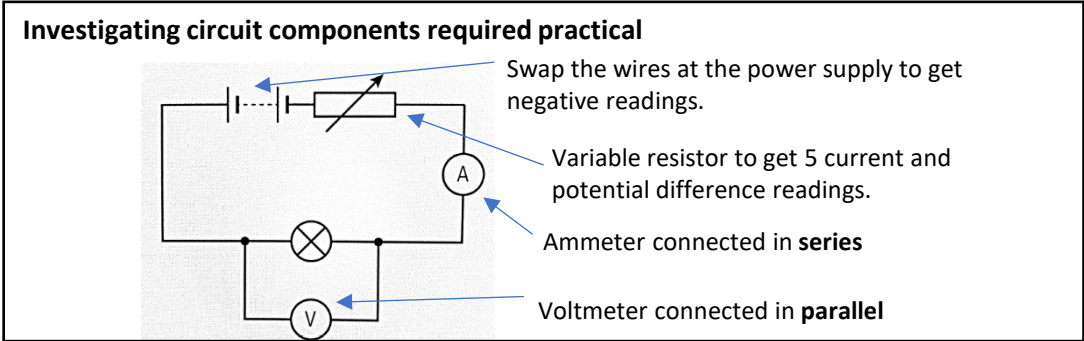
Independent variable – the variable that is changed during a scientific experiment when you carry out a repeat.

Dependent variable – the variable being tested or measured during a scientific experiment.

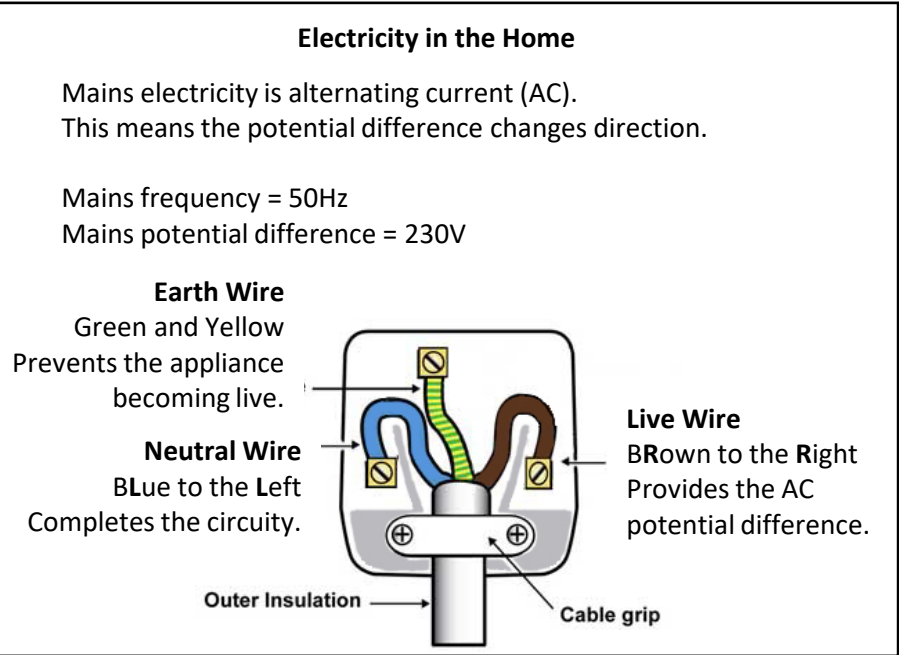
Control variable – a variable that is kept the same during a scientific experiment. Any change in a controlled variable would invalidate the results.



Electricity



Equations to learn	
Symbol equation	Word equation
$P = I V$	Power = current x potential difference
$P = I^2 R$	Power = current ² x resistance
$Q = I t$	Charge flow = current x time
$E = P t$	Energy = power x time
	Efficiency = $\frac{\text{useful energy output}}{\text{total energy input}}$
$V = I R$	Potential difference = current x resistance
$E = Q V$	Energy = charge flow x potential difference
$E_p = m g h$	Gravitational potential energy = mass x gravitational field strength x change in height

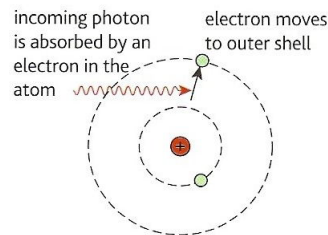
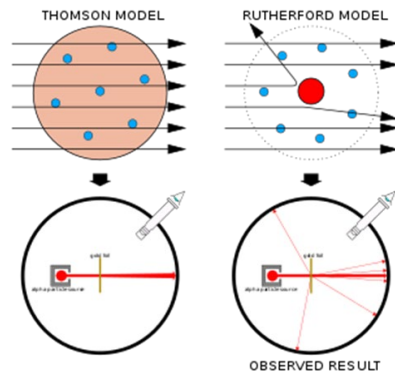


Radioactivity

	Structure	Ionising Power	Stopped by
Alpha	2 protons 2 neutrons	Strong	Paper, skin
Beta	Fast moving electron	Moderate	A few mm of aluminium
Gamma	Electromagnetic wave	Weak	Thick lead or concrete

Rutherford's alpha scattering experimentDisproved the plum pudding model

- Alpha particles were fired at very thin gold foil
- They expected the alpha particles to pass straight through because the positive charge was evenly distributed through the atom.
- The actual result was that most went through the gold foil but some alpha particles were partially deflected, some particles bounced straight back.
- They decided there must be something dense and positive in the centre of the atom (the nucleus)

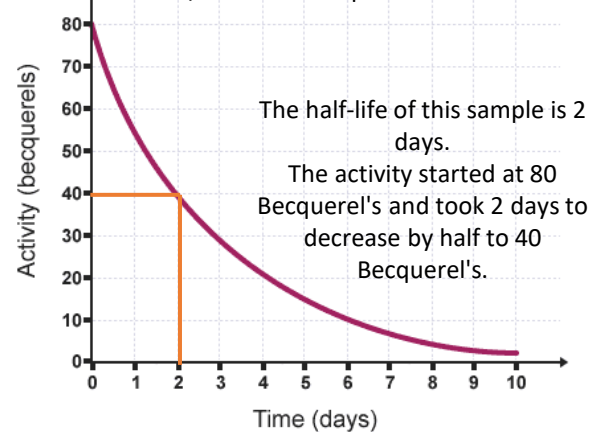
**Ionisation vs Excitation**

Excitation: an electron absorbs energy and moves to a higher energy level.

Ionisation: an electron is removed from the atom.

Half-life

The time it takes for the activity/count rate/mass of a sample to halve.

**Energy stores**

- Gravitational potential energy – stored in objects raised off the Earth's surface (due to their position on Earth)
- Kinetic energy – stored in a moving object
- Thermal energy – stored in hot objects
- Chemical energy – stored in fuel, batteries, foods
- Elastic potential energy – stored in objects that are stretched or squashed

Energy transfers

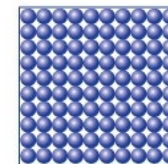
- Mechanical – when an object is moved by a force
- Sound } By radiation/waves
- Light }
- Electrical • By heating

Subject Terminology

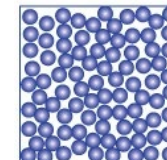
<u>Key Word</u>	<u>Definition</u>
Repeatability	Measurements are repeatable when repeated by the same person, using the same method and give similar results.
Reproducibility	Measurements are reproducible if similar results are obtained by different investigators with different equipment.
Zero error	Caused when equipment is not set to zero
Random error	Results vary in unpredictable ways, reduce random error by taking repeats and calculating a mean.
Anomalous result	A result that does not fit the pattern. Ignore anomalous results when calculating a mean.
Renewable	An energy resource that cannot be replenished.
Non-renewable	An energy resource that can be replenished.

Arrangement and Behaviour of solids liquids and gases

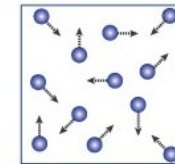
Solid particles are :
Tightly packed, regular pattern, most dense, vibrate around fixed positions, have the least internal energy, strong bonds between the particles



Liquid particles are:
Very close, random arrangement, dense, move freely over each other, have more energy than solids, less energy than gases, weak bonds between the particles



Gas particles are:
far apart, randomly arranged, least dense, move randomly in all directions, have the most energy, have no bonds between the particles



What is development?

Development is an improvement in living standards through better use of resources.

Economic	This is progress in economic growth through levels of industrialisation and use of technology.
Social	This is an improvement in people's standard of living. For example, clean water and electricity.
Environmental	This involves advances in the management and protection of the environment.

Measuring development

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



Economic indicators examples

Employment type	The proportion of the population working in primary, secondary, tertiary and quaternary industries.
Gross Domestic Product per capita	This is the total value of goods and services produced in a country per person, per year.
Gross National Income per capita	An average of gross national income per person, per year in US dollars.

Social indicators examples



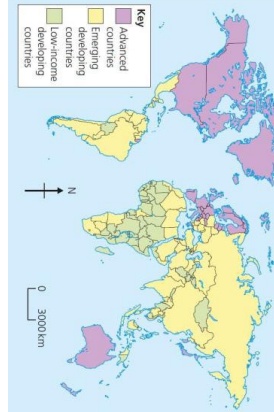
Infant mortality	The number of children who die before reaching 1 per 1000 babies born.
Literacy rate	The percentage of population over the age of 15 who can read and write.
Life expectancy	The average lifespan of someone born in that country.

Mixed indicators

Human Development Index (HDI)	A number that uses life expectancy, education level and income per person.
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Variations in the level of development

LICs	Poorest countries in the world. GNI per capita is low and most citizens have a low standard of living.
NEEs	These countries are getting richer as their economy is progressing from the primary industry to the secondary industry. Greater exports leads to better wages.
HICs	These countries are wealthy with a high GNI per capita and standards of living. These countries can spend money on services.



Causes of uneven development

Development is globally uneven with most HICs located in Europe, North America and Oceania. Most NEEs are in Asia and South America, whilst most LICs are in Africa. Remember, development can also vary within countries too.

Unit 2b



The Changing Economic World

Physical factors affecting uneven development

Natural Resources	Natural Hazards
Fuel sources such as oil. - Minerals and metals for fuel. Availability for timber. - Access to safe water.	- Risk of tectonic hazards. - Benefits from volcanic material and floodwater. - Frequent hazards undermines redevelopment.
Climate	Location/Terrain
Reliability of rainfall to benefit farming. Extreme climates limit industry and affects health. - Climate can attract tourists.	Landlocked countries may find trade difficulties. - Mountainous terrain makes farming difficult. Scenery attracts tourists.

Human factors affecting uneven development

Aid	Trade
- Aid can help some countries develop key projects for infrastructure faster. Aid can improve services such as schools, hospitals and roads. - Too much reliance on aid might stop other trade links becoming established.	- Countries that export more than they import have a trade surplus. This can improve the national economy. - Having good trade relationships. Trading goods and services is more profitable than raw materials.
Education	Health
- Education creates a skilled workforce meaning more goods and services are produced. Educated people earn more money, meaning they also pay more taxes. This money can help develop the country in the future.	Lack of clean water and poor healthcare means a large number of people suffer from diseases. - People who are ill cannot work so there is little contribution to the economy. - More money on healthcare means less spent on development.
Politics	History
Corruption in local and national governments. - The stability of the government can effect the country's ability to trade. - Ability of the country to invest into services and infrastructure.	Colonialism has helped Europe develop, but slowed down development in many other countries. - Countries that went through industrialisation a while ago, have now develop further.

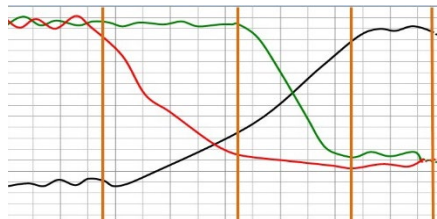
Consequences of Uneven Development

Levels of development are different in different countries. This uneven development has consequences for countries, especially in wealth, health and migration.

Wealth	People in more developed countries have higher incomes than less developed countries.
Health	Better healthcare means that people in more developed countries live longer than those in less developed countries.
Migration	If nearby countries have higher levels of development or are secure, people will move to seek better opportunities and standard of living.

The Demographic Transition Model

The demographic transition model (DTM) shows population change over time. It studies how birth rate and death rate affect the total population of a country.



STAGE 1	STAGE 2	STAGE 3	STAGE 4	STAGE 5
High DR High BR Steady	BR Low Declining DR Very High	Rapidly falling DR Low BR High	Low DR Low BR Zero	Slowly Falling DR Low BR Negative
e.g. Tribes	e.g. Kenya	e.g. India	e.g. UK	e.g. Japan

Reducing the Global Development Gap

Microfinance Loans



This involves people in LICs receiving small loans from traditional banks.

+ Loans enable people to begin their own businesses

- Its not clear they can reduce poverty at a large scale.

Foreign-direct investment



This is when one country buys property or infrastructure in another country.

+ Leads to better access to finance, technology & expertise.

- Investment can come with strings attached that country's will need to comply with.

Debt Relief



This is when a country's debt is cancelled or interest rates are lowered.

+ Means more money can be spent on development.

- Locals might not always get a say. Some aid can be tied under condition from donor country.

Aid



This is given by one country to another as money or resources.

+ Improve literacy rates, building dams, improving agriculture.

- Can be wasted by corrupt governments or they can become too reliant on aid.

Fair trade



This is a movement where farmers get a fair price for the goods produced.

+ Paid fairly so they can develop schools & health centres.

-Only a tiny proportion of the extra money reaches producers.

Technology



Includes tools, machines and affordable equipment that improve quality of life.

+ Renewable energy is less expensive and polluting.

- Requires initial investment and skills in operating technology

CS: Reducing the Development Gap In Jamaica



Location and Background



Jamaica is a LIC island nation part of the Caribbean. Location makes Jamaica an attractive place for visitors to explore the tropical blue seas, skies and palm filled sandy beaches

Tourist economy



Multiplier effect

-In 2015, 2.12 million visited.
-Tourism contributes 27% of GDP and will increase to 38% by 2025.
-130,000 jobs rely on tourism.
-Global recession 2008 caused a decline in tourism. Now tourism is beginning to recover.

-Jobs from tourism have meant more money has been spent in shops and other businesses.
-Government has invested in infrastructure to support tourism.
-New sewage treatment plants have reduced pollution.

Development Problems

- Tourists do not always spend much money outside their resorts.
- Infrastructure improvements have not spread to the whole island.
- Many people in Jamaica still live in poor quality housing and lack basic services such as healthcare.

Case Study: Economic Development in Nigeria



Location & Importance

Nigeria is a NEE in West Africa. Nigeria is just north of the Equator and experiences a range of environments.

Nigeria is the most populous and economically powerful country in Africa. Economic growth has been based on oil exports.



Influences upon Nigeria's development

Political

Suffered instability with a civil war between 1967-1970. From 1999, the country became stable with free and fair elections. Stability has encouraged global investment from China and USA.

Social

Nigeria is a multi-cultural, multi-faith society. Although mostly a strength, diversity has caused regional conflicts from groups such as the Boko Haram terrorists.

Cultural

Nigeria's diversity has created rich and varied artistic culture. The country has a rich music, literacy and film industry (i.e. Nollywood). A successful national football side.

Industrial Structures

Once mainly based on agriculture, 50% of its economy is now manufacturing and services. A thriving manufacturing industry is increasing foreign investment and employment opportunities.

The role of TNCs

TNCs such as Shell have played an important role in its economy.
+ Investment has increased employment and income.
- Profits move to HICs.
- Many oil spills have damaged fragile environments.



Changing Relationships

Nigeria plays a leading role with the African Union and UN. Growing links with China with huge investment in infrastructure. Main import includes petrol from the EU, cars from Brazil and phones from China.

Environmental Impacts

The 2008/09 oil spills devastated swamps and its ecosystems. Industry has caused toxic chemicals to be discharged in open sewers - risking human health. 80% of forest have been cut down. This also increases CO² emissions.

Aid & Debt relief

+ Receives \$5billion per year in aid.
+ Aid groups (ActionAid) have improved health centres, provided anti-mosquito nets and helped to protect people against AIDS/HIV.
- Some aid fails to reach the people who need it due to corruption.

Effects of Economic Development

Life expectancy has increased from 46 to 53 years. 64% have access to safe water. Typical schooling years has increased from 7 to 9.

Case Study: Economic Change in the UK



UK in the Wider World

The UK has one of the largest economies in the world. The UK has huge political, economic and cultural influences. The UK is highly regarded for its fairness and tolerance. The UK has global transport links i.e. Heathrow and the Eurostar.



Causes of Economic Change

De-industrialisation and the decline of the UK's industrial base. Globalisation has meant many industries have moved overseas, where labour costs are lower. Government investing in supporting vital businesses.

Towards Post-Industrial

The quaternary industry has increased, whilst secondary has decreased. Numbers in primary and tertiary industry has stayed the steady. Big increase in professional and technical jobs.

Developments of Science Parks

Science Parks are groups of scientific and technical knowledge based businesses on a single site.

- Access to transport routes.
- Highly educated workers.
- Staff benefit from attractive working conditions.
- Attracts clusters of related high-tech businesses.

CS: UK Car Industry



Every year the UK makes 1.5 million cars. These factories are owned by large TNCs. i.e. Nissan.

- 7% of energy used there factories is from wind energy.
- New cars are more energy efficient and lighter.
- Nissan produces electric and hybrid cars.

Change to a Rural Landscape



Social

Rising house prices have caused tensions in villages. Villages are unpopulated during the day causing loss of identity. Resentment towards poor migrant communities.

Economic

Lack of affordable housing for local first time buyers. Sales of farmland has increased rural unemployment. Influx of poor migrants puts pressures on local services.

Improvements to Transport



A £15 billion 'Road Improvement Strategy'. This will involve 10 new roads and 1,600 extra lanes. £50 billion HS2 railway to improve connections between key UK cities. £18 billion on Heathrow's controversial third runway. UK has many large ports for importing and exporting goods.

UK North/South Divide

- Wages are lower in the North.
- Health is better in the South.
- Education is worse in the North.
+ The government is aiming to support a Northern Powerhouse project to resolve regional differences.
+ More devolving of powers to disadvantaged regions.

Key Dates In the Expansion and Consolidation of America	
1854	Kansas Nebraska Act – created as a compromise. Kansas and Nebraska were given popular sovereignty to decide to become slave or free states.
1860	Abraham Lincoln elected President of the United States – He became the first Republican to win and only received 40% of the popular vote.
1861 – 1865	American Civil War – a civil war in the United States fought between the Union (north) and Confederacy (south).
1863	President Lincoln signed the Emancipation Proclamation – it declared “that all persons held as slaves ... and henceforward shall be free”
1863 – 1868	Indian Wars – a series of battles waged by the US Government against Native Americans (Plain’s Indians) over land and natural resources in the West.
1864	Sand Creek Massacre - Colorado soldiers attacked a peaceful Plain’s Indian camp slaughtering and mutilating about 150 people, mainly women & children.
1865	Thirteenth Amendment – abolished slavery and involuntary enslavement, except as punishment for a crime.
1865 – 1868	Sioux or Red Cloud’s War – began as US gov developed the Bozeman Trial. Plain’s Indians attacked workers, settlers and soldiers to save their native land.
1866	Fetterman Massacre – The Sioux lured a US Army patrol at Fort Phil Kearny into a deadly trap where they killed 81 US soldiers.

TECHNICAL VOCABULARY	
Fort Laramie Treaty	Agreement between US Government and representatives of the Plains Indian Nations. Plains Indians promised not to attack settlers on the Oregon Trail and to allow building of some roads and Forts in their territory. In return they had an agreed hunting area and annual subsidy.
Bozeman Trial	Established to link the gold fields in Montana with the Oregon Trail – broke the terms of the Fort Laramie Treaty.
Negotiators	These people wanted a negotiated solution to the Indian problem. They believed that responsibility for Indian affairs should be kept within the Bureau of Indian Affairs.
Exterminators	This group believed that the Plains Indians were savages, and the Indian problem required a military solution. Their aim was to use the army to wipe out the Indians – a solution that today we would call Genocide.
Emancipation Proclamation	President Abraham Lincoln issued the Emancipation Proclamation on January 1, 1863. It declared “that all persons held as slaves” within the rebellious states “are, and henceforward shall be free.”
Abolitionism	The formal organised opposition to slavery which began as early as 1817 in the USA.
Fugitive Slave Act	Required all Americans to return runaway slaves to their owner, even if the slaves reached free states. This made the institution of slavery very visible to Northerners and anti-slavery feeling grew.
Plantations	In the early 19 th century, the South’s economy was heavily based on cotton exports. Cotton was produced cheaply using slave labour on plantations – large slave run farms.



American Civil War

7 Southern States left the rest of the USA and set up what was known as the CONFEDERATES. The remaining states in the north were called the UNION. The Union north won and the southern states re-joined the rest of the USA.

What were the Consequences?

- . At the end of the war in 1865, over 600,000 Americans had died. 400,000 were wounded.
- . The southern states were devastated by the war.
- . Government needed to re-build the south and also gave citizenship (freedom) to former African American slaves.

How did this Affect the West?

- . Many southerners wanted a **new start** to their lives in the West.
- . Many Black Americans decided to move away from the South to make a new life in the West.

Conflict with The Plains Indians	
Little Crow’s War (1862)	Chief of Dakota Sioux in Minnesota, where white population increasing. Agreed to give up 24m acres of land and live on reservations for \$1.4m. Gov delayed payment; reservation not big enough to hunt so Indians left. Sioux attacked settler towns, killed 600. Army arrived; some Indians put on trial; others forced onto poor reservation land where many died.
Sand Creek Massacre (1864)	When gold found in Montana, prospectors travelled across Cheyenne Indian land. Chiefs agreed to move to reservation, but young warriors refused. Cheyenne chief Black Kettle tried to reach agreement, but Colonel Chivington massacred 130 Indians, who were waving white surrender flags.
Red Cloud’s War (1866-68)	Gold discovered in Montana 1862, prospectors travelled there on Bozeman Trail, across sacred Lakota Sioux land. This broke Fort Laramie Treaty. Red Cloud did not trust government, so fought rather than agreeing to allow forts along Bozeman Trail: 3,000 Indians fought 700 US soldiers. They won many battles.

Why was there TENSION between the White Settlers and the Plains Indians?

<u>Fear of the Plains Indians</u>	<u>Racism</u>	<u>Threat to food</u>	<u>Shortage of grass</u>	<u>Government Pressure</u>
White settlers were sometimes caught up in raids between tribes and took this the wrong way thinking they were being attacked. White settlers scared each other with stories. They were worried that they would be scalped or caputred as slaves .	The White Settlers had strong, racist views about the Plains Indians thinking they were Superior . This made them angry when Plains Indians stole horses from them.	With so much travel on the Oregon Trail, the Plains Indians had serious problems with the disruption of the buffalo . The White Settlers killed huge numbers for the meat on their jounry. The settlers caused massive buffalo stampedes because they did not know how to control them.	Thousands of oxen and horses travelling on the Oregon Trail resulted in a lack of grass. This meant there was tension and competen from both sides to feed their animals.	The White Settlers saw the Plains Indians keeping an eye on them, but even without being aggressive the settlers believed the Plains Indians were going to attack them. Some wanted the government to build Forts so the Army could protect them.

Medieval (1250 – 1500) Approaches to TREATMENT and PREVENTION	
Religious/supernatural:	Prayer; saying mass; fasting; going on pilgrimage – all advised as <u>religious “treatments”</u> . Some believed <u>disease was a punishment sent by God</u> , therefore you should not try to treat.
Humoural Treatments:	Physician suggested a treatment for each symptom, including bleeding and purging; bathing (only available to rich); remedies (made from herbs and spices)
Prevention:	<u>PRAY!</u> Practice basic hygiene (as recommended in the Regimen Sanitatis); purifying bad air (e.g. carrying a sweet-smelling “posy”; some measures were taken to keep towns clean, like clearing animal corpses)
Who cared for the Sick?	The <u>Physician</u> was university educated; expensive so only available if you were rich. Diagnosed illness by: observing sample of urine/faeces/blood and consulting astrological charts. <u>Apothecary</u> mixed the herbal remedies. <u>Surgeon</u> performed basic operations and bleeding. Approx. 1,100 <u>Hospitals</u> by 1500, 30% run by Church. Provide clean place to rest and eat well. Many hospitals were places for travellers to stay. Emphasis on Care not cure. Most people cared for at <u>home</u> (kept clear, fed, herbal remedies). This was considered to be a woman’s role.

Renaissance (1500 – 1700) Approaches to TREATMENT and PREVENTION	
Religious/supernatural:	Time of discovery, scientific progress and experiments. The church had less control over life so there was a chance for the spread of new ideas.
Treatment	<u>Transference</u> – disease could be transferred to an object by rubbing it. Lots more <u>herbal remedies</u> available from newly discovered lands of the New World. The new science of chemistry resulted in lots of <u>chemical cures</u> . <u>Apothecaries</u> and <u>surgeons</u> were better trained. <u>Less hospitals</u> available because many of these had been run by the monasteries, which were closed by Henry VIII.
Prevention:	Ideas about cause of disease had advanced, but treatments were still not effective. Therefore, prevention still very important. <u>Cleanliness</u> still important, though less use of public baths since arrival of syphilis. <u>Moderation</u> avoiding too much alcohol, cold, food etc. To <u>reduce miasma</u> homeowners in some towns had to pay a fine if they did not clean outside their homes.

C18th – C19th (1700 – 1900) Approaches to TREATMENT and PREVENTION	
Hospitals:	<u>Florence Nightingale</u> : Nurse in Crimean War 1854; hospitals appalling. Made changes to way wounded soldiers treated; <u>Sanitation</u> (clean hospital, bedding etc); <u>Nurses</u> to provide care & <u>good meals</u> provided. Mortality rate (% of wounded dying) <u>fell from 40% to 2%</u> Upon return to GB Nightingale set up <u>nursing college</u> , designed <u>hospital wards</u> & wrote “Notes on Nursing”.
Treatment	<u>Koch and Pasteur</u> – Pasteur was the first to suggest that <u>Germs</u> cause disease. He published his idea in <u>1861</u> called the <u>Germ Theory</u> . He argued that microbes in the air caused decay not the other way round. – Koch used dye to <u>identify microbes</u> . He linked specific disease to the particular microbe that caused them. This technique was called ‘ <u>Microbe hunting</u> ’. He identified several disease such as tuberculosis (1882) and Cholera (1883).
Prevention:	<u>Edward Jenner</u> developed <u>vaccination</u> to protect against smallpox. Previously people had been inoculated (given a small dose of disease to develop immunity). 1776 Jenner worked out you could make someone immune to smallpox by injecting a small amount of Cowpox. Lots of opposition from Church, inoculators and scientists.

TECHNICAL VOCABULARY	
Inoculation	Protecting someone from a disease by giving them a weakened version.
Vaccination	A substance which gives someone a weakened form of a disease to protect them from it.
Symptom	A negative side effect of the disease, e.g. a runny nose is a symptom of a cold.
Diagnosing	The process of trying to work out what illness a patient has.
Purging	A natural treatment that tried to rebalance the humours by giving the patient something to make them vomit or a laxative to make them defecate.
Astrology	The study of the movement of planets and the stars.
Flagellation	Flogging, whipping or beating oneself to punish someone for their sins or show a dedication to God.
Urine Chart	A tool used by a physician to help them diagnose a patient’s illness. They would look at a sample of the patients urine and compare it to a colour chart to determine why they were ill.
Infirmery	A hospital.
Apothecary	Mixed herbal remedies to try and create a cure for an illness.

Modern (1900 -) Approaches to TREATMENT and PREVENTION	
<u>Technology/Chemical Cures:</u>	• <u>Magic bullet</u> = attacks disease, not body • <u>Salvason 606</u> = first developed to attack syphilis • <u>Penicillin</u> = 1928 <u>Alexander Fleming</u> noticed that in his lab, some mould was killing bacteria in a dirty petri dish (it had drifted in through the window). He didn’t study further but published his findings. <u>Florey and Chain</u> were studying antibiotics. They read Fleming’s work and tested it successfully in <u>1940</u> on mice. They couldn’t however produce large quantities. When US joined WW2 in 1941, Florey and Chain got backing from big <u>American Drug Companies</u> to mass produce. • <u>Technology</u> has helped to identify and combat diseases
Prevention:	<u>Government</u> has assumed responsibility for Public Health. Compulsory vaccinations. Laws to provide health environment (e.g. Clean Air Act 1956) Communication about health risks of lifestyle choice (e.g. anti-smoking campaigns)

Theory of four humours	Theory that the body is made up of four humours. If one humour is out of balance then you will fall ill.
Theory of opposites	The idea to treat illness by re-balancing the humour.
Miasma	The theory that disease was caused by bad or dirty air and this led to illness and death.
Islamic beliefs	Doctors in hospitals ‘For every disease Allah has given a cure’. Mental illness is treated with compassion. Avicenna’s book the Cannon of Medicine documented 760 drugs.
Christian beliefs	Believed in ‘Care not cure’, illness and disease are a punishment from God for committing sins. Medical understanding based on Galen and Hippocrates’ ideas. Human dissections are banned by the Church. 700 Hospitals in England – used for rest, rather than treatment.
Spontaneous Germination	An old belief that germs are the result of disease and decay, rather than the cause of them. This idea is now known to be false.

Year 10 HT3 French – Free time activities – Qu’est-ce que tu fais pendant ton temps libre?

Opinion Phrases				
Opinion	Infinitive	Nouns	Connective	Adjective
J’adore = I love	jouer = to play	au football = football	parce que c’est = because it is	amusant = fun
J’aime beaucoup = I really like		au basket = basketball		(des)agréable = (un)pleasant
J’aime = I like	aller = to go	au cinéma = to the cinema		divertissant = entertaining
Je m’intéresse à = I am interested in		au centre sportif = to the sports centre		animé = lively
Je suis fasciné par = I am fascinated by	manger = to eat	le fastfood = fast food		drôle = funny
Je m’en fiche de = I don’t care about		la nourriture saine = healthy food		difficile = difficult
Ça me dérange de = It annoys me	faire = to do	mes devoirs = my homework	car c’est = because it is	facile = easy
Je n’aime pas = I don’t like		de l’escalade = climbing		génial = great
Je n’aime pas du tout = I really don’t like	regarder = to watch	un film d’action = an action film		cool = cool
Je déteste = I hate		un film d’amour = a romantic film		fantastique = fantastic
Je ne supporte pas = I can’t stand	sortir = to go out	avec mes cousins = with my cousins	puisque c’est = because it is	reposant = relaxing
		avec mes copains = with my friends		ennuyeux = boring
				embêtant = annoying

Present tense							
Verb	Time expression	Nouns	Connective	Noun	Verb	Infinitive	Nouns
Je joue = I play	toujours = always	aux échecs = chess aux cartes = cards	mais = but	je = I	préfère = prefer	jouer = to play	au tennis de table = table tennis
	presque toujours = almost always			mon frère = my brother			aux fléchettes = darts
Je vais = I go	normalement = normally	à la galerie = to the gallery au musée = to the museum	cependant = however	ma mère = my mum	préfère = prefers	aller = to go	au théâtre = to the theatre
	souvent = often			mon père = my dad			
Je sors = I go out	généralement = generally	avec mes amis = with my friends	pourtant = however	ma cousine = my cousin (f)		manger = to eat	la nourriture indienne = Indian food
	en général = in general	avec ma petite amie = with my girlfriend		mon frère et moi = my brother and I			la nourriture chinoise = Chinese food
Je fais = I do	quelquefois = sometimes	des arts martiaux = martial arts	en revanche = on the other hand	mon grand-père et moi = my grandpa and I	préférons = prefer	faire = to do	les courses = shopping
	parfois = sometimes	les tâches ménagères = household chores		mon père et moi = my dad and I			les lits = the beds
Je regarde = I watch	de temps en temps = from time to time	un film d'action = an action film	tandis que = whereas	mes parents = my parents	préfèrent = prefer	regarder = to watch	un film d'aventure = an adventure film
	rarement = rarely	un film d'amour = a romantic film	alors que = whilst	mes grands-parents = my grandparents			des series = TV series
	ne...jamais = never						sortir = to go out

Future Tense – If Clauses							
If clause starter	Verb	Noun	Connective	In my opinion	I think that it is	Adjective	
Si j'ai beaucoup d'argent = If I have a lot of money Si j'ai assez d'argent = If I have enough money Si j'ai de la chance = If I am lucky Si j'ai l'occasion = If I have the opportunity Si je peux = If I can Si j'ai beaucoup de temps = If I have lots of time	je jouerai = I will play	au foot = football au rugby = rugby au basket = basketball	parce que	à mon avis	je pense que c'est je considère que c'est je crois que c'est il me semble que c'est ce sera = it will be ce ne sera pas = it will not be ce serait = it would be ce ne serait pas = it would not be	génial = great fantastique = fantastic reposant = relaxing merveilleux = great animé = lively difficile = difficult facile = easy divertissant = entertaining amusant(e) = fun (dés)agréable = (un)pleasant ennuyeux(se) = boring ambitieux(se) = ambitious embêtant(e) = annoying important = important	
	j'irai = I will go	au café = to the café au centre commercial = to the shopping centre au centre-ville = to the town centre					car
	je ferai = I will do	des courses = the shopping du sport = sport de l'équitation = horse riding de la natation = swimming	puisque	pour moi			en ce qui me concerne
	je regarderai = I will watch	un film d'action = an action film un film d'amour = a romantic film					
	je sortirai = I will go out	avec mes amis = with my friends avec ma petite amie = with my girlfriend					
Si j'avais beaucoup d'argent = If I had a lot of money Si j'avais assez d'argent = If I had enough money Si j'avais de la chance = If I was lucky Si j'avais l'occasion = If I had the opportunity Si je pouvais = If I could Si j'avais beaucoup de temps = If I had a lot of time	je jouerais = I would play	au foot = football au rugby = rugby au basket = basketball					
	j'irais = I would go	au café = to the café au centre commercial = to the shopping centre au centre-ville = to the town centre					
	je ferais = I would do	des courses = the shopping du sport = sport de l'équitation = horse riding de la natation = swimming					
	je regarderais = I would watch	un film d'action = an action film un film d'amour = a romantic film					
	je sortirais = I would go out	avec mes amis = with my friends avec ma petite amie = with my girlfriend					

Past tense – Imperfect and Perfect						
Time Expression	Verb	Noun	Connective	Verb	Qualifier	Adjective
Hier = Yesterday Avant-hier = The day before yesterday Hier matin = Yesterday morning Hier soir = Yesterday evening La semaine dernière = Last week Le week-end dernier = Last weekend L'année dernière = Last year Il y a deux mois = Two months ago	j'ai joué = I played	au foot = football au rugby = rugby au basket = basketball	et = and mais = but cependant = however pourtant = however en revanche = on the other hand toutefois = however néanmoins = nevertheless	c'était = it was je trouvais que c'était = I found that it was je pensais que c'était = I thought that it was je croyais que c'était = I believed that it was je considérais que c'était = I considered that it was ce n'était pas = it was not	trop = too très = very un peu = a bit assez = quite vraiment = really extrêmement = extremely	drôle = funny amusant(e) = fun (dés)agréable = (un)pleasant ennuyeux(se) = boring ambitieux(se) = ambitious embêtant(e) = annoying rapide = fast lent = slow cool = cool génial = great fantastique = fantastic reposant = relaxing merveilleux = great animé = lively difficile = difficult facile = easy divertissant = entertaining

Building Tension:

Tension, or **dramatic tension**, often lies with the development of **suspense** in a drama. As the **audience** anticipates certain outcomes in the plot, the **tension builds**. An example of **rising tension** occurs in a mystery play or whodunit. In these instances, the audience is left in a constant state of **suspense** trying to guess the real culprit.

The development of **tension** usually parallels the advancement of the plot, leading to a **crisis or climax**. **Tension** is closely linked with the **element of timing**.

The Audience:

Using the **imagination** of the **audience** and the **suspension of disbelief** is extremely important when developing **tension, suspense and atmosphere**.

**Technical elements:**

The use of **sound effects, music, lighting, costume and set** in a performance can be pivotal in creating **suspense and atmosphere**.

Symbol

A symbol is something which stands for, or **represents something else**. **Symbols** are often used in drama to deepen its meaning and remind the audience of the themes or issues it is discussing. A **prop** often has a particular significance that an **audience** will instantly recognise when used **symbolically** in the work.

Lighting

Altering the **level of light** and combining the light with various colours can help to significantly change the **mood** and **atmosphere** of a scene.

- A **low lighting level**, with dark blues, greens or reds, can make the stage very **eerie** and filled with **dramatic tension**.
- A **high lighting level** of warm, coloured light can produce a very **happy** and **energetic** feeling on **stage**.

Subject Terminology

Suspense	A state or feeling of excited or anxious uncertainty about what may happen.
Mood	Created by the director, performers and performance elements all working together. Eg: mysterious, stressful
Atmosphere	Atmosphere is the overall feeling the audience experiences as a result of the mood created in the scene.
Climax/ Anti-climax	This is the building and release of tension in drama .
Play within a play	It means that your characters are performing a play on-stage for their own benefit, as a part of the play
Tension	Tension is a growing sense of expectation within the drama
Suspension of Disbelief	The people in the audience know that what they are seeing on stage or screen is a pretend reality, but they are pretending that they do not know that.

Music and Sound

Sound and music are extremely effective when conveying the **atmosphere** required for a specific **scene** or moment. A **sound designer**, working with the director, will:

- Identify moments where the **sound** can enhance the **action** on stage for an audience.
- Decide what sort of **sound** is required (**music, sound effect** or combination).

Music will often imply that the drama on stage is building to a **climax**, making the **audience** think that something is going to happen and putting them on edge.

Other factors that will affect your performance

To determine what factors will affect your performance, you should ask yourself the following questions:

- Where will the performance take place?
- Who will be your target audience?
- What style or genre will the performance be in?

Whether you specialise in acting, singing or dancing, creating a performance piece could potentially involve all three disciplines. As the director, you manage the creative process and final production. Your first big decision is deciding what type of performance you want to create. For example, it could be:

- a community play
- a street performance
- a performance in a small-scale theatre
- an open-air production
- a festival
- a concert.

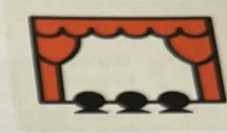
Behind-the-scenes roles



- **Director** – a person who is responsible for the overall creative vision of a production. They have to lead a team through the creative process so that all elements of the show come together to produce the final outcome. A director works directly with the producers, creative team and performers.
- **Producer** – a person who researches funding and investment to finance a production. They also supervise the creation and performance of the show. They work directly with the director, creative team and performers and manage the technical and stage management teams.
- **Stage manager** – a person who is responsible for the technical details of the production and is fully responsible for the stage during each performance. They assist the director during rehearsals and supervise the lighting, costume and set.
- **Choreographer** – a choreographer creates dance routines for performances. They must follow the brief to create routines appropriate for the type of performance. A choreographer recruits and auditions dancers, teaches the set repertoire and develops movement material that forms part of the final performance. They work alongside costume, prop, lighting and set designers, and directly under the director and show producer.
- **Set designer** – a person who designs, creates and builds the set for a show or scene.
- **Theatre technician** – a person who works backstage and manages the stage crew. They prepare and maintain the set/stage by moving scenery and may be responsible for setting up or adjusting video, audio and lighting equipment. The theatre technician works with the stage crew, set designer, lighting designer and director.
- **Sound designer** – a person who creates sound effects and atmosphere to fit the narrative of a film or live performance. A sound designer would work directly with the musical director, composers and live musicians.
- **Lighting designer** – a person who designs the lighting plot for a film or live performance to help create a specific atmosphere to fit the narrative. The lighting designer works directly with the director, choreographer, set designer, costume designer and sound designer to ensure the safety of performers and that all elements are functioning as intended.
- **Stage crew** – a group of people also known as stage hands who work behind the scenes during the show or a live performance to ensure that scene changes are carried out at the correct time.

Stage roles

- **Actor** – a person who acts on stage, or in TV or film. They work with the director and choreographer.
- **Stand-up comedian** – a person who entertains a live audience using humour and comedy.
- **Circus artist** – a person who entertains a live audience with circus skills and acts. They work with the director and choreographer.
- **Session musician** – a singer or instrumentalist who performs in a live or recorded session or gig. The performer is usually employed on a session-by-session basis. The ability to read music, improvise and perform by ear are essential for a session musician. Knowledge of a wide range of styles is also important. Most session musicians work as freelancers. Production companies or record labels may contact the session musician directly or use a contractor (fixer). There are usually agreed rates and terms and conditions for session musicians; most of the time, a session musician is paid a fee and the deal is done – no further payment is required. Unions will usually support musicians with their rights and payments if appropriate. They work with the musical director.
- **Singer** – a person who sings to entertain a live audience individually or as part of an ensemble. They work with the director, choreographer and musical director.
- **Dancer** – a person who performs routines to live audiences as part of entertainment shows, or TV or film productions. A dancer works with a choreographer or director to learn a repertoire and create choreography. In musical theatre, a dancer would also be required to act and sing.



Popular music includes:

- POP
- ROCK
- RAP
- HIP HOP
- REGGAE

Plus many other genres, e.g. soul, ska, heavy metal, R&B, country, rock’n’roll.

FUSION: when two different styles are mixed together. This can be two styles of popular music e.g. ‘rap metal’, or could combine a popular music genre with other styles, folk-rock, gospel, world music, classical to create a new and interesting sound. **Jazz fusion** (jazz and pop) is a popular genre.

Instruments

- ELECTRIC GUITAR:**
- **Lead guitar:** plays the melody/ solos/riffs
 - **Rhythm guitar:** plays the chords/ accompaniment.

BASS GUITAR: plays the bass line.
DRUM KIT: provides the beat.
LEAD SINGER: the main vocalist.
BACKING VOCALS: singers who provide harmony.

Pop/rock groups may also include **acoustic** (not electric) instruments e.g. trumpet, trombone, saxophone and/or electronic keyboards/synthesizers.

Features and techniques found in popular music

Riff	A short, repeated pattern.
Hammer on	Finger brought sharply down onto the string.
Pitch bend	Altering (bending) the pitch slightly.
Power chords	A guitar chord using the root and 5 th note (no 3 rd).
Distortion	An effect which distorts the sound (creates a ‘grungy’ sound).
Slap bass	A percussive sound on the bass guitar made by bouncing the strings on the fret board.
Fill	A short, improvised drum solo.
Rim shot	Rim and head of drum hit at same time.
Belt	A bright, powerful vocal sound, high in the chest voice.
Falsetto	Male voice in a higher than usual range.
Syllabic	One note sung per syllable.
Melismatic	Each syllable sung to a number of different notes.
A cappella	Voices singing without instrumental accompaniment.

The structure of a pop/rock song may include:

INTRO: short opening section, usually instrumental.
VERSE: same music but different lyrics each time.
CHORUS: repeated with the same lyrics each time (refrain).
MIDDLE EIGHT: a link section, often eight bars, with different musical ideas.
BRIDGE: a link/transition between two sections.
OUTRO: an ending to finish the song (coda).
*You may also hear a pre-chorus, instrumental interlude or instrumental solo.

*Strophic songs, 32 bar songs (AABA) and 12 bar blues are also found in popular music.

- A typical rock ballad in verse-chorus form could follow the pattern:
- Intro
 - Verse 1
 - Chorus
 - Verse 2
 - Chorus
 - MiddleEight
 - Chorus
 - Outro

Technology

Amplified	Made louder (with an amplifier).
Synthesized	Sounds created electronically.
Panning	Moving the sound between left and right speakers.
Phasing	A delay effect.
Sample	A short section of music that is reused (e.g. looped, layered).
Reverb	An electronic echo effect.

Form and structure:

The piece is in **strophic** or **verse-chorus** form.

Intro	Verse 1 / Verse 2	Chorus 1 / Chorus 2	Link 1 / Link 2	Instrumental	Chorus 3	Outro
1 – 4	5 – 39 / 14 – 39	40 – 57	58 – 65	66 – 82	40 – 92	93 – 96
4 bars	35 bars / 26 bars	18 bars	8 bars	17 bars	22 bars	4 bars

Metre and rhythm:

Simple duple time – 2/2 (split common time) – with two minim beats in every bar.

Uses distinctive **ostinato rhythms** for both riffs, consisting almost totally of **quavers**, with constant use of **syncopation**.

Vocal rhythm looks complex but follows the natural rhythm of the lyrics.

Background details:

Composed by band members **David Paich** and **Jeff Porcaro**.

Recorded by the American rock band Toto in **1981** for their fourth studio album entitled **Toto IV**.

Released in **1982** and reached number one in America on 5 February **1983**.

Genre: **soft rock**.

Instrumentation:

Rock band: drum kit with additional percussion, lead and bass guitars, synthesisers, male lead vocals and male backing vocals.

Harmony:

Diatonic; mixture of root position and inverted chords.

Riff a can be heard during the intro, verses, link sections, instrumental and outro. This riff uses a three-chord pattern: **A – G#m – C#m**.



Choruses use a standard chord pattern: **vi** (F#m) – **IV** (D) – **I** (A) – **V** (E).

The **harmonic rhythm** (the rate of chord change) is mostly once per bar.

Dynamics:

Most of the song is **mezzo-forte** (moderately loud) whilst the choruses are **forte**.

Melody:

Mostly **conjunct** (moving in step) with a **wide vocal range**.

Riff b uses the **pentatonic scale** (interpreted through E major):



Vocal improvisations occur towards the end of the song.

Texture:

Homophonic: melody and accompaniment.

Tonality:

The majority of the song is in **B major** whilst the choruses are all in **A major**.

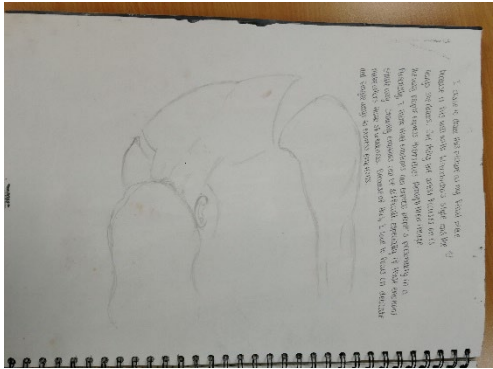
Tempo:

The tempo is **moderately fast**.

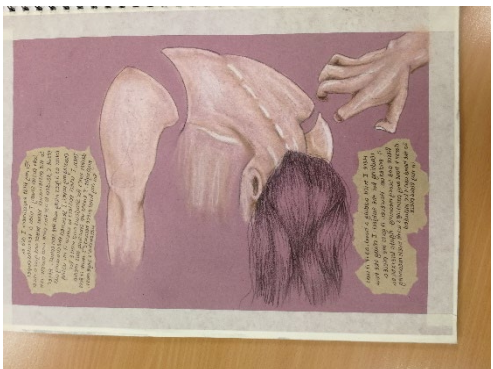
Assessment Taxonomy					
LIMITED	BASIC	EMERGING COMPETENT	COMPETENT & CONSISTENT	CONFIDENT & ASSURED	EXCEPTIONAL
Unstructured Clumsy Disjointed Minimal Elementary	Deliberate Methodical Superficial Unrefined Simplistic Tentative	Reflective Predictable Growing Control Broadening Endeavour Safe	Informed Purposeful Secure Engaged Skilful Thoughtful Cohesive	Advanced Convincing Comprehensive Focused Perceptive Refined Resolved Risk-taking	Accomplished Inspired Intuitive Insightful Powerful Extraordinary Unexpected Outstanding
1-12 marks	16-24 marks	28-36 marks	40-48 marks	52-60 marks	64-72 marks

TECHNICAL VOCABULARY	
Response	A reaction (to the work of an artist)
Develop	To evolve, grow and improve
Experiment	To test (with different art media)
Annotate	Explanatory notes
Review	Evaluate
Reflect	Reconsider and modify
Independent	On your own
Composition	How objects, shapes and patterns are arranged
Analyse	To examine in detail
Interpret	Explain/translate art work

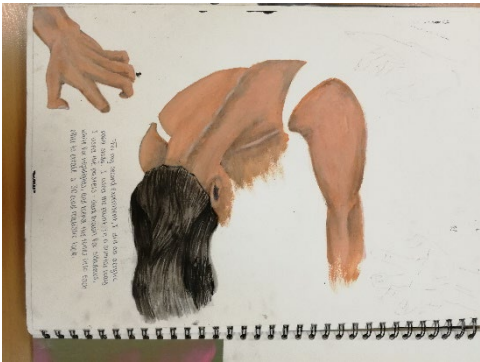
Developing ideas
1. Primary sources- take lots of your own photo responses and choose at least 4 compositions to draw out, on one or 2 sides.
2. Link your work to a chosen artist(s)/art style - What does the artist draw? - What media do they use? - What colour scheme do they use? - What is their work about; meaning, mood etc.?
3. Use a variety of media, experimenting with new and different techniques
4. Use a variety of colour schemes
5. Review and evaluate: - What media you liked and why? - What you like/dislike about your ideas and about the changes to the drawings? - How you used the media and what effects you achieved? - What problems you had or what happy accidents occurred? - Which material and process is most suitable for each idea and why? - What connections to artists have you made and how successful are they?
6. Choose the most successful idea, ensuring that you will be able to reproduce it



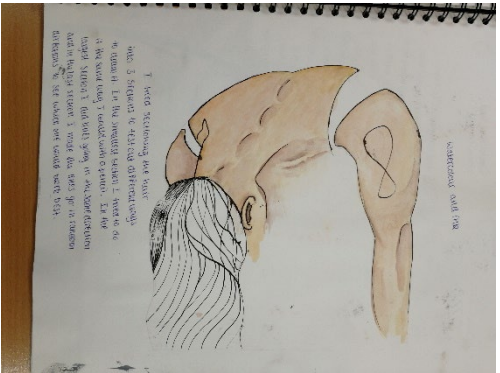
Draw out your favourite composition or compositions and photocopy



Experiment with different media



Experiment with different colour schemes



Knowledge Organisers – Core principles

Page 1

Term	Explanation	Term	Explanation
Iterative design	Small steps with constant changes as feedback is gained. Feedback is used to help the design refine further developments.	Primary data sources of information	<u>First hand information</u>
Secondary data sources	<u>Information obtained from others</u>	Ergonomics	Study of human interaction between the user and the product. Feel Comfort Sound Ease of use Smell
Anthropometrics	Measurements of the human body – Maximum and minimum. Length Height Weight Angles	Design brief	This is a written statement that says what you are going to design make and evaluate. It should include your target market and where it will be used.
Manufacturing specification	- Details relating to the products function. - How its made - Time scale - Health and safety - Quality control - Quality assurance - CAD Drawings in 2D and 3D - Cutting list - Components used - Tolerances needed.	Coco Channel 1883-1971	French fashion designer for fragrances, accessories and clothing. Huge company today!
Alexander McQueen 1969-2010	British fashion designer who wowed people with his shocking and unconventional designs	William Morris 1834-1896	Main part of the arts and crafts movement in 1880's using nature as inspiration
Mary Quant 1934 – present.	Famous for the mini skirt and flower power inspiration	Vivienne Westwood 1941 – present	Establishing the punk image of the 70's. Her designs are still popular today.
Marcel Breur 1902-1981	Maker of Bauhaus. Most famous was the Wassily chair and first to be made from tube steel. He went on to become an architect.	Norman Foster 1935-present	Famous for the Gherkin and Wembley stadium including the great court.
Charles Rennie Mackintosh 1868-1928	Mackintosh was a Scottish designer using <u>ART NOUVEAU</u> as a design influence.	Aldo Rossi 1931-1997	Italian architect who became a product designer. Post modern influences to produce building like this.
Gerrit Rietveld 1888-1964	Dutch architect and furniture designer to produce the movement De Stijl . Famous for using primary colours and geometric lines.	Ettore Sottsass 1917-2007	Austrian born Italian . Famous for revamping officing style machines such as this Valentine type writer .
Raymond Templier 1891-1968	Belonged to the art deco movement and designed jewellery.	Louis Comfort Tiffany 1848-1933	American art designer and artist known for his glass designs. His famous was the tiffany lamp .
Sir Alec Issigonis 1906-1988	Famous for car design and joined Morris motors to produce the iconic Morris Minor and mini!	Alessi	<u>Founded by Giovanni Alessi in 1921</u> and produced metal wear for tables.

Knowledge Organisers – Core principles

Page 2

Term	Explanation	Term	Explanation
Braun	<u>German company</u> founded in the 1920's. Famous for shavers and audio equipment.	Apple	IN 1976, <u>Steve jobs</u> along with two other founded Apple. Largest IT company in the world. Famous for coming up with innovative designs that will be iconic for ever.
Dyson	Sir James Dyson started to make improvements to the traditional vacuum cleaner in 78 and produced the famous bagless vacuum cleaner. Also, no designing fans and lighting products.	GAP	American company selling clothing. Simply and clothing using clear, bold colours.
Primark	International clothing retailer with its main business in Ireland. Low cost 'fast fashion' trend. Cloths made in China, Bangladesh and India.	ZARA	Spanish clothing company known for selling products that react to client's trends – Just in time production approach. Began to work with GREENPEACE in 2011 to eliminate harmful toxins from cloths.
User-Centred design	Means to fulfil the wants, needs and limitations of the user	Systems approach	If you are designing a product with electronics or mechanisms use a sequence chart to show input/ process/ out put so they can see how it would work.
Sketching	Getting ideas down quickly is important. Do this on plain paper or scaffolded sheets to help you with scale and proportion.	Modelling and its purpose	2D models are quick to produce Quick to produce Using materials such as card is cheap and easy to form 3D ideas – they can be recycled after and doesn't cost anything Show size, scale and proportion. Show the development between each design. These can be photographed and recorded into your portfolio to show how they will work.
Testing	To show the intent of the design and how it will work. Destructive testing – used to determine how the product will respond under pressure. Make decisions on materials used. Market testing – inspection of parts/ functional testing and its looks.	Oblique	Quick to produce and simple technique. Draw the idea as a plan and then use a 45 degree angle to project the sides back.
Isometric projection	30 degree angle for height width and depth Dimensions can be done accurately. Good for geometric shapes Fairly realistic Use measurements on the drawing	Perspective drawing	Uses vanishing points Construction lines go back to the vanishing points Realistic drawing
Annotating drawings	Adding notes to a drawing to explain detail Explaining if parts of the design meet the needs of the specification Express subjective and objective views	Collaborative designing	Some designers may have more strengths in parts of the design process. Some people are good at risk taking? Innovation Identifying problems Some people may have contacts in areas to help with a problem. Speed up the process – in development people can work on different aspects of a solution.
Marketability	Look goof and fully functional Potential to be commercially viable Fill and meet a gap in the market Compete with other products Easily tested		

Different Activity levels	
Energy required for; - Growth - Movement - Body warmth - Production of sound - Brain function - Energy comes from Carbohydrate first - Fat second source - Protein only when carbs and fat stores are depleted Food and drinks which contain carbohydrates, protein and fats.	- Increased activity requires increased energy intake preferably in the form of carbohydrates - Decreased activity levels due to age or health issues calorie intake should be reduced accordingly - People recovering from illness or an operation should get their calories from protein rich food to increase tissue repair and healing. - Calories from starchy carbohydrates are better as they burn slowly therefore releasing energy at an even rate throughout the day

TECHNICAL VOCABULARY	
RDI- Recommended daily intake	The amount of each nutrient recommended to meet the requirements of the majority population
Free sugars	Sugars, honey, fruit juices, sugar added to food
Protein complementation	Combining two incomplete proteins to get a complete one
BMR-	Basal metabolic rate - the speed of the metabolism in the resting state
Peak bone mass	The amount of bone present when the skeleton has stopped growing and are at a maximum density
Osteoporosis	The production of new bone cannot keep up with the removal of old bone
Anaemia	When you are unable to make enough red blood cells to carry oxygen around the body
Pernicious anaemia	Caused by low red blood cell production and the body is unable to absorb Vit B12
PAL	Physical activity level -The amount of extra activity you do per day such as sport.
EAR	Estimated average requirement - Calories required per day to maintain body weight

Unit 2

AC1.2 LO1

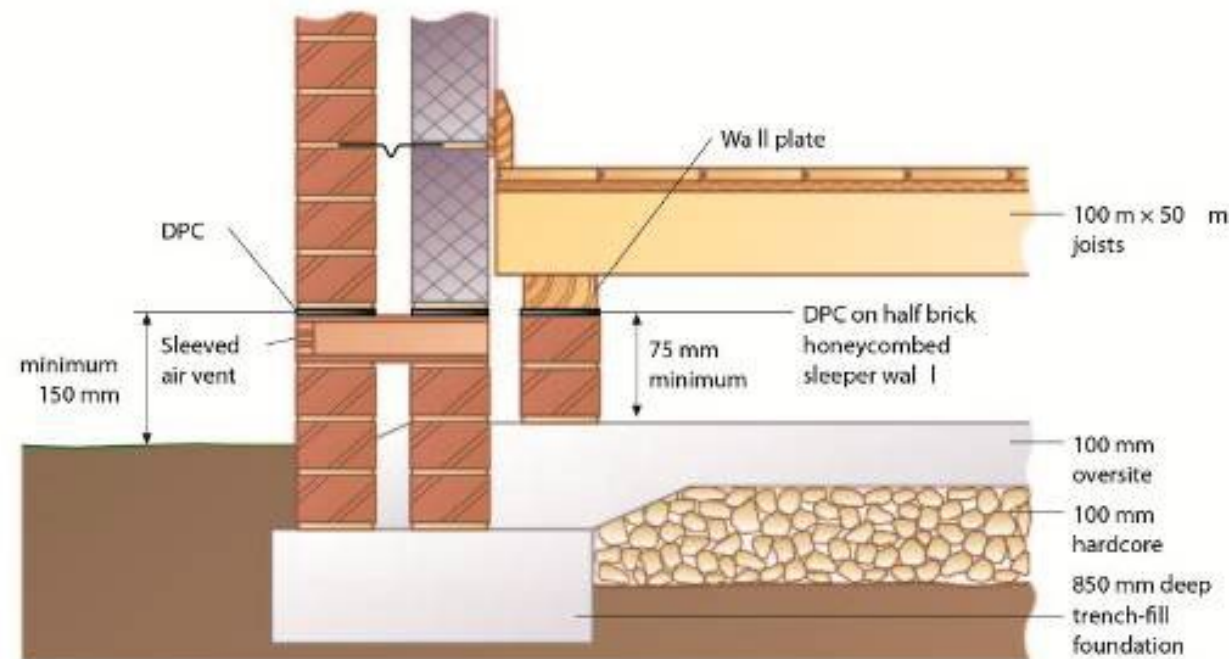
Different Life Stages	
Children 1-12 NEEDS -All nutrients are important especially proteins vitamins and minerals - A good variety of foods should be introduced early - Food needs to be made into fun shapes to encourage variety in the diet - Get kids involved in the cooking - Small portions, presented well - Limit the amount free sugars in foods and drinks - Children should be active, can become more sedentary playing computer games. This can lead to obesity	Adults NEEDS - All nutrients are important especially proteins vitamins and minerals - Keep body weight within a healthy range - Eat less calories as BMR decreases with age - Eat sufficient calcium and vitamin D to promote healthy bones - Eat plenty of fibre as the digestive system slows down with age Vitamin C aids the uptake of Iron to avoid anaemia - Salt intake should be kept below >6g to avoid high blood pressure - Body reaches peak bone mass at 30yrs - Avoid high fat/ high sugar food
Adolescents (TEENAGERS) NEEDS - All nutrients are important especially proteins vitamins and minerals - The body is growing from a child into an adult - Minerals are taken up into the bones to reach peak bone mass as adults - Girls start menstruating need plenty of iron to avoid anaemia	Older Adults NEEDS -Vits A, C, E to prevent age related eye conditions. Vit B to help body's use of energy - Body systems such as digestion and circulation slow down. - Metabolic rate slows down, so reduction of carb intake - High - Less active as weight may be gained - Smaller appetite

Special diets			
Type of diet	Reason	What can be eaten	Foods to avoid
Vegan	Health, religion, ethical	All plant based foods	All animal foods and products
Lacto-ovo vegetarian (Normal veggie)	Health, religion, ethical	All plant based foods, Dairy and eggs	No food which involves killing an animal
Lacto vegetarian	Health, religion, ethical	All plant foods All dairy	No food which involves killing an animal and eggs
Gluten free	Coeliac disease	Rice, soya, maize, pulses, beans and nuts	Foods containing wheat. Biscuits, pasta, bread
Lactose free	Lactose intolerance	Lactose free products Alpro, soya milk, oat milk	Foods containing dairy
Low salt	Heart disease and high blood pressure	Fruit and veg, dairy and unprocessed meat	Yeast extract, processed foods, sauces
Low sugar	Diabetes, weight reduction	Fruit and veg, dairy and unsweetened products	Foods full of sugars and fizzy drinks

The diagram opposite shows a section through a timber floor and wall.

There are **three** different types of floor finish:

- Chipboard
- Moisture-resistant chipboard
- Tongue-and-grooved softwood floorboards



What is the purpose of skirting boards?

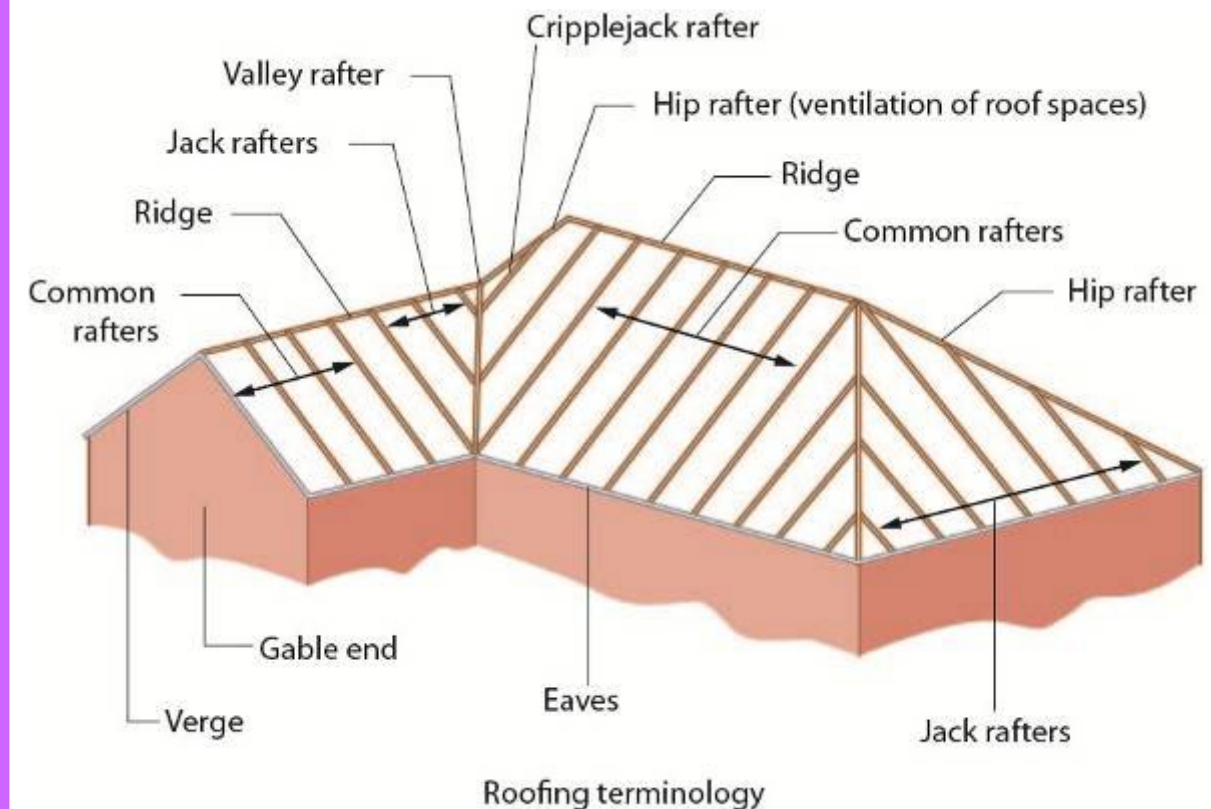
Functions of a floor

Floors support their own weight. They also resist loads, such as the dead loads of furniture and live loads such as the occupants of the building.

A floor has **four** functions. It:

1. Provides a level surface
2. Reduces sound transmission
3. Transfers loads to walls
4. Provides accommodation of services.

The components of a roof



List some suitable materials and products that could be used to finish the roof pictured below.

Functions of a roof

A roof supports its own weight and resists dynamic loads such as snow and wind.

A roof has **five** functions. It:

1. Discharges rainfall away from the building
2. Waterproofs a structure
3. Can create a recreational area if flat
4. Can improve a structure's aesthetic appearance
5. Can provide additional accommodation/space (e.g. in the loft or attic).

HT2 RE Y11 CORE - The Origin and Purpose of Life

Origins

The Big Bang Theory

This is a scientific explanation of how the world began. It claims the world started 20 billion years ago with a huge explosion. The earliest signs of life appeared millions of years ago, before land and sea settled. The earth was very hot and amino acids, proteins and minerals fused to give life forms. All other life forms developed from these. Evidence for the Big Bang comes from the fact the universe is still expanding, from what they presume is a single point. Also there is background microwave radiation.

Charles Darwin and Evolution

Charles Darwin was a natural scientist. He wrote a book called *Origin of the Species* in 1859. Darwin claims that the world is constantly changing and adapting (evolution) so that animals and plants can survive their environment. Where species fail to adapt they will become extinct. He called this natural selection. This theory suggests that nothing was designed to look as it does now, or to work as it does now. It claims that it is wrong to believe that things were designed as they are now. Darwin does not dismiss the idea of a God as he sees the process of evolution as an organised process.

The Genesis Creation Story

This states that a single God created the world and the universe. The story is found in the first book of the Bible, Genesis. It is believed that this creation lasted 6 days and one day of rest (7). This story is understood in different ways, but is a religious truth – doesn't change. For some, the creation story in Genesis is literally (word for word) true. They believe that an all-powerful, all-knowing and all-loving God is capable of this act. This is a fundamentalist (creationist) view.

Christian Teachings on the Environment

Christians believe that the natural world is God's creation and so is holy and precious. The environment must be looked after as part of God's creation. They also believe that God gave humans the stewardship of the earth, which means that Christians must look after the earth, its plants and animals, and pass on to their descendants a better earth than they were born into. Christians believe that the resources of the earth must be shared fairly and should not be used up by one group.

They believe this because:

- the Bible teaches that God created the world and that all of God's creation should be respected;
- the teachings of Jesus, especially the Parable of the Talents, says that Christians should leave the world better than they found it;
- Jesus taught that Christians should share the good things of the earth.

However, Christians also believe that humans have been placed in control of the world by God and that the resources of the world have been created by God for humans to use because this is what the Bible says. So Christians must respect and care for the environment, but they must not let environmental concerns hurt human beings.



TECHNICAL VOCABULARY

Creation	The world that is created or the act of creating
Dominion	To have authority over something
Stewardship	To have responsibility for caring for something
Pollution	To introduce something into the environment that damages it
Greenhouse Effect	The trapping of gasses in the lower atmosphere which raises the temperature
Ahimsa	The idea of doing no harm to life
Sanctity of life	The idea that life is holy and belongs to God
Vivisection	Testing done on animals
Vegetarian	The practise of not eating meat

Forms of Pollution and their possible solutions

1. Acid Rain
 - This can be reduced or stopped by the reducing the amount of fossil fuels used
2. Human waste
 - Solved by recycling, different forms of rubbish disposal
3. Radioactive pollution
 - Waste reprocessing can reduce the amount of waste that needs to be disposed of.

Animal Rights

Religious people believe that animals are part of God's creation and so should be treated with respect. Humans have dominion over creation and so some believe you can use them for food and clothing. The issue for religious people is *how* we use animals.

Animal Experimentation

Arguments for:

- It is done for the benefit of humans
- It helps develop medical knowledge, including surgery and drugs
- They can help with testing new products

Arguments against:

- It is cruel
- Modern science has developed alternatives
- There is a difference between animals and humans so some experiments are pointless

GCSE RE – Relationships and families HT2

What are Christian attitudes towards human sexuality?

Many Christians see heterosexual relationships as part of God’s plan for humans. Genesis says that a man and woman should be united and ‘increase in number.’ Therefore, some are against sex outside marriage, homosexuality and artificial contraception.

Some Christians are against homosexuality based on Leviticus 18 but some Christians argue about the meaning behind these texts. The Bible does not mention relationships between two women. The Catholic Church teaches that being a homosexual is not a sin, but homosexual sex is. The Church of England welcomes faithful committed homosexual couples but does not marry them in church. Other Christians believe that the Bible passages need to be interpreted in context and would marry homosexual couples, just like heterosexual couples.

GCSE Theme: Religion, Relationships and Family

What are Buddhist Attitudes towards Sex?

Buddhist attitudes vary, depending on the country and culture.

Buddhism teaches that sex is not wrong, and that people have desires and they shouldn’t be denied. However, sexual attraction leads to craving which can lead to craving which leads to suffering. Buddhists believe that their sexual behaviour should be guided by kindness, generosity, honesty and not causing harm to oneself or others.

Buddhist monks and nuns take a vow of celibacy. They avoid sexual activity as one aspect of a simple life.

The Buddha did not teach on homosexuality or same-sex relationships. Many Buddhists would say that the five moral precepts apply to all relationships. What matters is consent and respect.



What are Christian attitudes to Contraception and Family Planning?

All Christians believe that having children is a gift from God. Christianity also teaches that parents should be responsible and there may be times when bringing children into the world, because of economics or psychological reasons, is not sensible.

Christians disagree about the methods of limiting family size. The Catholic and Orthodox teach that artificial methods (condom) goes against God’s purpose of sex which is to express love AND allow the possibility of creating new life. To use contraception is to be selfish and prevent God’s plan. Any form of contraception should be natural (rhythm method). Some Catholics disagree with this when considering the modern world.

Many Christians believe that sex is for creating new life OR express love and should make responsible choices about family life. Also contraception may be used to protect the mother’s health and to allow a time for the relationship to develop.

Some Christians will only use certain forms of contraception because some allow for the egg and sperm to meet (coil) and they see this as causing an early form of abortion and the ending of life that started at conception.

SUBJECT TERMINOLOGY	
Adultery	a married person having sex with someone other than their marriage partner
Civil partnership	a legal ceremony giving a homosexual couple the same legal rights as a husband and wife.
Cohabitation	living together without being married
Contraception	intentionally preventing pregnancy from happening.
Divorce	Legal ending of a marriage
Extended family	A family which extends beyond the nuclear family to include grandparents and other relatives.
Faithfulness	staying with your marriage partner and having sex only with them.
Family planning	Using contraception to control how many children couples have and when they have them.
Gender equality	The idea that people should be given the same rights and opportunities regardless of whether they are male or female.
Gender prejudice	Unfairly judging someone before the facts are known ; holding biased opinions about an individual or group based on their gender.
Gender discrimination	Acting against someone on the basis of their gender; discrimination is usually seen as wrong and may be against the law
Nuclear family	mother, father and the children living as a unit
Procreate	Produce children
Human sexuality	How people express themselves as sexual beings
Heterosexual	Sexually attracted to members of the opposite sex
Homosexual	Sexually attracted to members of the same sex
Marriage	A legal union between two people as partners in a relationship
Polygamy	The practice or custom of having more than one wife or husband at the same time.
Re-constituted family	where two sets of children become one family when their divorced parents marry each other.
Re-marriage	marrying again after being divorced from a previous marriage.
Sex before marriage	Sex between two single unmarried people
Same sex marriage	Sex between partners of the same sex

What are Buddhist Attitudes to Contraception and Family Planning?

Buddhist traditions may differ about contraception because of when it is believed consciousness arises. Some may say at conception, some may say that it is continuous from life to life. Most Buddhists believe that it is acceptable to use a form of contraception that prevents fertilisation, but others would say something like the morning after pill is less acceptable as it may be seen as a form of killing and going against the first moral precept. If having the child might harm the life of the mother, the morning after pill may be seen as the lesser of two harms.

Having children is not a sacred duty in Buddhism and the Buddha did not recommend family life as a path to enlightenment. Buddhists can choose what to do but should be able to bring children up in a happy and safe environment.

What are Buddhist teachings on Marriage?

Marriage is a social contract and not a religious duty or sacred act. Marriage is a secular ceremony depending on the country but a Buddhist monk may bless the service.

Having children is not seen as the purpose of marriage and there is no obligation or pressure to have them. Because everything is interconnected a benefit of married couples is that it develops relationships which produce stronger communities.

Most ideas around sex before marriage are cultural but it is not forbidden but must be according to the five moral principles. The same is true of cohabitation. Most Buddhists would see adultery as wrong as it involved dishonesty and does not show kindness towards your partner. Same sex marriages are more likely to be accepted because of culture. Buddhism does not teach against them but teaches that in any relationship respect should be shown.

What are Buddhist teachings on Divorce?

Buddhism does not say that a couple cannot be divorced but does say that they should lead a life of implied duty and responsibility to one another so would not encourage it. Often ideas about divorce are also influenced by cultural values. By following the five moral precepts and trying to lead a life developing loving-kindness Buddhists are more skilful and would be encouraged to try and make their marriage work.

Buddhists are also likely to teach that hanging on to a broken relationship produces suffering and should be avoided. Buddhism accepts that divorce may well be a painful process, but every attempt should be made to make it as respectful as possible. Causing hurt will never make a person happy.

Buddhists also do not teach against remarriage as it may be a way to commit to a new relationship and find happiness.

What are Buddhist teachings on the nature and purpose of family life?

Buddhism is not a family-centred religion, there is no expectation to have children. The nature of the family, extended or nuclear, usually reflects the customs of the country they live in. The Buddha did not forbid polygamy but did say it may cause suffering for those involved. Same-sex parents are accepted as long as the relationship is respectful, Buddhist values are more important than gender.

Buddhism does not teach about family life apart from the general rules to be loving, caring and to remain faithful to each other. Parents are responsible for raising children and teaching them the faith. Buddhists will often have a shrine in the home and children are shown how to show respect to the Buddha.

In later life, children are expected to support their parents when old age or illness becomes an issue.

What are Christian Teachings about Marriage?

Society now recognises same-sex marriages as having the same legal status as non-same sex marriages. Many Christians are against this as they see marriage as being more than a committed relationship and somewhere that new life can be created. The law protects churches from having to marry same sex couples.

For many Christians marriage is seen as part of God's plan to unite couples. Some Christians see it as a sacrament which reflects the commitment made by God to humans. Marriage is a spiritual bond that reflects the love of God. For many Christians the purpose of marriage is to provide a stable, secure environment for family life.

Christians who are opposed to sex before marriage also oppose cohabitation. Many Anglican and Protestant Christians believe that marriage is best, but people may live together in a faithful, loving and committed way without being married.

What are Christian teachings on Divorce?

Some Roman Catholic Christians believe there can be no divorce because Jesus banned divorce. Also when you marry, you make a covenant with God which cannot be broken without God's consent. Therefore a couple can never be divorced according to God's law. Catholics do have Marriage Tribunals which can decide that a marriage never existed (annulment), but there can be no divorce and Catholics who have state divorces are not allowed to remarry.

Most Protestant Christians believe that if a marriage goes wrong and there is no chance of bringing the couple back together, then there can be a divorce. They believe this because God is always prepared to forgive sins if people are determined to live a new life, and in St Matthew's Gospel Jesus allows divorce for adultery.

What are Christian teachings on Family Life?

All Christians believe that children should be brought up in a family with a mother and father (unless one of them has died). Christian marriage services refer to founding a family and bringing children up in a Christian environment as a major purpose of marriage.

Christians see the family as the basis of society. Children are a gift from God and parents are expected to look after them properly (feeding, clothing, educating, etc) and help them to be Christians by having them baptised and taking them to church on Sunday. Christian children are expected to respect their parents (fifth commandment) and care for them when they are old.



Physical Play	
What do children learn through physical play?	Spatial awareness Activities to stay healthy How to take care of yourself and self-care Gross motor skills Fine motor control
What activities and resources can we use for physical play and learning?	Role play of home life situations Food preparation, snack times and handwashing Bat and ball games Tricycles, bicycles, sit and ride toys Climbing frames, swings, slides Creative activities Playdough, sand and water activities Construction toys Baby gyms, push along toys, rattles.

Cognitive Play	
What learning is promoted through cognitive play?	Problem solving skills Creativity Use of imagination Listening and attention skills Numeracy skills Exploration of environments inside and outside Confidence using technology Understanding of others’ experiences
What activities and resources can we use for cognitive play?	Counters, weights, play money Shape sorters, puzzles, matching pairs Trips and visits Digging and building Computer games, apps, PCs, tablets Writing Small world toys

Social Play	
What learning is promoted through social play?	Development of friendships and relationships Emotional support networks Sharing, turn taking, compromise.
What activities and resources can we use for social play?	Team games and activities Group activities Role play Board games

TECHNICAL VOCABULARY	
Unoccupied play	Baby makes movements discovering how their body moves.
Solitary play	A child plays alone, not interested in playing with others.
Spectator/onlooker play	A child watches other children play but doesn’t join in with them.
Parallel play	A child plays alongside or near others but does not play with them.
Associative play	A child starts to interact with others during play but there is not a lot of interaction.
Co-operative play	A child fully interacts with others and is interested in the activity and other children, they create their own rules.
Locomotor play	Any type of physical activity using gross motor skills- enjoying movement.
Creative play	Freedom to explore resources, making something, trying new ideas.
Sensory play	Using the senses to explore, discover textures and functions.
Imaginative play	Children pretend in some ways, act out their experiences, role play and small world play.

Communication and language play	
What learning is promoted through communication and language play?	Listening skills Process of following instructions Vocabulary and literacy skills, speaking and questioning skills Expressing and discussing feelings Having conversations
What activities and resources can we use for communication and language play?	Books – lift the flap, textured, stories, talking books, story sacks. Role play Nursery rhymes, songs, dances Listening/action games.

Emotional Play	
What learning is promoted through emotional play?	Expression of feelings Promoting independence Improving confidence, esteem and awareness Building relationships
What activities and resources can we use for social play?	Puppets and dolls Role play activities Emotion faces Mirrors Circle time/carpet time

Child Development: Learning Through Play (B).



Adult led play	
What is adult led play?	This type of play is where an adult plans; organises and leads the activity with the child/ren. Activities are planed with the children in mind and will be appropriate for their stage of development. Riskier activities are usually adult led.
What are the benefits of adult led play?	Adult led play supports language development – through discussion, sharing ideas and the introduction of new vocabulary. Higher risk activities can be done. Children can be shown how to use equipment.
What are the disadvantages of adult led play?	Children’s freedom is limited to what the adult wants them to do; there is not a choice or opportunity to explore. The activity may be time limited- this can limit children. Repetition is the key for children to practice skills and there may not be time to do this.

Adult initiated play	
What is adult initiated play?	In adult initiated play the adult sets up the play or the activity but they do not lead it. Resources will be there for the children to use and the adult can guide but children access it in their own way in their own time.
What are the benefits of adult initiated play?	Encourages the development of new concepts and skills – children might discover things – new ways of using equipment. It helps learning – children show concentration and perseverance as they think play has been their idea.
What are the disadvantages of adult initiated play?	Children may not learn the expected skill – children might not do what the adult hoped! This means that they have not practiced the skill the adult was trying to promote.

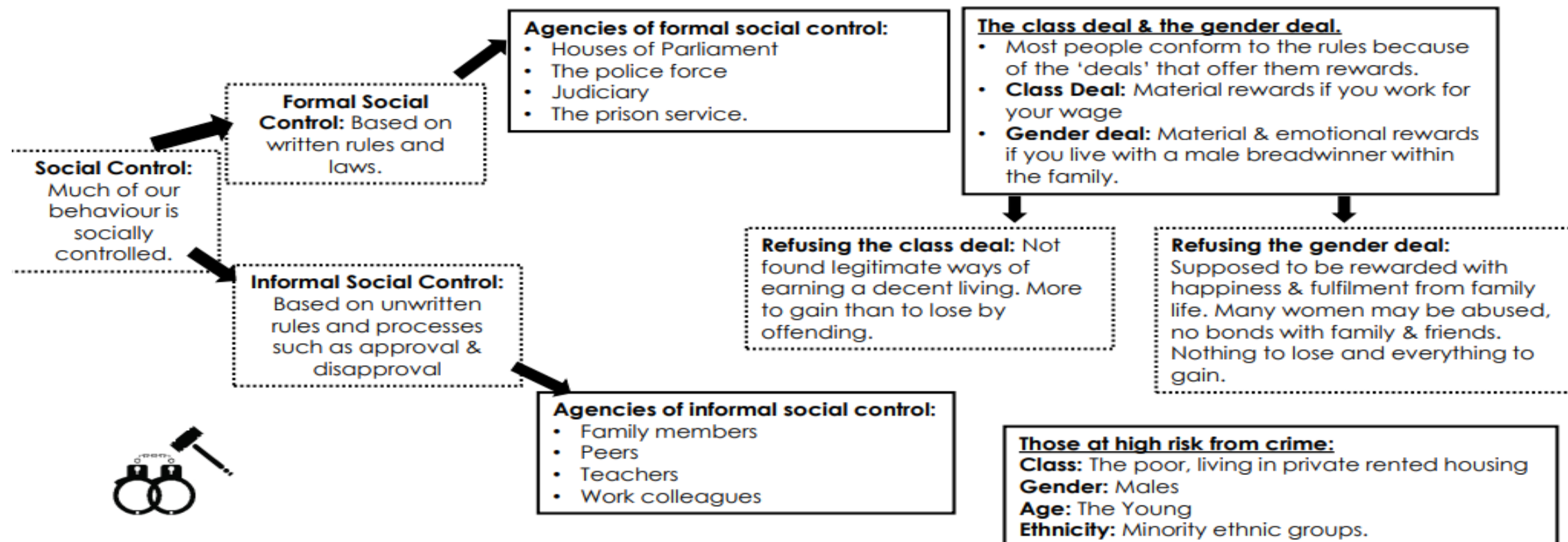
Child initiated play	
What is child-initiated play?	This is sometimes called free play as children can choose resources/toys and activities and decide how to play with them.
What are the benefits of child-initiated play?	Emotional development is supported. Children gain independent skills. Helps children to be creative as they develop their own ideas on play. Concentration – 3-4 year olds can concentrate for up to 1 hour if they are directing themselves. Social skills – playing independently helps children learn cooperation and turn taking.
What are the disadvantages of child-initiated play?	Limiting development of skills – children have strong play preferences so may not take advantage of the whole range of play opportunities which can limit development. Learning may be limited – children may not want adult involvement but this can help them achieve at more complex tasks.

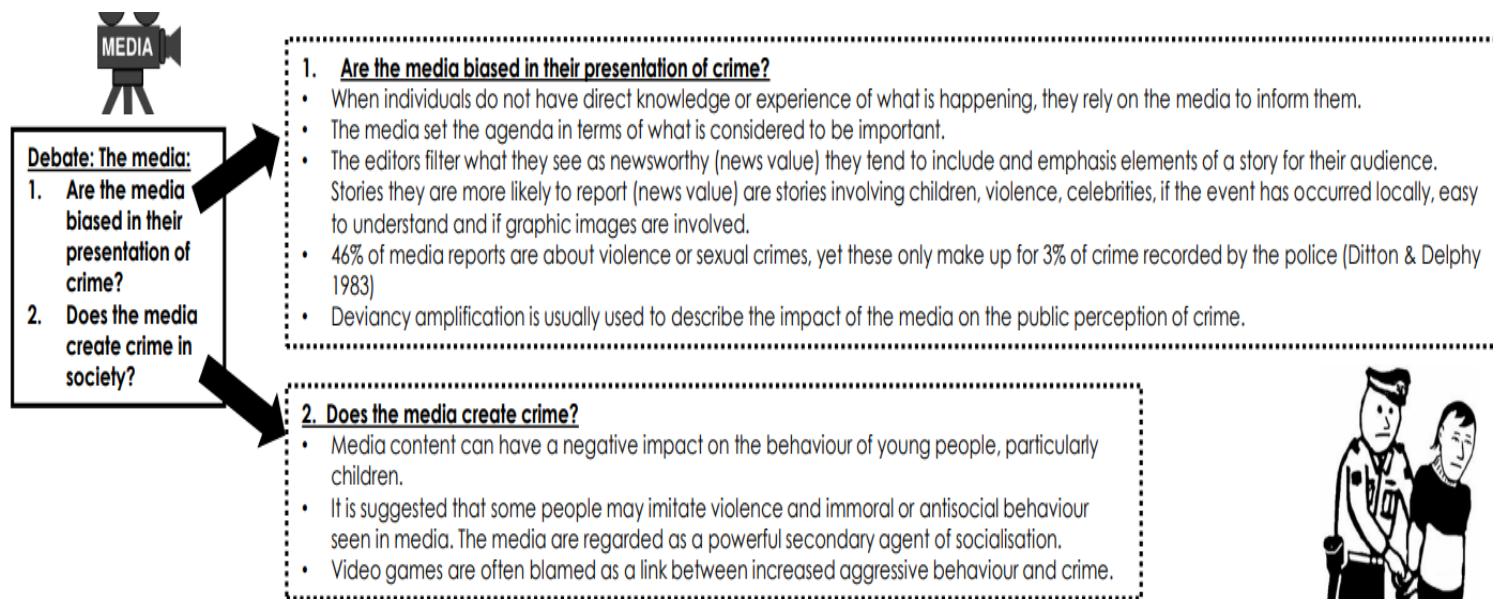
TECHNICAL VOCABULARY	
Benefits	An advantage or profit gained from something.
Repetition	The action of repeating something that has already been said or written.
Structures of play	There are 3 main structures of play – adult led play; adult initiated play and child initiated play.
Initiated	To cause a process to begin or start.
Advantages	A condition or circumstance that makes something more favourable.
Disadvantages	An unfavourable condition or circumstance that could reduce the chances of success.
Sensory	Relating to the physical senses – sight; hearing; taste; smell and touch.
Encourage	To give confidence, hope and support.
Resources	A supply of staff, money and materials that can be used to function effectively.
Adapting	To make something suitable for a new purpose.

Activities	
What social skills can be practiced through child initiated play?	Being a friend; conflict resolution; being polite; praising; listening; following direction; sharing; joining in; patience; turn taking; helping others.
What needs to be considered when organising play?	The challenges and opportunities the activity presents and how we are helping children reach their milestones. We need to think about how many children will be taking part and what their needs and preferences are.
Should we use individual or group activities?	0-18 months individual activities to promote solitary play. From 2 years individual activities based on a child’s likes/dislikes as they begin to show preferences. From 3 years group activities allow socialisation and understanding or rules and cooperation.
What sensory items can we use?	In sensory play we can use a wide variety of items including – sand; water; scented play dough; shakers; treasure baskets; dried pasta and arts and crafts.
Why is it important to explain how to use resources?	To support team working; so children know what to do with the resources; so children know the rules of the activity or game; to help develop confidence and for safety.
Why do we need to adapt some activities?	We want children to be engaged in activities and to keep their interest so the activities should reflect the child’s likes/dislikes and their abilities. If they are considered as individuals they will feel more valued therefore more motivated gaining more from the activities.

Who commits crime? Why do differences occur? 			
Gender	Ethnicity	Class	Age
Women committing less crime. - Gender socialisation - Fewer opportunities - More domestic responsibilities - May be treated differently in the criminal justice system e.g. sad, rather than bad, given a lenient sentence. Chivalry thesis - Others argue they are treated more harshly- double deviancy. Therefore do not commit crime. Women's involvement in crime is increasing: - Lost a lot of their controls and restraints - Women are not experiencing equality in the work place- gender pay gap.	 - Inaccurate statistics - Labelling- racism and stereotyping within the police practice. More ethnic groups are stopped and searched. Institutional racism within the police- most police officers are white and may label particular groups (Stephen Lawrence murder) - Linked to their social class, higher levels of crime in the ethnic minority groups could link to the fact they are also possibly experiencing poverty and this leads to crime. - Media reinforcing views- reporting in the media on particular groups can generate mistrust and hostility.	 - Inaccurate statistics- lower-class criminals may commit crimes that are more identifiable and more likely to be targeted by the police. - Socialisation - Material deprivation- may commit crime to obtain the things others have - Education- W/C more likely to be in the bottom sets/streams so may look for other routes to get what they need e.g. crime. - Anomie- mismatch between goals and the means to achieve the goals. - Labelling. - White collar crime is not as easily identifiable as crimes committed at lower levels.	 - Status frustration- lack of independence and caught in transition. Lack of responsibilities can lead them to drift into deviant and criminal behaviour. - Peer Pressure - Edgework- thrill seeking and risk-taking. Getting a "buzz" from committing a crime or displaying deviant behaviour. - Socialisation- Some young people are inadequately socialised and have learned criminal behaviour as a norm or value. - Police stereotyping - Media moral panic/folk devil. - Subcultural theory

TECHNICAL VOCABULARY	
Crime	Behaviour that breaks the law.
Deviance	Behaviour that does not conform to the dominant norms of a specific society
Socially defined behaviour	Thought of as natural but is actually the product of cultural expectations.
Official Crime statistics	The way crime is officially measured, based on statistics collected by the Home office.
Victim surveys	Surveys of the public which ask them to report any crimes they have experienced, whether or not they have reported them.
Self-report surveys	Surveys of the population which ask them to confess to crime they have committed. But for which they have not been caught.
Reported crime	Crime is reported to the police. Not all crime is reported
Recorded crime	Crime that is recorded by the police. Not all reported crime is recorded.
Validity	Data is valid if it gives a true picture of what is being studied.
Dark figure of crime	A large amount of criminal activity never appears in the crime statistics.
British Crime Survey	BCS: A victim survey conducted annually by a team of researchers at the home office. The BCS measures the amount of crime in England and Wales by asking people about crimes
Social constructed	Views of what is criminal or deviant behaviour are influenced by the values and norms of the society we live in.
Peer group pressure	A group of a person's own age who are important to them and often influence them to behave in a particular way.





Crime Key Studies	
Study	Findings
Merton's (1938) strain theory Functionalist	- People's aspirations and goals are shaped by their culture eg American Dream = economic success - Some people experience a strain between the goals of society and the means of achieving them. This may lead to anomie (normlessness) - They may seek out an illegitimate route to economic success eg crime
Becker's (1963) interactionist perspective interactionist	- Argues deviance is created by society - Powerful social groups create deviance by making the rules and applying these to others - People can develop deviant careers if labelled as deviant - The deviant label can become a master status (main identity) - Labelling can lead to the self-fulfilling prophecy
Heidensohn's (1985) control theory Feminist	- Women commit less crime because they are more closely controlled in society - In a patriarchal society, women have stronger social control placed on them which can reduce opportunities for crime - At home, women are controlled by domestic responsibilities, at work by fear of damaging reputation and in public by fear of male violence
Carlen's (1988) class and gender deal Feminist	- Carlen explains why working-class women commit crime - She argues they are promised two rewards for conforming- 'class deal' (money and material items from working hard) and 'gender deal' (happy domestic life with husband and children) - She found WC women committed crime when these rewards were blocked due to: poverty, living in care, drug addiction. - They had nothing to lose and everything to gain
Cohen's (1955) subcultural theory Functionalist	- Argues delinquency is carried out by groups not individuals, and that groups often commit non-utilitarian (not motivated by money) crimes - Working class boys experience status frustration at not succeeding in middle class school - They join/ form a delinquent subculture with an alternative status hierarchy where they will gain status for deviance

Key term	Definition
Crime	Any form of behaviour that breaks the law
Custodial sentences	Punishment where offenders will sentenced to go to prison or Young offenders institute
Crime rate	A measure of the level of criminal activity in a society based on crimes recorded by the police
Dark figure of crime	The unknown amount of criminal activity that is not reported or recorded to the police
Deviance	Any form of behaviour that does not conform to the norms of a society – this can be influenced by time, place, social situation and culture
Formal agencies of social control	Formal rules and social controls that tell everyone within society what is and is not acceptable e.g. the police, the courts, the government
Informal agencies of social control	The approval or disapproval of people around us that can influence and control our behaviour e.g. family , friends, peer group, schools, work, religion
Official crime statistics	Government statistics on crime based on official sources e.g. police records
Self-report study	A survey that asks respondents to identify crimes they have committed, but for which they have not been caught
Social construction of crime	What is considered criminal and deviant changes over time or when it takes place, therefore is socially constructed. No act is in itself criminal or deviant- it largely depends on how other member of society see it e.g. homosexuality
Victim survey	A survey that asks respondents about their experience of crime, regardless of whether or not those crimes have reported
Collective conscience	The shared beliefs that bind communities together and regulate individual behaviour
Deviant career	Deviant behaviour that develops over time due to labels. e.g. labelled a troublemaker at school and then goes onto commit crime later in life
Deviancy amplification	The exaggeration of a particular social issue as a consequence of media coverage, e.g. anti-social behaviour by groups of young people



Key studies

Davis and Moore (functionalist)

Society needs to place people into roles / social positions that need to be filled for society to operate smoothly. Some roles come with higher status (doctors, lawyers). People who fill the top roles are the most able, have the most drive/ambition and are the most competitive.

Marx (Marxist)

Class is an important division, the bourgeoisie have power/control over the proletariat who are exploited for profit. The working class and petty bourgeoisie didn't benefit from the growth of capitalism. Small business couldn't compete and had 'downward social mobility'. The working class are not aware of their exploitation.

Devine

Conducted interviews at a car factory in the 1980s. She found evidence of the working class still being separate and still had working class values. This goes against the idea of embourgeoisement.

Townsend

Conducted surveys on 2000 households about poverty, used relative poverty index and found the government underestimated poverty (6% vs. 22%). Concluded that poverty should be measured using a number of factors.

Murray (New Right)

There is a growing underclass in British society caused by overgenerous welfare benefits. Can be seen in three ways – welfare dependency, juvenile delinquency, loss of traditional values.

Weber

Believed class is important but is not just tied to income/wealth, status and power can affect someone's position in society too. He thought capitalism actually expanded the middle class and a revolution by the working class is possible. Distinguished between three types of power in society – charismatic, traditional and rational legal.

Walby (Feminist)

Men have more power in society due to patriarchy. This is shown in 6 ways – paid work/employment, labour in the home, patriarchal culture, sexuality, male violence and the state. Public patriarchy is now more likely to exist than private patriarchy.

Poverty

Definitions of poverty

Absolute

Not being able to afford things you need to survive e.g. food/shelter
Politicians prefer it (looks like less people are in poverty) and is a fixed definition, does not change between countries

Relative

Not being able to afford the general standard of living in society e.g. internet
Sociologists prefer it (more accurate) and takes into account differences in standards of living between countries.

Reasons / explanations of poverty

Reasons

Poor health, divorce, old age, disability, unemployment, lack of education

The poor are responsible

Culture of poverty – Socialised within a subculture to accept poverty, see it as normal, unlikely to try and get themselves out of it. Leads to a cycle of deprivation – poverty being passed from one generation to the next.

Cultural deprivation – May not have the correct norms and values to be motivated to get out of poverty, may seek immediate gratification (e.g. spending money rather than saving)

Welfare dependency – Overgenerous welfare benefits could mean there's no incentive to work for less than you would receive. Can lead to the poverty trap.

Society is responsible

Class inequality – Marxists argue capitalism is responsible for poverty as the working class are not given opportunities to get out of poverty (low wages and zero hour contracts, low social mobility)

Globalisation – Has led to a higher cost of living and low minimum wages, with less manufacturing jobs as these have moved abroad.

Are poverty statistics accurate?

Yes

Functionalists – official statistics are accurate

No

Marxists – statistics underestimate poverty so the working class believe society is fair and do not revolt
Feminists – statistics underestimate female poverty due to lower wages, less opportunities etc.
Townsend – governments underestimate poverty and should use relative measures

Is poverty still an issue in society?

Yes

Poverty rates are increasing for all age groups (1/5 people)
Marxists – minimum wages and zero hour contracts still cause poverty
Feminists – poverty is still an issue for women

No

Functionalists – government policies have aimed to reduce poverty
Less people are in absolute poverty now

Power and authority

Formal power – power from the title/role someone has

Informal – power from respect/appreciation earned

Forms of power / authority

Traditional – inherited (e.g. monarchy), based on established customs/traditions

Charismatic – shown by a leader with persuasive/inspirational qualities

Rational legal – shown by organisations through laws, rules and regulations

Who has power?

The ruling class have power over the working class (Marxist view)

Men have power over women (in employment, the home, society, violence, the government) (feminist view)

Heterosexuals – LGBT may have less power in politics/police etc.

White individuals – BAME groups under-represented in politics

Older people – younger may be excluded from politics (vote at 18)

Power of the state

Political system in the UK – democracy, first past the post system (MPs elected based on votes in constituency)
Other systems – dictatorships (one person in power), proportional representation

Can the public influence the state?

Yes – pluralist view, pressure groups, petitions, protests etc.

No – conflict approach, Marxists, power of businesses rather than the public

The underclass

Does the underclass still exist?

Yes

Murray – underclass is in Britain, can be seen in welfare dependency, juvenile delinquency and a loss of values
Members of the underclass were blamed for the London riots
There are more lone-parent families in the underclass

No

Murray blames the victims for being welfare dependent but could be due to divorce etc.
Marxists – the underclass are scapegoated to blame for society's problems
Many people who are on benefits still aspire to have paid employment/better themselves

Key terms

Absolute poverty - Not being able to afford the basic things you need to survive in life e.g. food, clothing,

Achieved status - Social positions are earned through personal talent, merit and effort, not fixed at birth

Ascribed status - Social positions/status are fixed at birth (due to class) and do not change over time

Bourgeoisie - The ruling class who owned the means of production and exploited the working class

Culture of dependency - The welfare system encourages people to stay on benefits rather than support themselves through work

Glass ceiling - An invisible barrier in employment that prevents some groups such as women or ethnic minorities from gaining promotions

Life chances - The opportunity/chance of achieving positive or negative outcomes (e.g. healthy/ill, rich/poor) as you progress throughout life

Power - The ability to get what you want, despite opposition

Pressure group - A group formed to influence government policy on a particular issue

Relative poverty - Not being able to afford to meet the general standard of living compared to most other people in their society

Social exclusion - The inability of some groups in society (e.g. the elderly, the working class) to play a full part in society/access the full benefits

Social inequality - The uneven distribution of resources (e.g. money or power) and opportunities

Social mobility - The ability to move up the social ladder

Social stratification - How society is structured in a hierarchy of layers based on factors such as age, gender

Status - The social standing or prestige someone is given by other members of society.

Underclass - A group in society who have different attitudes and values to others. They experience long-term unemployment, tend to be reliant on benefits

Wealth - The ownership of assets (e.g. property, land, jewelry) and savings, shares etc.

Welfare dependency - When individuals are reliant on the government for income for a prolonged period of time

Gender & Poverty:

- Women have longer life expectancy so more female pensioners living alone.
- Women more likely to head lone-parent families. Usually have a low income.
- Gender pay gap
- Women are more likely to be in part-time income than men.

Ethnicity & Poverty:

- Lower income families
- Generally disadvantaged in employment, pay and quality of job.

Child Poverty: More likely to live in poverty if:

- Household has four or more children.
- Where the head of the house is a lone parent or from an ethnic minority
- With no paid workers.

	Poverty	Power
Functionalists	Focus on the positive functions of poverty for some groups e.g. knowing you could live in poverty means people will undertake undesirable jobs, creates jobs for groups who deal with the poor. The poor also reinforce mainstream norms and provide examples of deviance such as lazy and dishonest.	Government and politics serves a purpose to regulate main stream norms and values. 
Marxists	Poverty is the result from class-based inequalities. It is inevitable that some people will be poor in a capitalist society. Poverty serves the interests of the bourgeoisie who can hire and fire people e.g. if they demanded higher wages, the bourgeoisie could threaten to higher from the unemployed.	Weber- power is based on coercion or authority. The main sources of authority are traditional, rational legal and charismatic authority. Marxists argue the bourgeoisie use their power to exploit the proletariat. They have economic and political power.
Feminists	Women face the greatest risk of poverty than men, lone-mothers and the older women living alone in particular. The gender pay gap and the inequality of the division of caring responsibilities contribute to this.	Patriarchy- the system of our social structures and practices are male dominated and they use this power to oppress and exploit women.
New Right	Focus on individuals behaviour rather than structural causes of poverty. Stress the importance of traditional values and self-reliance. Welfare dependency and the underclass are key ideas in this approach.	The government does not meet it's peoples needs, and they believe their should be minimal government intervention from the welfare state.

Sex & Gender

Sex: Male or female (biology)

Gender: masculine or feminine.

Gender & power:

Feminists see gender inequality as the most important source of division in society. Society is mainly controlled by men who have considerable power within politics and the workplace.

The crisis of masculinity:

Men are currently experiencing this because of the underachievement of boys in school, the decline of paid work in manufacturing, women's increased participation in paid employment.

Inequalities:

- Gender dominated occupations e.g. fire-fighting, nursery worker.
 - Glass ceiling for women- invisible barriers for promotion.
 - Gender pay gap.
 - Women's triple shift.
 - Childcare provision- barrier preventing women from returning to work.
- 

Ethnicity

A social group that share an identity based on their cultural traditions, religion or language

Ethnicity & Power:

Under-represented in political power/decision makers. Also under-represented in teaching, armed forces, police officers, particularly at high levels of the organisation. Although 40% of highest positions in the NHS are from ethnic minority groups

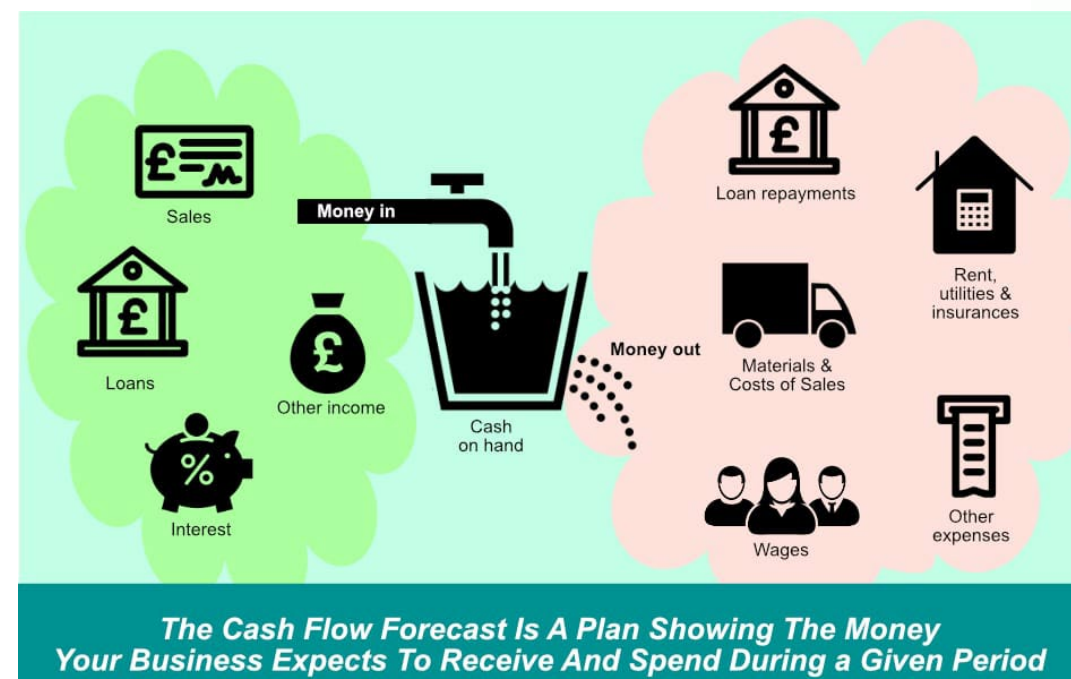
Inequalities:

- Unemployment
- Discrimination in the labour market
- Minority groups have become an underclass (see Charles Murray)
- Racism is built into the workings of capitalism.

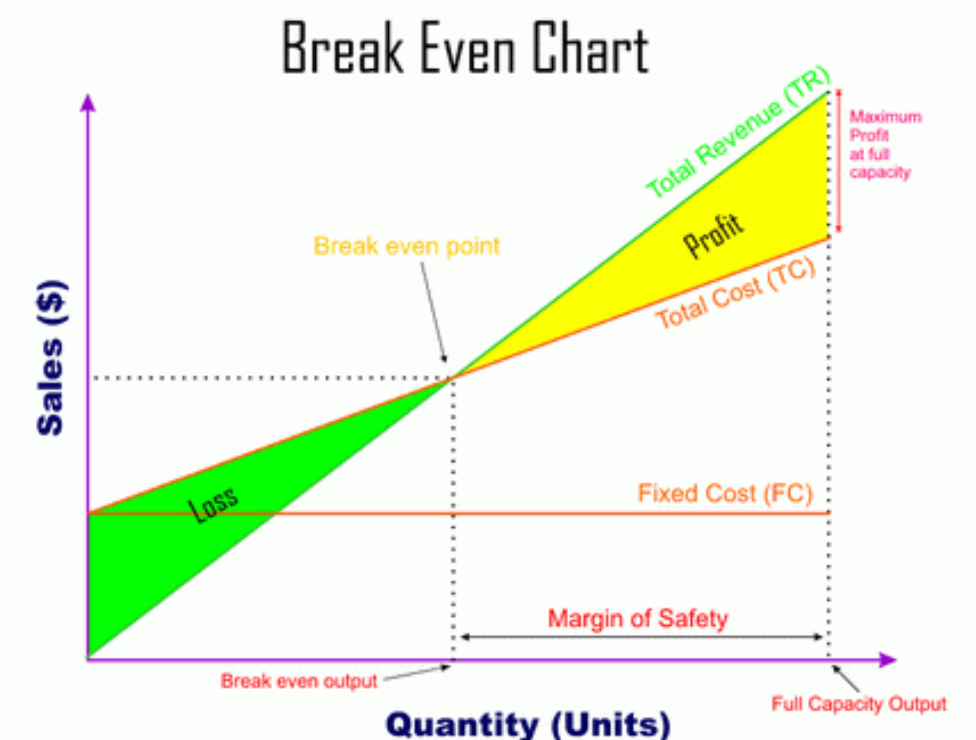
Topic Formula	
Revenue	Number of Sales x Price
Total costs	Total Fixed Costs + Total Variable Costs
Gross Profit	Sales revenue – Cost of sales
Net profit	Gross profit – Other expenses
Interest	$\frac{\text{Total repayment} - \text{borrowed amount}}{\text{Borrowed amount}} \times 100$
Break-even Point in units	$\frac{\text{Fixed Costs}}{(\text{Sales price} - \text{variable cost})}$

Profit and loss Account
Sales revenue minus
Cost of Sales (raw materials, packaging, direct wages) ↓ Equals
Gross Profit ↓ minus
Operating Costs (salaries, rent, insurance, advertising) ↓ Equals
Net profit

Cash flow forecast



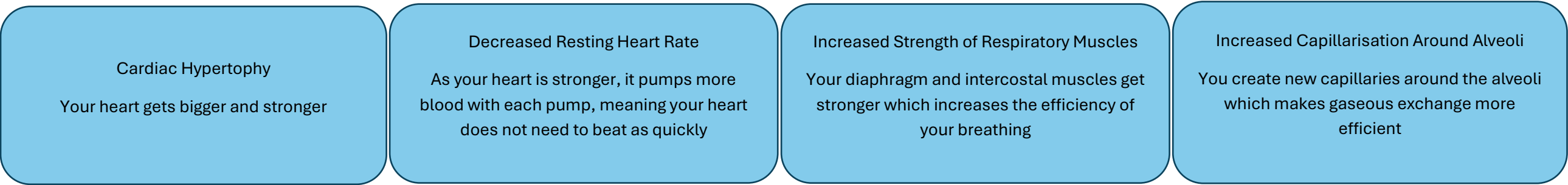
TECHNICAL VOCABULARY	
Medium	How an enterprise chooses to communicate with and advertise to its market
Promotional mix	The range of techniques used to communicate with current and potential customers. Advertising, public relations, direct marketing, personal selling and sales promotions.
Push Strategies	Push goods and services directly to the customer at the point of purchase. Making them aware of the brand.
Budget	Is the amount of money designated for a specific activity or period of time.
Assets	Items an enterprise owns. Includes property, machinery and cash.
Capital	Is the money, buildings and equipment that an enterprise uses in order to trade.
Start-up costs	The amount of money spent setting up a business before it starts trading.
Running costs	Are the fixed and variable costs that have to be paid to keep the business trading.
Cost of sales	Is the cost of producing the product.
Retained profit	Is profit earned and accumulated from previous trading reinvested back into the enterprise.
Net current assets	Are the difference between current assets and current liabilities. They show the value of the enterprise.
Liquidity	The ability of an enterprise to pay its debts
Trade Credit	Allows a customer to 'buy' things from a business without paying for them at the time. The money is paid back later in instalments.



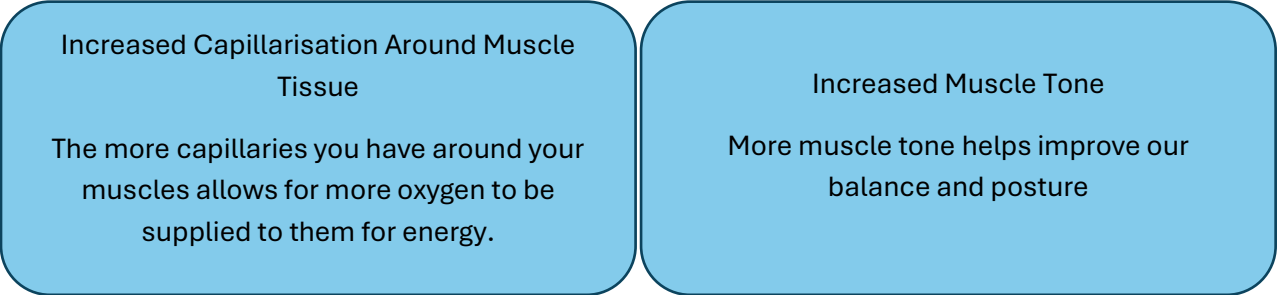
Methods of Training

Aerobic Endurance Training	Continuous, Fartlek, Interval, Circuit
Muscular Strength Training	Weight Training, Resistance Machines, Circuit
Muscular Endurance Training	Weight Training, Resistance Machines, Circuit
Speed Training	Acceleration Sprints, Interval, Resistance Running
Flexibility Training	Static Stretching, Proprioceptive Neuromuscular Facilitation (PNF)
Agility Training	SAQ Training
Power Training	Plyometric Training

Long Term Effects of Aerobic Endurance Training



Long Term Effects of Muscular Endurance Training



Long Term Effects of Muscular Strength Training

