



Rayner Stephens
HIGH SCHOOL

YEAR 10

KNOWLEDGE ORGANISERS

Autumn Term 2024/25



Year 10 An Inspector Calls Knowledge Organiser

Key Vocabulary:

1	Raisonneur	A character who acts as the voice of the author.
2	Socialism	A political system where the government gives power back to the workers.
3	Capitalism	A political system which places importance on individual wealth.
4	Façade	A deceptive outward appearance.
5	Misogynistic	Strongly prejudiced against women.
6	Patriarchal	A society dominated and controlled my men
7	Omniscient	All knowing.
8	Embodiment	The representation of something in a physical form.
9	Privilege	A special right or immunity awarded to a specific group.

10. Context

A	Priestley uses the play, along with the Inspector to promote his socialist views.
B	Set in 1912 society was heavily divided into a rigid class system.
C	Women had very few rights in 1912. When the play was written in 1945 women had gained more respect and equality.

11. Key quotations

Mr Birling	Sheila
'lower costs, higher prices'	'So I am really responsible'
Eric	Gerald
'I was in that state where a chap easily turns nasty'	'I didn't install her there to make love to her'
Mrs Birling	Inspector
'Girls of that class'	'We are all members of one body'

12. Key Characters:

a) Mr Birling

Mr Birling is the head of the Birling household. He has made himself very wealthy by being a 'hard-headed' business man. He is an active member of the community in Brumley and thinks that he might be in the running for a Knighthood.

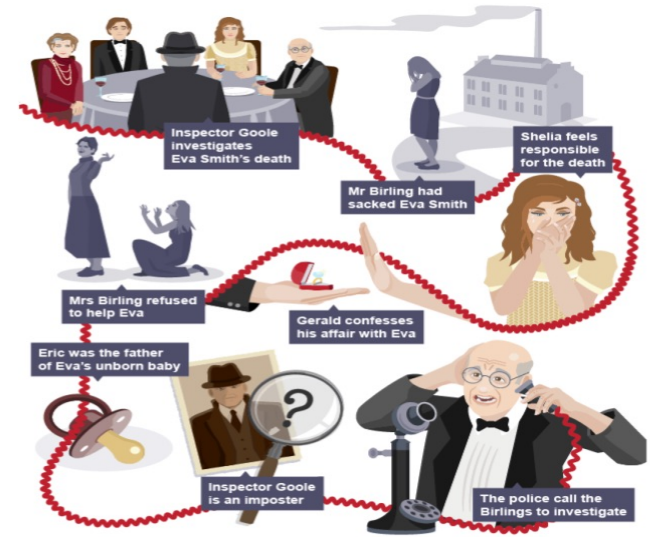
b) Sheila

Sheila Birling is Arthur and Sybil's daughter and is in her early twenties. At the start of the play she is celebrating her engagement to Gerald Croft and she is a giddy, naïve and childish young lady. The Inspector arrives and she is very shocked by the news of Eva Smith's death, she is also very regretful of her own involvement in the suicide.

c) Eric

Eric is the Birlings' son and is in his early twenties, he is described as being 'not quite at ease, half shy, half assertive'. In other words, he lacks confidence. At points he tries to stand up to his father but is talked down. It becomes clear that he is drunk at the dinner table and later it is revealed that he has been drinking too much for quite some time.

13. Plot Summary



d) Gerald

Gerald is described as 'an attractive chap about thirty, rather too manly to be a dandy but very much the easy well-bred young man-about-town'. Mr Birling is very pleased that Gerald is getting engaged to Sheila because his family are upper-class business owners, Mr Birling hopes they can join forces in business.

e) Mrs Birling

Mrs Sybil Birling is Arthur Birling's wife and right from the opening of the play she is cold-hearted and snobbish despite being a prominent member of local women's charity.

f) Inspector

The Inspector arrives whilst the Birling family are celebrating the engagement of Sheila and Gerald. The stage directions state that he 'need not be a big man' but that he must create an 'impression of massiveness, solidity and purposefulness'. The Inspector investigates each family member one at a time and in doing so, reveals the consequences of their behaviour.

Year 10 War Poetry Knowledge Organiser Autumn Term

Key Vocabulary:			Poem Synopsis		Key quotations:
1	Caesura	Punctuation used in the middle of a line of poetry.	13. The Man He Killed	A soldier recalls shooting another soldier whilst at war. However, the soldier wishes he had met his foe in a bar instead of on the battlefield.	'Had he and I but met' 'I shot him dead – because Because he was my foe' 'How quaint and curious war is'
2	Enjambment	When a phrase or sentence runs over the end of one line and into the next.			
3	Stanza	A group of lines in a poem (similar to a paragraph).	14. Poppies	The speaker is a mother who recalls saying goodbye to her child before they go to war. She then remembers past memories with him at home.	'Released a song-bird from it's cage' 'hoping to hear your playground voice catching on the wind ;
7	Rhyme scheme	A pattern of rhymed lines throughout the poem.	15. War Photographer	The poem explores the violence of war and the loss of innocence it creates. In addition, the poem also suggests the dilemma a photographer faces.	'The reassurance of the frame is flexible ' 'she dropped her burden ' 'The picture showed the little mother '
8	Rhyming couplet	A pair of rhymed lines.			
9	Sibilance	Repetition of the s sound; where the 's' sound is stressed.	16. Exposure	Written from the perspective of a soldier in WW1, the soldiers are exposed to the harsh weather in the trenches during war. The poem describes the experiences and the reality for soldiers who fought n the front line.	'Our brains ache in the merciless iced east winds that knife us ' 'But nothing happens' ' Slowly our ghosts drag home '
10	Volta	A change in the speaker's attitude in the poem.	17. The Charge of the Light Brigade	The poem, commemorates the heroism of a brigade of British soldiers in the Crimean War. The troops of the brigade followed orders to charge a heavily defended position, even though they knew they had little chance of survival.	'Into the valley of <u>D</u>eath rode the six hundred' ' Cannons to the right of them, Cannons to the left of them ' ' Honour the charge they made'
11	End-stopped	When the phrase or sentence ends at the end of a line of poetry.			
12. Poetic Form			18. The Destruction of Sennacherib	The poem retells the biblical story of the siege of Jerusalem by the Assyrian king Sennacherib, during which, according to the Bible, God destroyed the entire Assyrian army in the middle of the night.	'like wolf on the fold ' 'gleaming in purple and gold ' ' sleepers wax'd deadly and chill ' 'Angel of <u>D</u>eath '
a. Dramatic monologue		A poem that is written like a speech, spoken to an audience.	19. Belfast Confetti	The poem describes the confusion, shock, and horror immediately following the explosion of a bomb in the city of Belfast.	'Raining exclamation marks ' 'This hyphenated line , a burst of rapid fire' 'I know this labyrinth so well'
b. Free verse		A poem that doesn't rhyme.			
c. Narrative		A poem that tells a story.	20. What Were They Like?	The poem is about the effects of war. The poem specifically protests about the damage done by the American military to the people of Vietnam during the war between the two nations in the 1960's and 1970's.	'Their light hearts turned to stone ' ' laughter bitter in their burnt mouths ' 'Who can say? It is silent now. '
d. Interview		A poem that is written in the form of an interview.			
e. Ballad		A poem that is traditionally sang, to teach a clear, moral lesson.			

Year 10 Mathematics – Knowledge Organiser – Congruence, Similarity and Enlargement – Autumn Term

Key Vocabulary

1	Similar	Two shapes are similar if their corresponding angles are equal, and the ratio of their corresponding sides are equal.
2	Scale Factor	A scale factor is when you enlarge a shape, and each side is multiplied by the same number.
3	Congruent	Two shapes are congruent if they are exactly the same shape and size.
4	Centre of Enlargement	The coordinate about which a shape is enlarged.
5	Parallel	A set of two or more lines that remain an equal distance apart.
6	Alternate	Alternate angles are angles that occur on opposite sides of the transversal line which crosses a pair of parallel lines. Alternate angles are equal.
7	Corresponding	Corresponding angles are angles that occur on the same side of the transversal line which crosses a pair of parallel lines. Corresponding angles are equal.
8	Side-Side-Side (SSS)	If all three sides of one triangle are equal to the three corresponding sides of another triangle, the two triangles are said to be congruent.
9	Angle-Side-Angle (ASA)	If any two angles and the side included between the angles are equal to the corresponding two angles and the side included of another triangle, the two triangles are said to be congruent.
10	Side-Angle-Side (SAS)	If two sides of a triangle are equal to the two sides of another triangle, and the angle formed by these sides in the two triangles are equal, then the two triangles are congruent.

Key Vocabulary

11	Right Angle-Hypotenuse-Side (RHS)	If the hypotenuse and side of one right-angled triangle are equal to the hypotenuse and the corresponding side of another right-angled triangle, the two triangles are congruent.
12	Proof	Logical mathematical arguments used to show the truth of a mathematical statement.

13 Positive Scale Factors

Enlargement from a point
Enlarge shape A by scale factor 2 from (0, 0)

The shape is enlarged by 2.
The distance from the point is enlarged by 2.

14 Fractional Scale Factors

Fractions less than one make the shape SMALLER.
Example: R is an enlargement of P by a scale factor $\frac{1}{3}$ from centre of enlargement (15, 1)

SF $\frac{1}{3}$ R is three times smaller than P.

15 Identify Similar Shapes

Angles in similar shapes do not change. E.g. if a triangle gets bigger the angles can not go above 180°.

Similar Shapes

Scale Factor = 1.5
Both sides on the bigger shape are 1.5 times bigger.

Compare Sides	6 : 9	8 : 12
	2 : 3	2 : 3

Both sets of sides are in the same ratio.

16 Information in Similar Shapes

Compare the equivalent side on both shapes.
Scale factor is the multiplicative relationship between the two lengths.

Example: Shape ABCD and EFGH are similar.

Notation helps us find the corresponding angles.

AB and EF are corresponding.
Remember angles do not increase or change with scale.

17 Angles in Parallel Lines

Because **corresponding angles are equal**, the highlighted angles are the same size.

Because **alternate angles are equal**, the highlighted angles are the same size.

Because **co-interior angles sum to 180°**, angles a and b must add up to 180°.

18 Similar Triangles

Share a vertex.

Because corresponding angles are equal the highlighted angles are the same size.

Parallel lines – all angles will be the same in both triangles.

As all angles are the same these are similar – only one pair of sides are needed to show equality.

19 Congruent Triangles

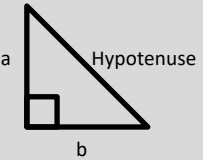
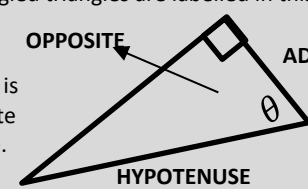
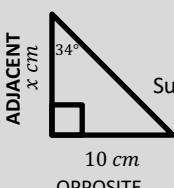
Congruent shapes are identical – all corresponding sides and angles are the same size.

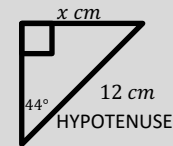
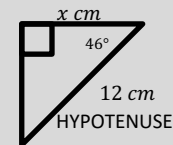
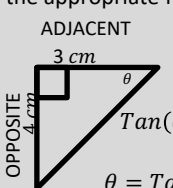
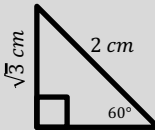
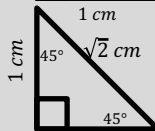
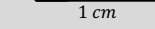
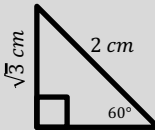
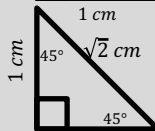
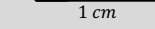
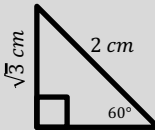
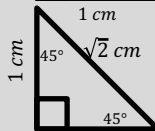
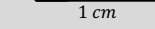
Angle ACB = Angle KML

Because all the angles are the same and AC = KM, BC = LM, triangles ABC and KLM are congruent.

Year 10 Mathematics – Knowledge Organiser – Trigonometry – Autumn Term

Key Vocabulary		
1	Pythagoras' Theorem	In a right-angled triangle the square of the hypotenuse (long side) is equal to the sum of the square of the other two sides.
2	Trigonometry	The relationships between side lengths and angles of triangles, especially right-angled triangles.
3	Hypotenuse	The side opposite the right angle in a right-angled triangle. It is also the longest side of the right-angled triangle.
4	Adjacent	The side in a right-angled triangle that is between the angle θ and the right angle.
5	Opposite	The side opposite the angle of interest in a right-angled triangle.
6	Sine	In a right-angled triangle: the length of the side opposite the angle divided by the length of the hypotenuse. $\text{Sin}(\theta) = \text{opposite} \div \text{hypotenuse}$
7	Cosine	In a right-angled triangle: the cosine is the length of the adjacent divided by the length of the hypotenuse. $\text{Cos}(\theta) = \text{adjacent} \div \text{hypotenuse}$
8	Tangent	In a right-angled triangle: the length of the side opposite the angle divided by the length of the adjacent side. $\text{Tan}(\theta) = \text{opposite} \div \text{adjacent}$
9	Inverse	The opposite of/the reverse of something. For example, the inverse of $\sin(\theta)$ is $\sin^{-1}(\theta)$.
10	Surd	A number that cannot be simplified to remove a square root. For example: $\sqrt{2}$ can't be simplified further so it is a surd. But $\sqrt{4}$ can be simplified to 2 and so is not a surd.
11	Exact Value	If a question asks to give your answer as an exact value, then you should give your answer as a surd or as a fraction.

12	Pythagoras' Theorem
	<p>If a triangle is right-angled, the sum of the squares of the shorter sides will be equal to the square of the hypotenuse.</p>  <p>Either of the short sides can be labelled a or b.</p> $a^2 + b^2 = \text{hypotenuse}^2$
13	Hypotenuse, Adjacent and Opposite
	<p>ONLY right-angled triangles are labelled in this way.</p>  <p>The OPPOSITE is always opposite an acute angle. Useful to label second. Position will depend upon the angle in use for the question.</p> <p>The ADJACENT is next to the angle in question. Often this is labelled last.</p> <p>The HYPOTENUSE is always the longest side. It is always opposite the right angle. It is useful to label this side first.</p>
14	Tangent Ratio: Side Lengths
	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> $\text{Tan } \theta = \frac{\text{opposite side}}{\text{adjacent side}}$ </div>  <p>Substitute the values into the tangent formula.</p> $\text{Tan}(34) = \frac{10}{x}$ <p>Equations might need rearranging to solve.</p> $x \times \text{Tan}(34) = 10$ $x = \frac{10}{\text{Tan}(34)}$ $x = 14.8 \text{ cm}$

15	Sine Ratio: Side Lengths												
	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> $\text{Sin } \theta = \frac{\text{opposite side}}{\text{hypotenuse side}}$ </div> <p>Substitute the values into the sine formula.</p> <p>OPPOSITE</p>  <p>$\text{Sin}(44) = \frac{x}{12}$ Equations might need rearranging to solve.</p> $12 \times \text{Sin}(44) = x$ $x = 8.3 \text{ cm}$												
16	Cosine Ratio: Side Lengths												
	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> $\text{Cos } \theta = \frac{\text{adjacent side}}{\text{hypotenuse side}}$ </div> <p>Substitute the values into the cosine formula.</p> <p>ADJACENT</p>  <p>$\text{Cos}(46) = \frac{x}{12}$ Equations might need rearranging to solve.</p> $12 \times \text{Cos}(46) = x$ $x = 8.3 \text{ cm}$												
17	Sin, Cos, Tan: Angles												
	<p>Inverse trigonometric functions. Label your triangle and choose your trigonometric ratio. Substitute the values into the appropriate formula.</p>  <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> $\theta = \text{Tan}^{-1}\left(\frac{\text{opposite side}}{\text{adjacent side}}\right)$ </div> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> $\theta = \text{Sin}^{-1}\left(\frac{\text{opposite side}}{\text{hypotenuse side}}\right)$ </div> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> $\theta = \text{Cos}^{-1}\left(\frac{\text{adjacent side}}{\text{hypotenuse side}}\right)$ </div> <p>$\text{Tan}(\theta) = \frac{4}{3}$</p> <p>$\theta = \text{Tan}^{-1}\left(\frac{4}{3}\right)$</p> <p>$\theta = 53.1^\circ$</p>												
18	Key Angles/Exact Values												
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Year 10 Mathematics – Knowledge Organiser – Representing Solutions of Equations and Inequalities – Autumn Term

Key Vocabulary

1	Variable	A symbol for a value that we don't know yet. It is usually a letter like x or y . They are classed as variables because x can have many values.
2	Inequality	An inequality compares two values, showing if one is less than, greater than, or equal to another.
3	Solution	A value we can put in place of a variable that makes an equation true.
4	Equation	An equation says that two things are equal – it will always have an equals sign =
5	Linear	An equation or function that is the equation of a straight line.
6	Gradient	The gradient is how steep a line is. This is the relationship between the steepness and the direction of a line as read from left to right.
7	y-intercept	The point where a line or curve crosses the y-axis of a graph.
8	Intersection	The point where two lines meet.
9	Inverse	The opposite of/the reverse of something. For example, the inverse of addition is subtraction.
10	Identity	An equation where both sides have variables that cause the same answer. It may include the symbol \equiv
11	Greater than (or equal)	The symbol $>$ means greater than. For example, $5 > 3$ If the symbol \geq is used, then the variable is greater than or equal to the number.
12	Less than (or equal)	The symbol $<$ means less than. For example, $3 < 5$ If the symbol \leq is used, then the variable is less than or equal to the number.

13 Solve Equations

Solve: $3(2x + 4) = 30$

$3(2x + 4) = 30$

Expand the brackets.

$6x + 12 = 30$

$-12 \quad -12$

$6x = 18$

$\div 6 \quad \div 6$

$x = 3$

Substitute to check your answer. This could be a negative or a fraction or a decimal.

14 Form and Solve Inequalities

Example:
Max thinks of a number. She says, "Two more than treble my number is greater than 11." Form and solve an inequality to represent this.

FORM

$x \rightarrow \times 3 \rightarrow +2 \rightarrow 11$

$3x + 2 > 11$

SOLVE

$x \leftarrow \div 3 \leftarrow -2 \leftarrow 11$

$x > 3$

15 Solutions on a Number Line

● Includes the value it sits above.
 ○ Does NOT include the value it sits above.

$x < 1$ $x \leq 1$ $x > 1$ $x \geq 1$

Both represent values less than 1. The second includes the value 1.

Both represent values greater than 1. The second includes the value 1.

$-1 < x \leq 3$

This represents values less than or equal to 3 but also more than -1. This includes the integer values: 0, 1, 2, 3

16 Plotting Straight Line Graphs

$y = 3x - 1$

This means multiply the x coordinate by 3 and then subtract 1.

Draw a table of values to find the coordinates for the graph.

x	-3	0	3
y	-10	-1	8

This represents a coordinate pair $(-3, -10)$
Remember to join the coordinate points to make a line. Use a ruler!

17 Find Solutions Graphically

Example: Use the graph to solve the equation $3x - 1 = 8$

Draw the line $y = 8$ on the same grid as the graph of $y = 3x - 1$

The solution is the point where the two lines meet.

$(3, 8)$

18 Equations with Unknowns on Both Sides

$8x + 5 = 4x + 13$

$8x + 5 = 4x + 13$

$-4x \quad -4x$

$4x + 5 = 13$

$-5 \quad -5$

$4x = 8$

$\div 4 \quad \div 4$

$x = 2$

19 Inequalities with Unknowns on Both Sides

$8x + 5 \leq 4x + 13$ \rightarrow $x \leq 2$

Only values of 2 or less will satisfy this inequality.

Year 10 Mathematics – Knowledge Organiser – Simultaneous Equations – Autumn Term

Key Vocabulary		
1	Simultaneous Equations	Two or more equations that share variables. They are called simultaneous equations because the equations are solved at the same time.
2	Substitute	Replace a variable with a numerical value.
3	Solution	A value we can put in place of a variable that makes an equation true.
4	Verify	When you verify a solution, you are checking that the solution is correct, usually by substituting your answer into the equation.
5	Eliminate	To remove.
6	Variable	A symbol for a number we do not yet know. It is usually a letter like x or y . They are classed as variables because x can have many values.
7	Coefficient	A number used to multiply a variable. For example: $6x$ means 6 times x . The " x " is the variable, so 6 is the coefficient.
8	Multiplier	The number you are multiplying by.
9	Linear	An equation that makes a straight line when it is graphed.
10	Non-linear	An equation that does not make a straight line when graphed.
11	Rearrange	To rearrange an equation so that another variable becomes the subject. This is done by performing the same operation on both sides of the equals sign so that eventually this variable is by itself on one side of the equals sign.

12 Is (x, y) a solution?

x and y represent values that can be substituted into an equation.

Does the coordinate $(1, 8)$ lie on the line $y = 3x + 5$?

This coordinate represents $x = 1$ and $y = 8$

$$8 = 3(1) + 5$$

Substitute the values into the equation.

As the substitution makes the equation correct, the coordinate $(1, 8)$ is on the line $y = 3x + 5$

Is $(2, 7)$ on the same line?

$$7 \neq 3(2) + 5 \quad \text{No, 7 does NOT equal } 6 + 5$$

13 Substituting Known Variables

Example: A line has the equation $3x + y = 14$

Max knows the point $x = 4$ lies on that line. Find the value for y .

$$3x + y = 14$$

$$3(4) + y = 14$$

$$12 + y = 14$$

$$y = 2$$

Remember – two different variables – two solutions.

14 Substituting into an Expression

Substitute $2y$ in the place of the x variable as they represent the same value.

$$x = 2y$$

$$x + y = 30$$

$$2y + y = 30$$

$$3y = 30$$

$$y = 10$$

Substitute the answer into the other equation to find the value of x .

$$x = 2y$$

$$x = 20$$

15 Solve Graphically

Linear equations are straight lines.

The point of intersection provides the x and the y solution for both equations.

Here the lines intersect at $(2, 4)$

The solution that satisfies both equations is $x = 2$ and $y = 4$

16 Solve by Subtraction

$$\begin{array}{r} 18 \\ x \quad x \quad x \quad y \quad y \\ - \quad \quad \quad 10 \\ \hline x \quad y \quad y \end{array}$$

$$\begin{array}{r} 8 \\ x \quad x \end{array}$$

$$\begin{array}{r} 3x + 2y = 18 \\ - \quad x + 2y = 10 \\ \hline 2x = 8 \\ \div 2 \quad \div 2 \\ x = 4 \end{array}$$

$$\begin{array}{r} x + 2y = 10 \\ (4) + 2y = 10 \\ \hline -4 \quad 2y = 6 \\ \div 2 \quad \div 2 \\ y = 3 \end{array}$$

$x = 4$
 $y = 3$

17 Solve by Addition

Addition makes zero pairs.

$$\begin{array}{r} 3x + 2y = 16 \\ + 6x - 2y = 2 \\ \hline 9x = 18 \\ \div 9 \quad \div 9 \\ x = 2 \end{array}$$

$$\begin{array}{r} 3x + 2y = 16 \\ 3(2) + 2(y) = 16 \\ 6 + 2y = 16 \\ -6 \quad -6 \\ \hline 2y = 10 \\ \div 2 \quad \div 2 \\ y = 5 \end{array}$$

18 Solve by Adjusting

$$\begin{array}{r} 2x + 3y = 39 \\ 5x - 2y = -7 \end{array}$$

Use the LCM to make equivalent x or y values. Because of the negative values of y , the y variables are made equivalent.

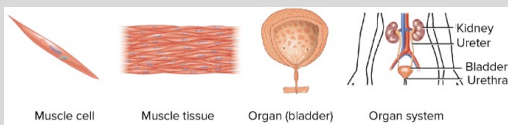
$$\begin{array}{r} 4x + 6y = 78 \\ 15x - 6y = -21 \\ \hline \end{array}$$

Solve by addition: this will make zero pairs and remove y .

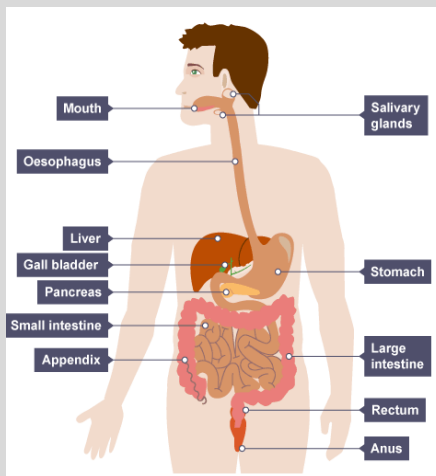
Year 10 Science Autumn Knowledge Organiser Cells and Systems 1

Key Vocabulary:

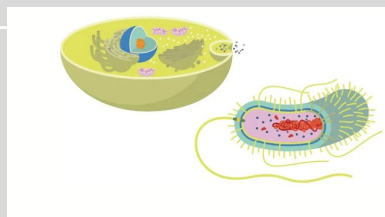
1	Tissue	A group of specialised cells with a similar structure and function.
2	Organ	A collection of different tissues working together to carry out specific functions.
3	Organ Systems	A group of organs that work together to carry out specific functions and form organisms.
4	Digestive System	Organ system where food is digested and absorbed.
5	Enzymes	Biological catalysts, usually proteins.
6	Catalyst	A substance that speeds up the rate of another reaction but is not used up or changed by itself.
7	Denatured	The breakdown of the molecular structure of a protein so it no longer functions.
8	Bile	Neutralises the stomach acid to give a high pH for the enzymes from the pancreas and small intestine to work well. It is not an enzyme.
9	Amylase	Enzyme that speeds up the digestion of starch into sugars
10	Protease	Enzymes that speed up the breakdown of proteins into amino acids.
11	Lipase	Enzymes that speed up the breakdown of lipids into fatty acids and glycerol.
12	Urea	The waste product formed by the breakdown of excess amino acids in the liver.



13 The Digestive System



14



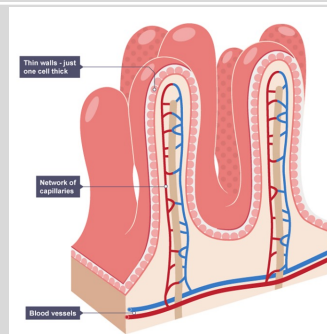
15 Food Tests

Food Test	Colour of reagent	Positive test result	Negative test result
Iodine for starch	orange-brown	blue-black	orange-brown (no change)
Benedict's for sugar	light blue	green to brick-red	light blue (no change)
Ethanol for lipid	colourless	cloudy emulsion	colourless (no change)
Biuret for protein	blue	lilac-purple	blue (no change)

Small Intestine

16

The villi (one of them is called a villus) stick out of the inside surface of the small intestine and give a big surface area. They also contain blood capillaries to carry away the absorbed food molecules.

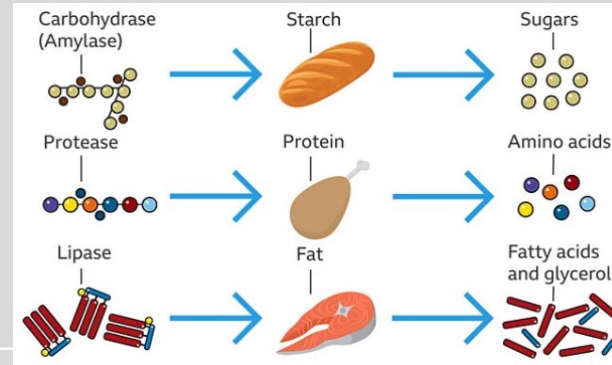


17

Enzymes

Enzymes are chemicals which help to speed up the breakdown of large food molecules. Enzymes are not living things. They are just special proteins that can break large molecules into small molecules. Different types of enzymes can break down different nutrients:
 amylase and other carbohydrase enzymes break down carbohydrates into sugar e.g. starch into glucose.
 protease enzymes break down proteins into amino acids.
 lipase enzymes break down lipids (fats and oils) into fatty acids and glycerol.

18



Year 10 Science Autumn Knowledge Organiser Cells and Systems 2

Key Vocabulary:		
1	Blood	A tissue with red blood cells, white blood cells, platelets, and other substances suspended in fluid called plasma. Blood takes oxygen and nutrients to the tissues, and carries away wastes.
2	Blood Vessels	A tube through which the blood circulates in the body. Blood vessels include a network of arteries, arterioles, capillaries, venules, and veins.
3	Heart	The heart is a fist-sized organ that pumps blood throughout your body. It's the primary organ of your circulatory system. Your heart contains four main sections (chambers) made of muscle and powered by electrical impulses. Your brain and nervous system direct your heart's function.
4	Gas Exchange	Is the physical process by which gases move passively by diffusion across a surface
5	Alveoli	Tiny air sacs in the lungs that increase the surface area for gas exchange.
6	Respiration	An exothermic reaction in which glucose is broken down using oxygen to produce carbon dioxide and water to release energy for the cells.
7	Anaerobic	An exothermic reaction in which glucose is broken down in the absence of oxygen to produce lactic acid in animals and ethanol and carbon dioxide in plants and yeast. A small amount of energy is transferred for the cells.

Blood

Components of Blood

COMPONENT	STRUCTURE
RED BLOOD CELLS	BICONCAVE DISCS CONTAINING NO NUCLEUS BUT PLENTY OF THE PROTEIN HAEMOGLOBIN
WHITE BLOOD CELLS	LARGE CELLS CONTAINING A BIG NUCLEUS, DIFFERENT TYPES HAVE SLIGHTLY DIFFERENT STRUCTURES AND FUNCTIONS
PLATELETS	FRAGMENTS OF CELLS
PLASMA	STRAW COLOURED LIQUID

	Artery	Vein	Capillary
Function	Transports blood from the heart to organs	Transports blood from organs to the heart	Carries blood to organs where gas exchange occurs
Thickness of Wall	Thick	Thin	Very thin (1 cell thick)
Elasticity	Elastic walls	Less elastic walls	Inelastic walls
Size of lumen	Narrow lumen	Large lumen	Very narrow lumen
Valves	No valves	Valves	No valves
Pressure of Blood	Very high	Very low	Low

The Heart

Gas Exchange

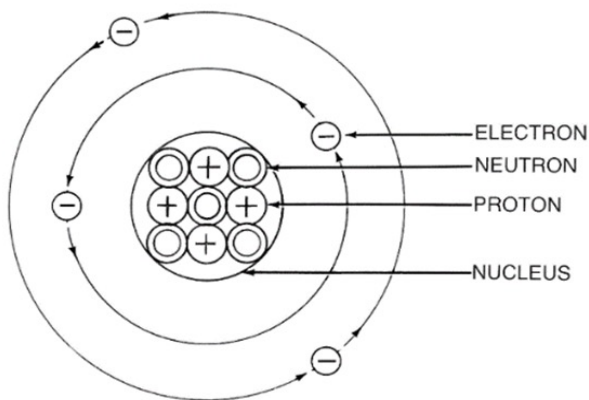
Respiration

Respiration is the body's way of producing energy from the food we eat. It involves the **breakdown of glucose** in the presence of oxygen into carbon dioxide and water with the release of energy-generating molecules called **ATP**. We can also generate energy in the absence of oxygen, but this is a much less efficient process.

Year 10 Autumn Term Science Knowledge Organiser Atomic Structure

Key Vocabulary:

1	Atom	The smallest part of an element that can exist.
2	Compound	Two or more different elements chemically combined.
3	Element	A substance made from only one type of atom.
4	Mixture	Two or more elements or compounds that are not chemically combined.
5	Molecule	Two or more atoms chemically bonded together.
6	Isotopes	Atoms with the same number of protons but different numbers of neutrons
7	Nucleus	The centre of an atom that contains protons and neutrons.
8	Protons	A positively charged particle found in the nucleus.
9	Neutrons	A neutral particle found in the nucleus that has no charge.
10	Electrons	A negatively charged particle found in energy levels (shells) around the nucleus.



11 Sub-atomic Particles.

Name of Particle	Relative Charge	Relative Mass
Proton	+1	1
Neutron	0	1
Electron	-1	Very small

12 The History of the Atom.

Pre 1900		Tiny solid spheres	Before the discovery of the electron, John Dalton said the solid sphere made up the different elements.
1897 Plum pudding model		A ball of positive charge with negative electrons embedded in it.	JJ Thompson's experiments showed that atoms must contain small negative charges. (electrons discovered)
1909 nuclear model		Positively charged nucleus in the centre surrounded by negative electrons.	Ernst Rutherford's alpha particle scattering experiment showed that the mass was concentrated at the centre of the atom.
1913 Bohr model		Electrons orbit the nucleus at specific distances.	Niels Bohr proposed that electrons orbited in fixed shells.

Rutherford's scattering experiment		<p>A beam of alpha particles are directed at a very thin gold foil</p> <p>Most of the alpha particles passed right through.</p> <p>A few (+) alpha particles were deflected by the positive nucleus.</p> <p>A tiny number of particles reflected back from the nucleus.</p>
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13 Using the periodic table.

	Mass number	<i>The sum of the protons and neutrons in the nucleus</i>	
	Atomic number	<i>The number of protons in the atom</i>	Number of electrons = number of protons

14 Isotopes.

Atoms of the same element with the same number of protons and different numbers of neutrons.

^{35}Cl (75%) and ^{37}Cl (25%) Relative abundance = $(\% \text{ isotope 1} \times \text{mass isotope 1}) + (\% \text{ isotope 2} \times \text{mass isotope 2}) \div 100$ e.g. $(25 \times 37) + (75 \times 35) \div 100 = 35.5$

15 Separation Techniques.

Method	Description	Equipment	Example
Filtration	Separating an insoluble solid from a liquid.		To get sand from a mixture of sand, salt and water.
Crystallisation	To separate a solid from a solution.		To obtain pure salt crystals of sodium chloride from salt water.
Simple distillation	To separate a solvent from a solution.		To get pure water from salt water.
Fractional distillation	Separating a mixture of liquids each with different boiling points.		To separate different compounds in crude oil.
Chromatography	Separating substances that move at different rates through a medium.		To separate out the dye in food colouring.

Year 10 Science Autumn Term Knowledge Organiser – Structure and Bonding

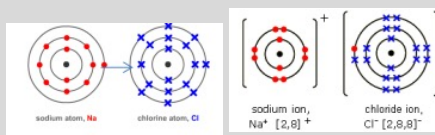
Key Vocabulary:

1	Covalent Bond	The bond between two atoms that share one or more pairs of electrons.
2	Covalent Bonding	The attraction between two atoms that share one or more pairs of electrons.
3	Dot and Cross Diagram	A drawing to show only the arrangement of the outer shell electrons of the atoms or ions in a substance.
4	Double Bond	A covalent bond made by the sharing of two pairs of electrons.
5	Fullerene	Form of the element carbon that can exist as large cage-like structures, based on hexagonal rings of carbon atoms.
6	Giant Covalent Structure	A huge 3D network of covalently bonded atoms.
7	Inter-molecular Forces	The attraction between the individual molecules in a covalently bonded substance.
8	Ion	A charged particle produced by the loss or gain of electrons.
9	Ionic Bond	The electrostatic force of attraction between positively and negatively charged ions.
10	Molecule	A substance which contains two or more covalently bonded atoms
11	Lone Pair	A pair of electrons that are not part of the covalent bond.
12	Electrons	Negative particles found in the shells of atoms
13	Polymer	A long chain molecule made up of repeating monomers
14	Monomer	The small molecules that join together to make polymers
15	Delocalised	Electrons which are free to move anywhere
16	Alloy	A mixture of a metal and another element to change its properties

Types of Bonding

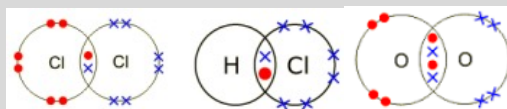
17 Ionic Bonding

- Occurs when a **metal atom** reacts with a **non-metal atom**.
- Electrons in the outer shell of the **metal atom** are **transferred to the non-metal atom**.
- This means that the **metal ion has a positive charge** and the **non-metal ion has a negative charge**.
- Between the ions, there is an electrostatic attraction which forms an ionic bond.



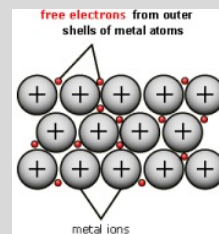
18 Covalent Bonding

- Occurs between **non-metal atoms**.
- Electrons are shared between the atoms** so that they both have a full outer shell.
- Covalent bonds are strong and require a lot of energy to break the bonds.
- When drawing covalent molecules we use “dot cross diagrams” as we do with ionic compounds. It is important to represent the electrons on one atom with a dot and on the other atom with an X.



19 Metallic Bonding

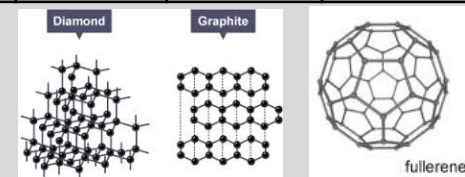
- Occurs **only in metals**.
- Metals for giant structures.
- The metal atoms form a regular pattern and they donate their outer electron to the “**sea of delocalised electrons**” – these electrons are free to move.



Structures

20 Structure and Bonding of Carbon

Name of structure	Diamond	Graphite	Graphene + Fullerene
Number of bonds	4	3	3
Any delocalised electrons?	no	yes	Yes
Hardness	Very hard	soft	Flexible and strong
Conduct electricity	No	yes	Yes
Melting point	Very high	High	High
Uses	Gems Drill bits	Electrodes Pencils	Electronics Nanotubes



21 General Properties of Ionic, Covalent and Metallic Substances

Property	Ionic compounds	Small covalent molecules	Giant covalent structures	Metals and alloys
Density	High	Low	High	High
Melting and boiling point	High	Low	High	High
Conduct electricity	Only melted or dissolved in water	No	No (apart from graphite)	Yes
Conduct heat	No	No	No (apart from diamond)	Yes
Brittle or malleable	Brittle	N/A	Brittle	Malleable
Examples	<ul style="list-style-type: none"> Salt (sodium chloride) Magnesium sulfate 	<ul style="list-style-type: none"> Chlorine Oxygen 	<ul style="list-style-type: none"> Diamond Graphite Sand 	<ul style="list-style-type: none"> Iron Steel

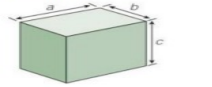
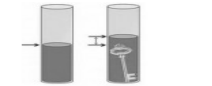
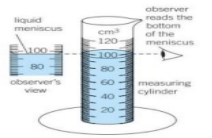
Year 10 Science Autumn Term Knowledge Organiser - Matter

Key Vocabulary:

1	Density	How much mass a substance contains compared to its volume. Solids are usually dense because the particles are closely packed.
2	State of matter	The way in which the particles are arranged – solid, liquid or gas.
3	Physical Change	A change that can be reversed to recover the original material. E.g. a change of state.
4	Chemical Change	A change that creates new products. It should not be reversed. E.g. a chemical reaction.
5	Specific Heat Capacity	The specific heat capacity of a substance is the amount of energy required to raise the temperature of one kilogram of the substance by one degree Celsius.
6	Temperature	The average kinetic energy of the particles.
7	Specific Latent Heat	The amount of energy required to change the state of one kilogram of the substance with no change in temperature.
8	Latent Heat of fusion	Energy required to change state from solid to liquid.
9	Latent Heat of Vaporisation	Energy required to change state from liquid to vapour.
10	Gas Pressure	The force exerted by gases on surface as the particles collide with it. As temperature increases, gas pressure increases if the volume stays constant.

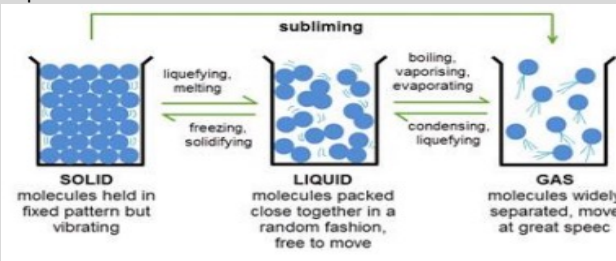
11 Density

The density of water is 1000kg/m³. Objects that have lower density than water will float in water. Density can be calculated by measuring its mass and volume.

Measure volume of a cube $= a \times b \times c$	
Volume of an irregular object can be found by dropping in a liquid and measuring Displacement .	
When reading a meniscus the observer must read the bottom of the meniscus .	

12 States of Matter

Everything around you is made up of matter and exists in one of three states. Solids, liquids and gases are made of particles, the physical arrangement of particles determines the state of a particular substance.

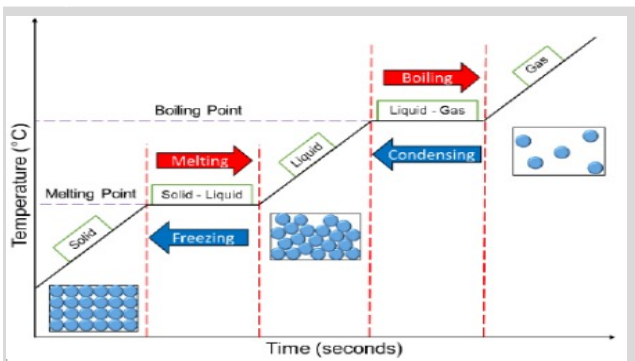


Condensation	Process in which a gas turns into a liquid
Evaporation	Process in which a liquid turns into a gas
Freezing	Process in which a liquid turns into a solid
Melting	Process in which a solid turns into a liquid
Sublimation	Process in which a solid turns into a gas

13 Equations

Calculation	Equation	Symbol	Units
Density (REMEMBER)	Mass ÷ volume	$P = m \div v$	kg / m ³
Specific latent heat of fusion	Energy ÷ mass	$L_f = E \div m$	J / kg
Specific latent heat of vaporisation	Energy ÷ mass	$L_v = E \div m$	J / kg

14 Heating Curve



Solid	Particles are closely packed, fixed and arranged in regular layers. As more energy is absorbed the kinetic energy and therefore the internal energy of the material increases.
Melting	Temperature doesn't change. Energy is used to weaken the forces between particles. As more energy is absorbed the potential energy and therefore the internal energy increases.
Liquid	Particles are touching but no longer arranged regularly. They are able to move. As more energy is absorbed the kinetic energy and therefore the internal energy of the material increases.
Evaporation	Temperature doesn't change. Energy is used to weaken the forces between particles. As more energy is absorbed the potential energy and therefore the internal energy increases.
Gas	Particles move randomly. As more energy is absorbed the particles move more quickly and the temperature increases

15 Internal Energy

The energy stored by the particle of a substance is called its internal energy. This is caused by their individual motions and positions. The internal energy is the sum of a particles:

- Kinetic energy (due to their individual motions relative to each other)
- Potential energy (due to their individual positions relative to each other)

Increasing the temperature increases the internal energy of a substance because it

- Increases kinetic energy
- If it melts or boils it increases the potential energy

Year 10 Science Autumn Term Knowledge Organiser Plants and Material Cycling 1

Key Vocabulary:

1	Photosynthesis	The process by which plants make food using carbon dioxide, water and light.
2	Chlorophyll	The green pigment contained in chloroplasts.
3	Carbon Dioxide	Carbon dioxide is colourless, odourless gas.
4	Oxygen	Oxygen is formed in the process of photosynthesis, this is released as waste from the plant but oxygen is also required by the plant in aerobic respiration, just like animals.
5	Glucose	A simple sugar.
6	Endothermic	A reaction that requires a transfer of energy from the environment.
7	Rate	The rate of reaction is the rate at which products are formed, or the rate at which reactions are used up, in a reaction.
8	Light	Photosynthesis is an endothermic reaction as it requires light energy to react carbon dioxide and water to produce glucose and oxygen. The light energy required is absorbed by a green pigment called chlorophyll in the leaves.
9	Respiration	to drive the chemical reactions needed to keep organisms alive – the reactions to build complex carbohydrates, proteins and lipids from the products of photosynthesis in plants, and the products of digestion in animals, require energy.
10	Cellulose	The complex carbohydrate that makes up plant and algal cell walls and gives them strength.

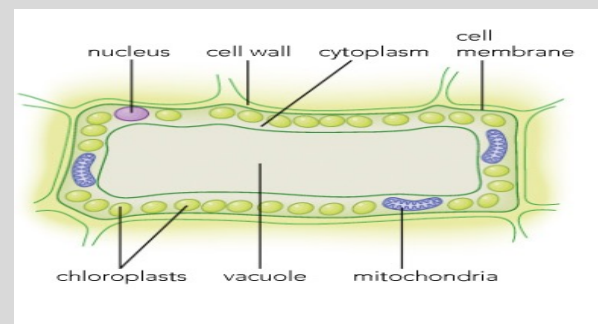
11 Photosynthesis

Photosynthesis Produces Glucose Using Light



Photosynthesis is the process of using energy from sunlight to make sugars. It takes place in the leaves. Chloroplasts in the cells of the leaf are packed with a pigment chlorophyll. Chlorophyll absorbs sunlight and uses it to convert carbon dioxide and water into glucose (a simple sugar) and oxygen. Photosynthesis is a chemical reaction that is endothermic – more energy is taken in by the reaction than given out. The carbon dioxide required enters the leaf through the stomata. The water enters through the roots and gets to the leaf through the xylem.

12 Plant Cell



13 Uses of the Glucose for Plants

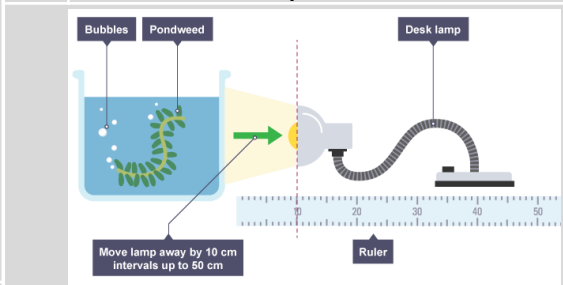
Respiration – this process transfers energy from the breakdown of glucose, for heat, movement and other reactions.
 Cell Walls – glucose is converted into cellulose to build strong cell walls.
 Making amino acids – glucose is combined with nitrate ions to build amino acids which can be used to build proteins.
 Stored as oils or fats – glucose is turned into lipids for storing in seeds.
 Stored as starch – glucose is used to build long chains and stored as starch in roots, stems and leaves. This can be used in winter when less photosynthesis occurs. Starch is insoluble so unlike glucose does not cause water to be drawn into the cell.

14 Factors affecting photosynthesis

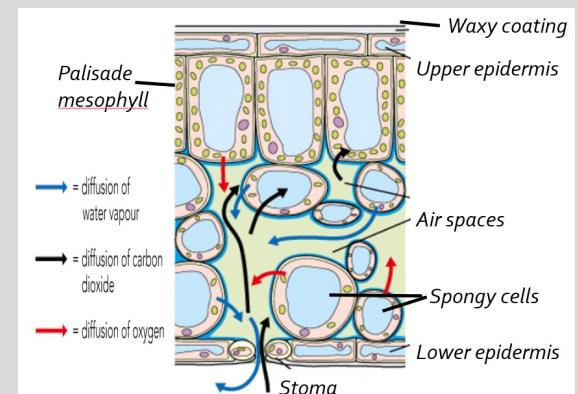
Light intensity, CO₂ concentration and temperature all affect the rate of photosynthesis.

Any of these factors can become the limiting factor – it can stop photosynthesis happening at a faster rate. These factors have a combined effect on the rate of photosynthesis, the factor limiting at the time depends upon the environmental conditions – at night light is limiting, in winter it is the temperature. If it is warm and bright, it is often the CO₂

15



17 Cross Section of a Leaf

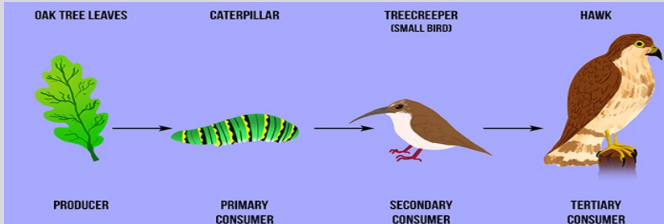


Year 10 Science Term Knowledge Organiser – Organising an Ecosystem Combined Science

Key Vocabulary:		
1	Environment	The conditions surrounding an organism, biotic and abiotic.
2	Habitat	A habitat is a place where an organism lives.
3	Community	Populations of different species living in a habitat.
4	Competition	Competition is an interaction between organisms or species in which both require a resource that is in limited supply (such as food, water, or territory).
5	Interdependence	Within a community, each species depends on other species for food, shelter, pollination, seed dispersal etc. If one species is removed it can affect the whole. This is called interdependence.
6	Abiotic factors	Non-living factors in an ecosystem that affect distribution and abundance of organisms.
7	Biotic	Living factors in an ecosystem that affect distribution and abundance of organisms
8	Producer	Producers are plants and algae, which photosynthesise.
9	Consumer	An organism that obtains food by feeding on other organisms or organic matter due to lack of the ability to make own food
10	Ecosystem	An ecosystem is the interaction between a community of living organisms and their environment.
11	Decomposers	Microorganisms that break down waste products and dead bodies.

12 **Interdependence**

All organisms in an ecosystem depend upon each other. If the population of one organism rises or falls, then this can affect the rest of the ecosystem.
A simple food chain is:



OAK TREE LEAVES → CATERPILLAR → TREECREEPER (SMALL BIRD) → HAWK

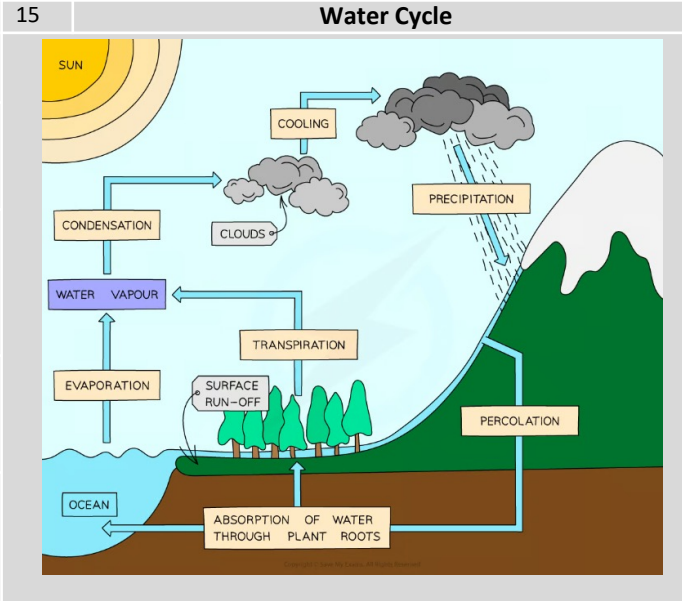
PRODUCER → PRIMARY CONSUMER → SECONDARY CONSUMER → TERTIARY CONSUMER

13 **Competition**

All **photosynthesising** plants and algae in an ecosystem compete for light, space, water and minerals from the soil. Animals in an ecosystem compete for food, mates and their territory.



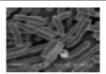
14 **Abundance and distribution**

The abundance is the number of organisms in an **ecosystem** and their distribution is affected by **abiotic** factors and biotic factors.
Abiotic factors include light intensity, temperature, moisture levels, soil pH.
Biotic factors include food availability, predators, new pathogens.



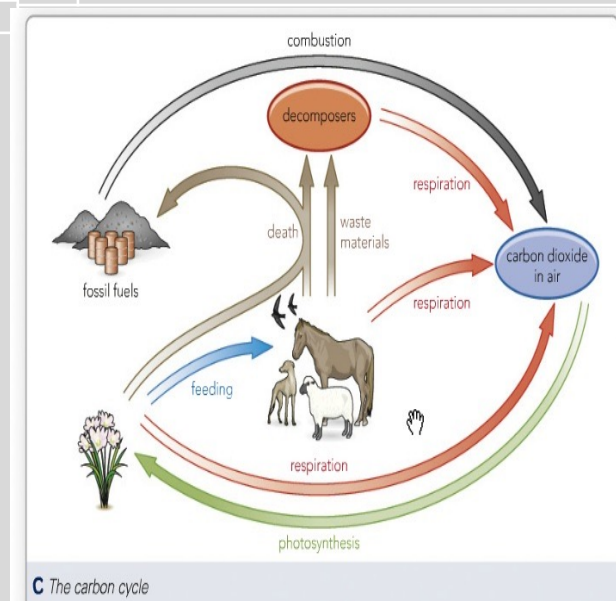
16 **Adaptation**

Adaptations may be structural, behavioural or Physiological

Adaptations		
Plants	Animals	Extremophiles
Cactus in dry, hot desert	Polar bear in extreme cold arctic	Deep sea vent bacteria
		
No leaves to reduce water loss, wide deep roots for absorbing water.	Hollow hairs to trap layer of heat. Thick layer of fat for insulation.	Populations form in thick layers to protect outer layers from extreme heat of vent.

Extremophiles

An extremophile is an organism that lives in an extreme environment. An extreme environment is one in which most organisms would find it difficult or impossible to survive. The organisms that live in these places have highly specialised adaptations. Examples of extreme environments include the Polar Regions, deserts, the deep ocean bed, hot geothermal springs and the tops of our highest mountains.



C The carbon cycle

Year 10 Art and Design Autumn Term Knowledge Organiser

Key Vocabulary:

1	The Formal Elements of Art	The formal elements of art are used to make a piece of artwork. These elements are line, tone, texture, shape, pattern and colour. They are often used together, and how they are organised in a piece of art determines what the finished piece will look like.
2	line	A line is a mark or link between two points.
3	mark	Mark making describes the different lines, dots, marks, patterns and textures created to produce a work of art. Artists often use mark making and gestural qualities to express their feeling and emotions in response to something seen or something felt.
4	tone	Tone refers to the light and dark values of an object when drawing. There are three different types of tone. Shadows, mid-tones and highlights. Value in art is essentially how light or dark something is on a scale. For example, a tonal ladder.
5	texture	Texture stimulates two different senses such as sight and touch. For example, a visual and tactile texture.
6	shape	Shape is a flat enclosed area created by a closed line or by a solid colour.
7	form	Form can refer to a three-dimensional composition or object.
8	pattern	A repeated or mirrored design, which can be natural or manmade.
9	colour	Colour is the element of art that is produced when light, strikes an object, and is reflected back to the eye. A colour wheel is an illustrative organisation of colour hues around a circle, which shows the relationships between primary colours, secondary colours and tertiary colours.

10	scale	The scale of something is its size. To scale something is to enlarge it. To scale down is to do a smaller version or reduction.
11	balance	If a picture or piece of artwork has balance, then each part of it works well together in a whole piece.
12	composition	The arrangement of elements in a piece of art.
13	moodboard	Imagery collected relevant to a theme. It can be a range of different ideas, not just one. It displays your ideas at the start of a journey. For example, internet imagery, magazine cuttings and photography can be used together.
14	(AOs)	GCSE Art and Design assessment objectives. There are four assessment objectives. AO1, AO2, AO3 and AO4.
15	Artist Research	Showing your understanding of artworks and styles. For example, how they have influenced the work of others and personal ideas.
16	Artist Response	Showing your understanding of artworks and styles and how they have influenced personal ideas.
17	Critical Understanding	Showing an ability to analyse the work of others. Engaging with ideas, images and identifying how values and meanings are conveyed. Looking at content, form, process and mood when discussing 2D and 3D work.

Year 10 BTEC Tech Award Child Development: Component 1 – Children’s Growth and Development

A – Understand the principles of growth and development

Key Vocabulary:		
1	Growth	Changes to physical size, the skeleton, muscles and the brain, children’s height, weight and head circumference.
2	Ultrasound Scan	A high frequency sound wave that creates an image on a screen of inside the body.
3	Gestation	The period of time during which the baby develops in the womb.
4	Caesarean Section	Birth through an incision made in the abdomen.
5	Neglect	The failure to care for a child properly
6	Development	The gaining of skills and knowledge over time.
7	Milestone	A stage or event in a process.
8	Average	A number showing the typical value in a set of data, in particular the mode, median or most commonly the mean.
9	Mean	An average worked out by adding all the numbers up and dividing by the number of numbers.
10	Babbling	The stream of sounds babies make before they can say actual words.





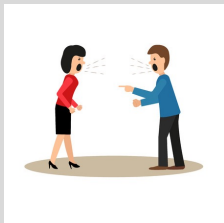
<u>A1</u> <u>Understand how and why growth is measured</u>	
11	<p>How growth is measured and recorded:</p> <ul style="list-style-type: none"> - Personal Child Health Record (PCHR) ‘Red Book’ tracks progress/records immunisations - Centile charts track height and weight - Parents’/carers’ own records - Two-year-old health check - National Child Measurement Programme (NCMP) for 4–5-year-old children. <p>Roles and responsibilities of health professionals involved in measuring and monitoring:</p> <ul style="list-style-type: none"> - Health professionals – midwives, health visitors, General Practitioner (GP) - Social care – social workers, family support workers - Early years educators – childminder, nursery manager, key person - Parents/carers.
12	<p style="text-align: center;"><u>A2</u> <u>The Principles of Development</u></p>
	<p>Skills and knowledge gained over time</p> <p>Can happen at different rates for different children</p> <p>Milestones – Developmental norms -These are often separated into stages according to the age at which they are most likely to happen.</p>
13	<p style="text-align: center;"><u>A3</u> <u>Development across ages of birth to 18 months</u></p>
	<p>Physical development – gross motor skills: large movement of limbs; fine motor skills: movement of fingers, developing hand-eye coordination.</p> <p>Cognitive and intellectual development – thinking and learning development of information processing, memory, problem-solving skills.</p> <p>Communication and language development – speaking, listening and understanding, for example, speech sounds and language, listening and attention, social skills.</p> <p>Social development – development of secure, positive relationships with others. For example, 3 months – responds with pleasure to loving attention, enjoys being held.</p> <p>Emotional development – developing trust, independence and emotional resilience. For example, caregivers by crying, turning their head, smiling and giggling as their needs are met, babies develop a bond of trust with their carer.</p>





<u>A4</u> <u>Development across ages of 18 months to three years</u>	
14	<p>Physical development – locomotion and hand-eye coordination, for example, 18 months – walks steadily and stops safely, climbs stairs with hand held, can ride a balance bike and sit-and-ride toys.</p> <p>Cognitive and intellectual development – thinking and learning, for example, 2 years – recognises pictures in a book, enjoys simple make-believe play.</p> <p>Communication and language development – speaking, listening and Understanding, for example, says words, gestures, understands more, repeats what adults say.</p> <p>Social development – development of secure, positive relationships with others, for example, 2 years, 6 months – eats with a spoon, plays with other children, not sharing toys.</p> <p>Emotional development – developing trust, independence and emotional resilience, for example, 18 months – mood swings from dependence to independence, beginning to show empathy.</p>
15	<p style="text-align: center;"><u>A5</u> <u>Development across ages of three to five years</u></p>
	<p>Physical development – developing locomotion and balance, for example, 3 years – walks on tip-toe, balances on one foot, rides a tricycle using pedals, throws, catches a ball with arms stretched out and kicks a large ball with control, holds a pencil between thumb and two fingers, cuts paper with scissors.</p> <p>Communication and language development – speaking, listening and Understanding, for example, 4 years - counts up to 10, repeats songs and nursery rhymes, some simple problem solving with toys and games.</p> <p>Communication and language development – speaking, listening and Understanding, for example, 5 years – fluent speech, grammatically correct, can understand a wider range of vocabulary, can understand complex instructions.</p> <p>Social development – development of positive relationships with others outside the family, for example, 3 years - plays with other children, beginning to take turns and share toys.</p> <p>Emotional development – developing trust, independence and emotional resilience, for example, 5 years – close friendships, learns to cope with emotions and bounce back when Disappointed, understands social rules but may need an adult to sort out conflicts.</p>

Year 10 BTEC Tech Award Child Development: Component 1 – Children’s Growth and Development

B – Understand how factors impact on children’s overall development

Key Vocabulary:		
1	Foetus	Means offspring and is what a human baby in the womb is called after 8 weeks.
2	Congenital	A condition that a child is born with.
3	Chronic	Long lasting (used about a health condition)
4	Stable	Secure, even and well balanced.
5	Prescription Drugs	Medication that is prescribed for a person by a medical professional.
6	Illegal Drugs	Drugs that are not prescribed and have no benefit for health.
7	Regress	Return to an earlier state or stage of development.
8	Rivalry	Competitiveness over the same objective or over someone’s attention.
9	Food Bank	A charity that provides food for free to people in need.
10	General Anaesthetic	A state of being unconscious controlled by a medical professional.

B1 Physical Factors	
11	<ul style="list-style-type: none"> Factors in pregnancy affecting child – prenatal and maternal nutrition/exercise, effects of parental smoking, drug or alcohol use, premature/low birth weight. Disabilities/additional needs – hearing impairment, visual impairment, cerebral palsy, Down’s syndrome. Health status – chronic illness (asthma, eczema), repeated short-term illness (colds, ear infections, vomiting and diarrhoea), obesity. Benefits of healthy balanced diet, effects of nutritional deficiencies (vitamins, minerals), effects of unhealthy diet. Amount of exercise.   
B2 Environmental Factors	
12	<ul style="list-style-type: none"> Housing – positive aspects of housing (warm, dry, own space); experiencing housing needs (damp housing, overcrowding), temporary accommodation, access to garden, space to play. Home environment – stable support from parents, contact with extended family, living with parental conflict, parents’ mental or physical health, effects of drugs, alcohol or smoking.  

B3 Social Factors	
13	<ul style="list-style-type: none"> Effects of discrimination (disability, race, home situation). Effects of relationships with primary carers (parents/carers, early years practitioners), quality of warmth, affection and attention received. Effects of siblings – new baby, number of siblings, no siblings, step-siblings. Effects of relationships with extended family and friends – grandparents, step-relatives, aunts and uncles, close friends. 
B4 Financial Factors	
14	<ul style="list-style-type: none"> Low income – poverty, unemployed families, more contact with parents, food banks, free school meals, funding for childcare (vouchers). High income – parental pressure of work, less contact with parents, extra resources and toys, extra opportunities, experience of travel. Access to services – health services (dentist, health visitor), early years education (preschool, nursery) and experiences (parent and baby singing groups, sports clubs, parent and tots groups).   

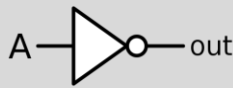
Year 10 GCSE Computer Science Autumn Term Knowledge Organiser Computer Systems

Key Vocabulary:


1	Hardware	Parts of a computer that can be physically touched.
2	Peripherals	External pieces of hardware.
3	Software	Programs that a computer system runs
4	Computer System	Consists of hardware and software working together to process data and complete tasks.
5	Input	Data entered into or received by a computer.
6	Process	Determines what the computer does with the input.
7	Output	How the computer presents the results of the process.
8	Volatile	Memory is erased when the power is switched off.
9	Non-Volatile	Memory is retained when the power is switched off.
10	Sub-routine	A set of code within a program that can be called at any time from the main program
11	Embedded System	A computer built into another device Eg Smart TV

Boolean Logic

12 NOT Gate:

	A	Out
	1	0
	0	1

13 AND Gate:

	A	B	Out
	0	0	0
	0	1	0
	1	0	0
	1	1	1

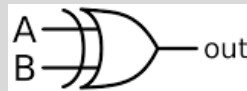
Boolean Logic continued...

14 OR Gate:



A	B	Out
0	0	0
0	1	1
1	0	1
1	1	1

15 XOR Gate:



A	B	Out
0	0	0
0	1	1
1	0	1
1	1	0

Software Classification

16 System Software:

Software designed to run and maintain a computer system. The most important one is the **operating system**. The main functions of the operating system are the management of: Processor(s), Memory, Input/output devices, Applications and Security

Utility programs are used to maintain or configure a computer:

Defragmentation, Disk Health, Compression, Encryption, Backup, Virus scanners, System Clean up, Firewalls

17 Application Software:

Software that is designed to help the user perform specific tasks e.g. word processors, web browsers, games etc.

Programming Languages and Translators

18 Programming Languages

Low-level language – Close to what the CPU would actually do and is written for specific hardware e.g. machine code and assembly languages.

Programming Languages and Translators continued...

18 Programming Languages continued...

High-level language – Easier for humans to write and understand, but the computer needs to translate it before it can be read and run e.g. Python, and Java

19 Translators:

Computers only understand instructions given to them as machine code, high level languages and assembly languages need to be translated using one of the following translators:

- **Assembler** – Translates assembly languages directly into machine code
- **Compiler** – Translates high level code directly into machine code.
- **Interpreters** – Don't translate directly into machine code- instead they take each instruction in the code and call machine code subroutines within their own code to carry out that instruction.

Systems architecture:

20 CPU Components

The Central Processing Unit(CPU) is the brain of the computer system and processes all data and instructions that make the system work. The 5 main CPU Components:

Arithmetic logic unit (ALU) – Gets data from the CU, performs an operation on it and sends the output back to the registers.

Control unit (CU) – Controls the flow of data and keeps track of the memory address of the instruction for each cycle.

Clock – Signals when instructions will be carried out.

Register – Holds any data, instructions and memory addresses that are about to be used by the CPU.

Bus – Wires through which data/signals are transmitted from one component to another.

21 Fetch-Decode-Execute Cycle:

Fetch – Instruction is fetched from the CPU to main memory

Decode – The instruction is decoded

Execute – The instruction is carried out

22 Memory and Storage

Main Memory:
Random Access Memory (RAM) - Volatile
Read Only Memory (ROM) – Non-Volatile

Secondary Storage:
Solid State, Optical, Magnetic

Cloud Storage

Y10 Knowledge Organiser Enterprise R068 TASK 1 & TASK 2

Business Scenario

Class Designs is a small business producing t-shirts. The business has been trading as a partnership for three years and is run by two partners. It produces and sells the t-shirts from a unit on a local business park. The business uses word-of-mouth and social media advertising to promote the t-shirts.

Class Designs is currently selling to customers in the local area only. The partners would like to increase brand awareness and sell the t-shirts nationwide. To grow the business a new website has been created that will accept online orders.

To help support the launch of the new website, Class Designs want to create a new range of t-shirt designs that they can sell on their new website. You have been asked to carry out market research to see what t-shirt designs customers would like. Using this information, they would like you to create a new t-shirt design.

1. What is Market Segmentation?

Market segmentation is the process of grouping potential customers together based on different factors. It is basically the method used by businesses to identify their target customer/market. Markets can be segmented in different ways and some businesses choose to use more than one characteristic to specifically segment their market.

2. How can markets be segmented?

* **Age** – This is basically how old the customer is. Businesses tend to segment their market into age brackets. Toys, for example, are aimed at younger audiences, potentially between ages 3 and 13.

* **Gender** – This is whether the target customers are typically going to be male or female. Make-up, for example, is targeted at females – this doesn't mean that males cannot buy it, it is just who the business is targeting!

* **Occupation** – Occupation means the job or career that the people within the target market may have. This could be a specific job, for example Screwfix™ aiming their products and marketing at people who work in manual trades such as plumbers, electricians etc.

* **Income** – Some businesses segment their market based on how much money their potential customers make. Luxury branded items, for example, will be targeted at customers with more disposable (spare) income.

* **Geographic** – This is when businesses segment their market by their location. A local newspaper, for example, will segment their market to include only those in the area in which the newspaper reports.

* **Lifestyle** – Businesses could segment their market based on what their customers' lifestyle is like; this is basically their hobbies, their routines and their habits. Some people enjoy going on holiday abroad each year, this is their lifestyle.

3. What is a customer profile?

The ideal customer for a business/product described through using market segments.

4. What are the benefits of Market Segmentation?

By segmenting their market, businesses are:

- Able to focus on the wants and needs of specific customers and more likely to meet these wants and needs.
- More likely to make sales because they've focused on specific groups of people (if they segment successfully).
- More able to focus their advertising and other marketing at the right groups of customers – if their market is segmented to include female customers, then the business could choose to advertise in magazines aimed at females, for example.
- Able to tailor their products and services to suit their customers; they will know what people in their segment typically prefer.

5. How do customers vary (how are they different)?

Customers' needs vary because of:

- The amount of money they are **able** to spend
- The amount of money they are **willing** to spend (some customers have more money, but may not be willing to spend this money)
- The **quantity** of products or services they require
- The **quality** of products or services they require
- The **location** in which they want to or can purchase items
- The **time** at which they want to or can purchase items.

6. What is Market Research?

Market research is the process of finding out what customers want and what they need. Businesses typically carry out market research before developing a new product as well as during the testing of the product to get the opinions of their potential customers.

7. What is the purpose of Market Research?

The purpose of market research is to find out what customers want and need – this helps businesses develop products that are more likely to be successful. Research also helps understand customers' tastes and opinions and can change the design or specification of products. Finally, market research can also be used to gauge what products are already on the market and what competitors are doing.

8. What is Primary (Field) Market Research?

Primary research, also known as field research, is when businesses gather their own data and information. This can be done through surveys, questionnaires, focus groups, observations and consumer trails. The data gathered is unique to the business and does not already exist.

9. What are the benefits of Primary (Field) Research?

Carrying out primary research means that the results are exactly what the business wants to find out, because this research has been tailor made for their own specific needs. Data generated from primary research will also be up-to-date.

10. What are the drawbacks of Primary (Field) Research?

Primary research is usually more expensive to carry out than secondary research because the business is creating and analysing everything from scratch. This also means that primary research is more time consuming to carry out.

11. What is Secondary (Desk) Market Research?

Secondary research, sometimes called desk research, is when the business uses data or information that already exists. This is not tailor made for the business. Methods of secondary research include internal data, books, newspapers and data already collected by competitors, the Government or other sources of statistics.

12. What are the benefits of Secondary (Desk) Market Research?

Secondary research is quicker to complete, because the data has already been collected and, in some cases, analysed. Secondary Research is also cheaper to carry out – looking in newspapers for information on competitors is clearly cheaper than preparing, carrying out and analysing a questionnaire, for example.

13. What are the drawbacks of Secondary (Desk) Market Research?

The data that is collected from secondary research is not unique and not specific to the business's needs, unlike when primary research is carried out. Data from secondary research is also widely available, which means competitors will also have access to it.

Y10 Knowledge Organiser Enterprise R068 TASK 3 AND Task 4

1. What is a the Design Mix?

These design factors - function, cost and aesthetics - are mixed together in different ways in order to appeal to different target markets close target market

2. Economic Manufacture

How much is costs to make the product.

3. Aesthetics

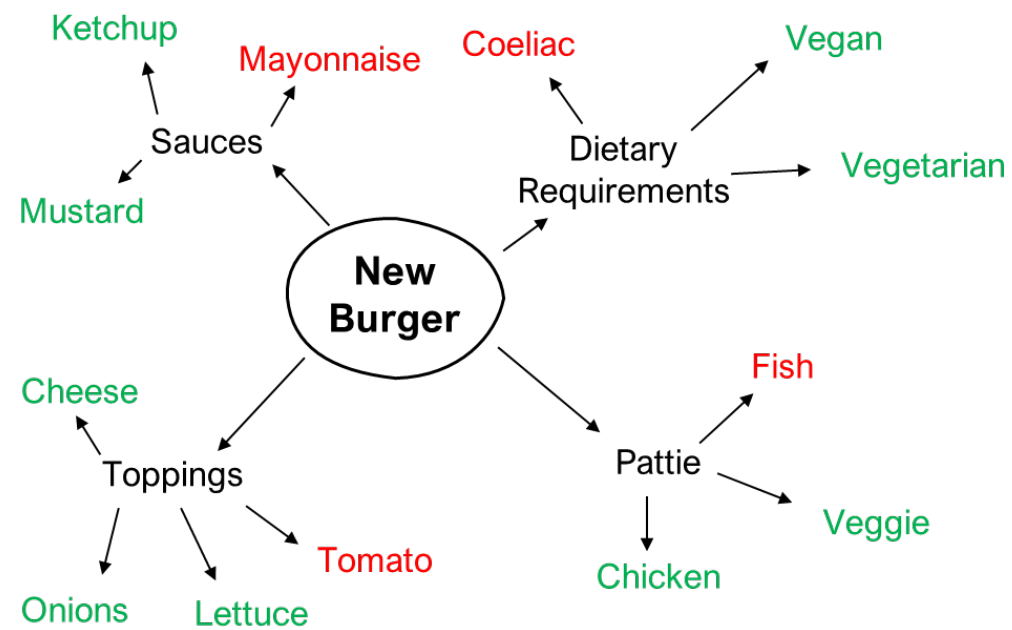
What the product looks like

4. Function

What the product does

6. Mind Map

Use their market research outcomes to show the most and least popular options.



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5. What are Creative Techniques?

Ways to plan and think to allow the design to generate different ideas.

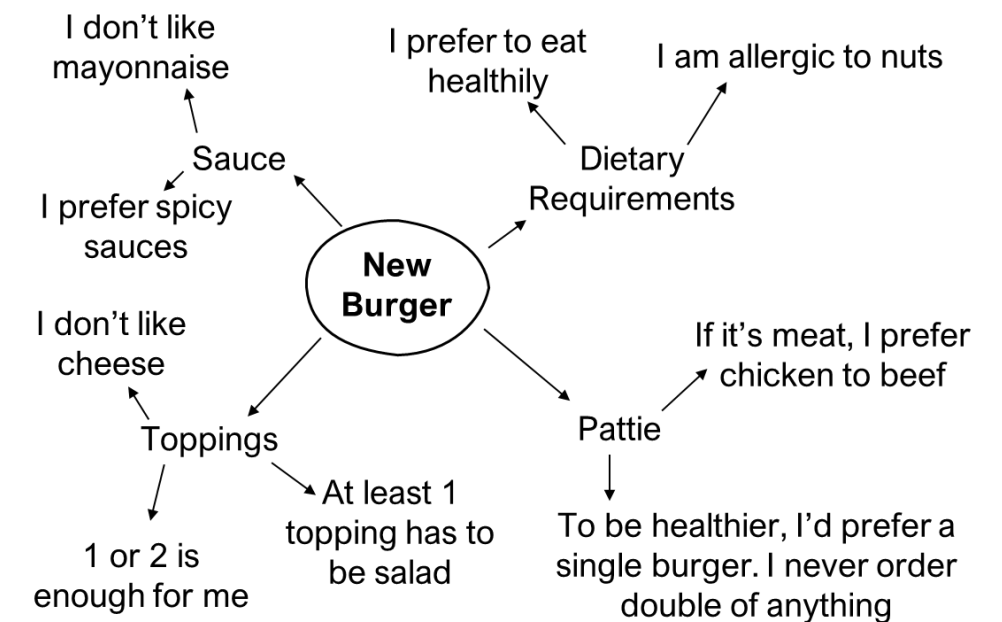
7. Mood board

A collection of images, materials, pieces of text and colours. Linked to project a particular style or concept.



8. Brain shifter

The product developer has produced a mind map as if they were their customer profile.



Unit 1A – Climate Change#

4. Global impacts of Climate Change

The impact of rising temperatures is affecting the world socially, economically and environmentally in several potential problematic ways.

Extreme Weather Climate is causing more unpredictable and severe weather events. This includes more frequent and powerful tropical storms; more extreme heatwaves and lasting droughts. E.g. Typhoon Haiyan 2013

Rising sea levels Sea levels have risen by 20 cm since 1901. due to thermal expansion, melting glaciers and ice caps. Some coastal countries are now disappearing such as the Maldives in the Indian Ocean.

Food supply Warmer temperatures and changing rainfall will make it harder to produce a reliable source of food to sustain a rising global population. E.g. In 2011, Russia banned crop exports after a decline in yield.

Plants and Animals About a quarter of animals and plants on Earth could become extinct. With warmer temperatures and changing rainfall environments will no longer be able to provide for the world's fragile ecosystems.

Disease and Health Warmer temperatures will increase the spread of infectious diseases like malaria. In addition, more frequent floods could cause more waterborne disease such as dysentery.

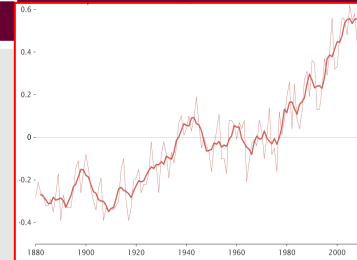
Water Supply People need freshwater to drink but with 1 billion people predicted to not have access to enough water by 2025 due to climate change, this might cause several social, economic and environmental problems. E.g. fishing, irrigation and sanitation.

Climate refugees Climate refugees are people who are forced to leave their home due to the impact of climate change. This can be due to sea level rises or extreme weather conditions such as drought.

1. What is Climate Change?

Climate change is a large-scale, long-term shift in the planet's weather patterns or average temperatures. Earth has had tropical climates and ice ages many times in its 4.5 billion years.

The quaternary period is the last 2.6 million years. During this period temperatures have always fluctuated. The cold 'spikes' are the glacial periods, whereas the warm points are the interglacial periods.



3. The Greenhouse Gases

Most greenhouse gases occur naturally. Some greenhouse gases have greater potential to increase global warming than occurs as different gases trap and absorb different amounts of radiation.

Carbon dioxide Accounts for 60% of the enhanced greenhouse gases. It is produced by burning fossil fuels through producing electricity, industry, cars and deforestation.

Methane Accounts for 15% of the enhanced greenhouse gases. 25x more efficient than Carbon dioxide. Produced from landfills, rice and farm animals.

Nitrous Oxide Accounts for 6% of the enhanced greenhouse effect. 250x more efficient than Carbon dioxide. Produced from fertilisers and car exhausts.

2. Natural and Enhanced Greenhouse Effect

1. The Earth is kept warm by a natural process called the Greenhouse Effect. As solar radiation hits the Earth, some is reflected back into space. However, greenhouse gases help trap the sun's radiation. Without this process, the Earth would be too cold to support life as temperature would average as -18°C instead of +15°C.
2. Recently, there has been an increase in humans burning fossil fuels for energy. These fuels (gas, coal and oil) emit extra greenhouse gases. This is making the Earth's atmosphere thicker, therefore trapping more solar radiation but causing less to be reflected. As a result, our Earth is becoming warmer.

5. Past Evidence: The Little Ice Age (1300-1870)

The Little Ice Age was a period of cooling that occurred after the Medieval Warm Period in parts of Europe and North America. Impacts included...

1. Price of grain increased and vineyards become unproductive.
2. Sea ice engulfed Iceland and the sea force around parts of the UK. Frost Fairs were held on rivers such as the River Thames.
3. People suffered from the intense cold winters as food stock were limited.

6. Natural Causes of Climate Change

Milankovitch cycle Milutin Milankovitch argued that climate change was linked to the way the Earth orbits the Sun, and how it wobbles and tilts as it does it. There are three ideas that are thought to change climate.

1. **Eccentricity**: Changes in the shape of Earth's orbit.
2. **Obliquity**: Changes in how the Earth tilts on its axis.
3. **Precession**: The amount the Earth wobbles on its axis.

Sun Spots Dark spots on the Sun are called Sun spots. They increase the amount of energy Earth receives from the Sun.

Volcanic Eruptions Volcanoes release large amounts of dust containing gases. These can block out sunlight and results in cooler global temperatures.

7. Evidence for climate change

Ice Cores Ice cores are made up from different layers that each represents a different historical time. By exploring the water molecules of these cores, scientist have calculated fluctuating temperatures of the atmosphere.

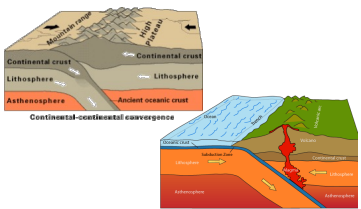
Historical records Historical records from ancient cave paintings, diaries and written observations have provide evidence of climate change through personal accounts from the people through them.

Global temperature data Evidence collected by NASA suggests average global temperatures have increased by more than 0.6°C since 1950.

Ice sheets and glaciers Evidence from maps and photos have shown many of the world's glaciers and ice sheets are melting. E.g. the Arctic

Unit 1A – Natural & Tectonic Hazards

Key vocab	Definition
Natural Hazard	A natural process that can cause death, injury or disruption to humans or destroy property or possessions.
Geological hazards	These are caused by land and tectonic processes including earthquakes, volcanoes, landslides and avalanches.
Meteorological hazard	These are caused by weather and climate including tropical storms, heatwaves and cold spells.
Tectonic plates	The Earth's crust is divided into slabs called tectonic plates that float on the mantle.
Destructive Plate Margin	Two plates moving towards each other.
Constructive Plate Boundary	Two plates moving away from each other.
Subduction	The downward movement of the edge of a plate of the Earth's crust into the mantle beneath another plate.
Conservative Plate Boundary	Two plates moving past each other or moving in the same direction but in different speeds.
Hotspots	Parts of the mantle that are really hot.
Pyroclastic Flow	Super-heated currents of gas, ash and rock.
Focus	The point in the Earth where the earthquake starts.
Epicentre	The point on the Earth's surface straight above the focus.



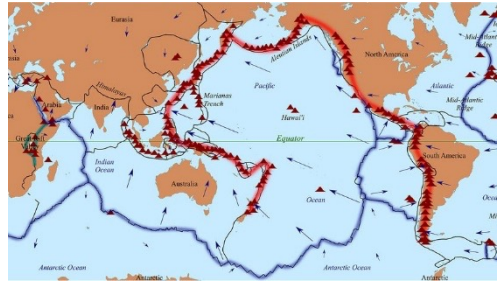
1. Tectonic Plates

- The Earth's crust is divided into slabs called tectonic plates that float on the mantle.
- There are two types of crust: Continental crust is thicker and less dense. Oceanic crust is thinner and more dense.
- The plates are moving by convection currents in the mantle.
- The places where plates meet are called plate boundaries.

2. Primary vs Secondary Effects

Primary effects happen immediately and are caused by the hazard itself whereas secondary effects happen later on, often as a result of the primary effects.

Primary Effects	Secondary Effects
Buildings and roads are destroyed by earthquakes, volcanic eruptions or tropical storms.	The initial hazard can trigger other hazards eg, earthquakes can trigger tsunamis.
People can be injured or killed.	Aid and emergency vehicles cant get through because of blocked roads or bridges.
Crops and water supplies can be damaged or contaminated.	A shortage of clean water and a lack of proper sanitation makes it easier for disease to spread as well as food shortages.
Electricity cables , gas pipes and communication networks can be damaged, cutting off supplies.	The country's economy can be weakened. Damage to businesses can cause unemployment, and the reconstruction process can be very expensive.



3. Immediate vs Long Term responses

Some effects have to be dealt with before, during or immediately after the natural disaster to stop further loss of life, injuries or damage to property. Others are dealt with in the longer term.

Immediate Responses	Long Term Responses
Evacuate people (before the hazard occurs if possible).	Repair homes or rehouse people who have lost their homes.
Treat the injured and rescue anyone cut off by damage to roads or bridges.	Repair or rebuild buildings, roads, railways and bridges.
Recover dead bodies to prevent disease spreading.	Reconnect broken electricity, water, gas and communication connections
Provide temporary supplies of electricity and gas if regular supplies have been damaged.	Improve forecasting, monitoring and evacuation plans.
Provide food, water and shelter to people without homes.	Improve building regulations so that buildings can withstand similar hazards in the future.
Foreign governments or charities may send aid workers, supplies or financial donations.	Boost economic recovery eg, by promoting tourism.

4. Volcanoes and Earthquakes

Volcanoes occur at destructive and constructive plate margins.

At destructive margins, the denser oceanic plate moves down into the mantle, where it melts. A pool of magma forms, which then rises through cracks in the crust called vents. The magma erupts and forms a volcano.

At constructive margins, the magma rises up into the gap created by the plates moving apart, forming a volcano.

Some volcanoes also form over parts of the mantle that are really hot (eg, hotspots).

When a volcano erupts, it emits lava and gases. Some volcanoes emit lots of ash which can cover land, block out the sun and form pyroclastic flows.

Earthquake occur at all three types of plate margins.

Earthquakes are caused by the tension that builds up at all three types of plate margin.

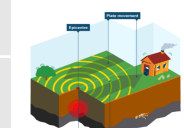
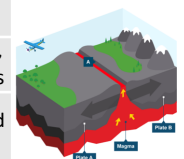
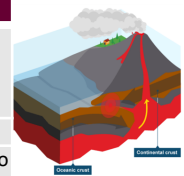
The plates get stuck when moving past, towards or away from each other and eventually jerk past each other, sending shock waves. These vibrations are the earthquake.

The shock waves spread out from the focus where they are stronger and cause more damage.

Earthquakes are measured using the moment magnitude scale.

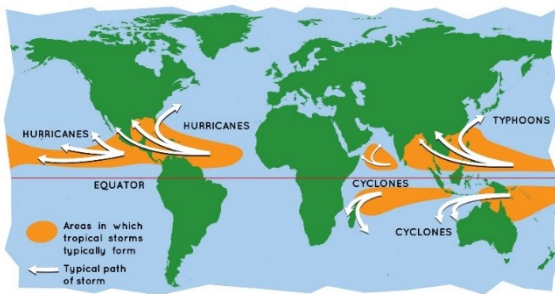
5. Types of Plate Margins

Destructive Plate Margin	Two plates moving towards each other. Where an oceanic plate meets a continental plate, the denser oceanic plate is subducted and destroyed creating magma. Volcanoes and ocean trenches occur here. Where two continental plates meet, the ground is folded upwards, creating fold mountains.
Constructive Plate Margin	Two plates are moving away from each other. Magma rises from the mantle to fill the gap and cools, creating new crust. Volcanoes formed along this crack cause a submarine mountain range such as those in the Mid Atlantic Ridge.
Conservative Plate Margin	Two plates moving past each other or moving in the same direction but at different speeds. Crust isn't created or destroyed.



Unit 1A – Weather Hazards

Key vocab	Definition
Air Pressure	The force exerted on a surface by the air above it as gravity pulls it to Earth.
Trade Winds	A wind blowing steadily towards the equator from the north-east in the northern hemisphere or the south-east in the southern hemisphere, especially at sea.
Coriolis Effect	Due to the Earth rotates on its axis, circulating air is deflected toward the right in the Northern Hemisphere and toward the left in the Southern Hemisphere.
Wind Shear	Difference in wind speed.
Extreme Weather	Extreme weather includes unexpected, unusual, severe, or unseasonal weather that can cause harm.



3. Tropical Storms

Tropical storms develop between 5 and 30° north and south of the equator when sea temperature are 27°C or higher and the wind shear is between higher and lower parts of the atmosphere is low.

Warm surface water evaporates, rises and condenses into clouds which releases energy producing powerful storms and creating an area of low pressure which increase surface winds.

Easterly winds near the equator move tropical storms towards the west. The storm spins because of the Coriolis effect.

As the storm moves over the ocean, the energy from the warm water strengthens so wind speeds increase. Storm lose strength when they move over cooler water or land because the energy supply is cut off.

The centre of the storm is called the eye and there is very low pressure, light winds, no clouds or rain and a high temperature.

The eye is surrounded by the eyewall where there is spiralling rising air, very strong winds, storm clouds, torrential rain and a low temperature.

Towards the edges of the storm the wind speed falls, the clouds become smaller and more scattered, the rain becomes less intense and the temperature increases.

1. Global Atmospheric Circulation

Global atmospheric circulation is the transfer of heat from the equator to the poles by the movement of air.

Air moves due to difference in air pressure – winds blow from high pressure areas to low pressure areas.

The global atmospheric circulation system is divided into cells – each cell has warm rising air that creates a low pressure belt and cool sinking air that creates a high pressure belt.

Each hemisphere has three cells.

1. The sun warms the Earth, at the equator, causing the air to rise which creates a low pressure belt.
2. As the air rises it cools and moves away from the equator.
3. 30° north and south of the equator, the cool air sinks, creating a high pressure belt.
4. At the ground surface, the cool air moves either back to the equator (as trade winds) or towards the poles. These winds curve because of the Earth's rotation which is called the Coriolis effect.
5. 60° north and south of the equator the warmer surface winds meet colder air from the poles. The warmer air creates low pressure.
6. Some of the air moves back towards the equator, and the rest moves towards the poles.
7. At the poles the cool air sinks creating high pressure and this air is then drawn back towards the equator.

4. Climate Change and Management

Climate change may affect tropical storms. Global average sea temperatures have risen by 1.06°C since 1900 and are expected to rise more as a result of climate change.

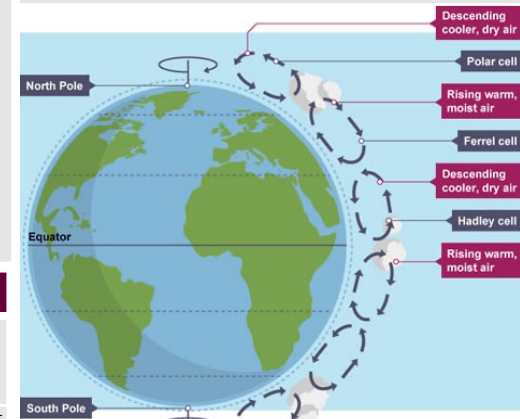
Frequency	Oceans will stay at 27°C or higher for longer each year so there is a longer period that tropical storms can form.
Distribution	As the average ocean temperature rises, more of the world's oceans could be above 27°C which means tropical storms could form in areas that haven't experienced them before.
Intensity	Higher surface temperatures are likely to result in more evaporation and increased cloud formation so more energy is released making more powerful storms.
Ways to reduce effects of tropical storms	
Prediction and Monitoring	Computer models can be used to calculate a storm's predicted path. Predicting where and when a tropical storm is going to happen gives people the opportunity to evacuate and protect their homes.
Planning	Improved developments and new houses can avoid high risk areas, such as low-lying coastlines. Governments can plan evacuation routes and emergency services can prepare by practising rescuing people from flooded areas.
Protection	Buildings can be designed to withstand tropical storms as well as being put on stilts. Flood defences can be built along rivers and coasts.

2. GAC Affecting Weather

At the equator, the sun is directly overhead which means the Earth's surface receives solar radiation so it's hot. Warm, moist air rises and forms clouds so it rains a lot.

By the time air reaches 30° north and south of the equator, it has released most of its moisture as rain so the dry deserts mean there is little rainfall and deserts can be found here.

The UK lies close to the low pressure zone at 60° north. Warm rising air brings lots of cloud cover and rainfall, often as low pressure systems carried by the Atlantic by westerly winds.



5. UK Weather Hazards

Weather hazards are common in the UK and it is not just rain...

Strong Winds	Strong winds can damage properties and disrupt transport. Uprooted trees and debris can injure or kill people.
Heavy Rainfall	Heavy rain can cause flooding which can damage homes, disrupt transport networks and drown people. Recovery from flooding can cost millions of pounds.
Snow and Ice	Slipping can cause injuries and death. Schools and businesses can be forced to shut and disruption to travel can have economic impacts.
Drought	Water supplies can run low, causing economic impacts such as crop failures.
Thunderstorms	Heavy rain, strong winds and lightning can occur. Lightning can cause fires which can damage property and the environment.
Heat Waves	Pollution builds up in the air which can cause heat exhaustion or breathing difficulties which can kill people.

Year 10 GCSE History AutumnTerm Knowledge Organiser Cold War Crises 1958-1970

Key Vocabulary:			Berlin Crisis 1958-1963		Cuban Missile Crisis		Czechoslovakia	
1	Ultimatum	A final demand attached to a threat.	14	Berlin Ultimatum 1958	17	Cuban Revolution 1959:	20	Causes of the Prague Spring:
2	Migrate	To move from one place to another	Refugee problem escalated to 20,000 a month leaving East Berlin for the West. Between 1949 and 1961 an estimated 2.7 million East Germans left for West Germany. Khrushchev demands Western allies leave Berlin within 6 months. Nicknamed 'brain drain'		Batista overthrown by Fidel Castro. USA banned the import of Cuban sugar in response to Castro's nationalisation of American companies in Cuba. Khrushchev offered to buy the Cuban sugar and promised to send military assistance.		The hard-line communist leader Antonin Novotny was unpopular, there was censorship of the press, lack of personal freedom, a weak economy. Some Czechs thought the USA would help the if they stood up to Moscow.	
3	Capitalism	political system in which a country's trade and industry are controlled by private owners for profit.						
4	Brain Drain	The departure of highly skilled people from a country	15	Summit Meetings:	18	Bay of Pigs 1961:	21	Prague Spring:
5	Summit	A meeting between people who are interested in the same subject.	Geneva Conference - May 1959 Although no solution to the ultimatum was found, relations between Khrushchev and Eisenhower improved Camp David Summit - September 1959. leaders met and got on, the ultimatum on Berlin was withdrawn by Khrushchev. Paris Summit May 1960 13 days before an American U2 spy plane shot down- US embarrassed and shown to have lied, tension increases. Vienna Summit June 1961- Khrushchev thinks he can bully new American president Kennedy so reissues ultimatum but Kennedy refuses and increases defence spending.		1500 CIA-trained Cuban exiles (La Brigada 2506) landed at the Bay of Pigs with the aim of toppling Castro. Castro's army fought back and defeated La Brigada. Castro declared he is now communist. USSR begins to install ballistic missiles in Cuba which U2 spy plane photographs		1967 Czech students began protesting so Brezhnev (USSR leader) replaces Novotny with Alexander Dubcek. In April 1968 Dubcek announced an action plan to deliver 'Socialism with a Human Face' which meant removing state control of the economy and allowing freedom of speech.	
6	La Brigada 2506	The 1500 Cuban exiles trained by the CIA to invade Cuba.						
7	Bay of Pigs	An inlet on the southern coast of Cuba	16	Berlin Wall 1961:	19	13 Days 16th-28th October 1962:	22	Brezhnev's reaction:
8	CIA	Central Intelligence Agency – the US agency responsible for intelligence-gathering	On 13 August 1961, the Soviet authorities in East Germany sealed off East Berlin – their zone of occupation - by constructing a huge barbed wire barrier. This was soon replaced by a concrete wall, complete with lookout towers and armed guards who had orders to shoot anyone trying to cross into the Western sector. In response there is an 18 hour stand off between US and Soviet tanks at Checkpoint Charlie and in 1963 JFK visits Berlin and made a famous speech to 200,000 West Berliners in which he stated that Berlin was a symbol of freedom and the struggle against communism. (Ich bin ein Berliner speech) However in private it did decrease tension as JFK says 'a wall is better than a war'		<ul style="list-style-type: none"> 16th-21st Oct US spy plane photographs reveal Soviet IRBM missiles on Cuba. JFK convenes ExCom to discuss response options including invasion and airstrikes. 22nd Oct JFK imposes naval blockade around Cuba to stop Soviet ships carrying nuclear missiles from reaching Cuba. 23rd Oct- Khrushchev says he Soviet ships will force their way through the blockade 24th Oct- despite the tough talk 20 Soviet ships turn back 26th Oct Khrushchev sends telegram promising to remove launch sites if US agrees to lift blockade and promises not to invade Cuba. 28th Khrushchev publicly agrees to remove missiles on Cuba while JFK secretly agrees to remove Turkey missiles <u>Consequences-</u> JFK looked strong as he's stood up to Khrushchev, eventually led to downfall of Khrushchev. New co-operation between US and USSR with 1963 Test Ban Treaty, 1967 Outer Space Treaty, 1968 Nuclear Non Proliferation Treaty and SALT talks and hotline between White House and Kremlin. 		Dubcek's closer relations with West Germany and the anti-communist protests concerned USSR. Also, fellow Eastern bloc leaders feared possible withdrawal from Warsaw pact and how it could encourage unrest in their own countries. Warsaw Pact agrees to Soviet-led invasion with 500,00 troops to regain control. Brezhnev announces the 'Brezhnev Doctrine' which is a policy which stated the USSR had the right to intervene in places where communism was threatened. In Czechoslovakia USSR appoint Husak to replace Dubcek. Dubcek resigned and made ambassador to Turkey. <u>Other consequences:</u> Czech student, Jan Palach sets himself on fire in protest. The USA publicly criticizes the events but no military assistance due to Vietnam war. Brezhnev gains greater control of the satellite states with his 'Brezhnev Doctrine'. Communist parties in Western Europe showed disapproval by distancing themselves from Communist Party of USSR. Yugoslav and Romanian governments protested and began to foster closer links with China.	
9	Sphere of influence	A region over which one country largely has control or influence						
10	Quarantine	US navy ships to prevent Soviet ships carrying military equipment to Cuba.						
11	Brinkmanship	To push a situation to the point of disaster without quite going over the edge.						
12	ICBM/IRBM	Missiles						
13	ExCom:	A group of 12 expert advisers created by JFK and led by his brother Robert.						

Year 10 GCSE History Autumn Term Knowledge Organiser The Origins of the Cold War 1941-58

Key Vocabulary:		
1	Grand Alliance	The alliance between the US, USSR and UK that defeated Nazi Germany in WW2
2	D-Day	The Allied invasion of north-western France in June 1944
3	UN	An international organisation set up to preserve world peace
4	Reparations	Compensation for damage caused during the war
5	Red Army	The army of the Soviet Union
6	Buffer Zone	Stalin wanted to control Eastern Europe so it would protect the USSR from future invasion
7	Salami Tactics	The methods used by Stalin to establish communist control in Eastern Europe (eg: rigged elections, crushing opposition)
8	Iron Curtain	A metaphor for the line that divided Europe between the democratic west and communist east
9	Containment	The US policy which aimed to stop the spread of communism
10	Deutsche Mark & Ostmark	The German currencies that replaced the Reichsmark in 1948
11	NATO	The North Atlantic Treaty Organisation is an alliance of democratic countries who agree to defend each other against attack
12	De-Stalinisation	Elimination of the influence of Stalin.
13	Communism	a type of government where all property is owned by the community and each person contributes and receives according to their ability and needs.
14	Nuclear weapon:	Highly destructive explosive device that gets its power from nuclear reactions.
15	H-bomb	Hydrogen bomb- an even more powerful type of nuclear weapon
16	Arms Race	A competition between two countries to have the most powerful weapons

The situation at the end of WW2	
17	The conferences:
The Tehran Conference- Nov 1943	
<ul style="list-style-type: none"> GB and USA agree to open up a second front by invading France in summer 1944 and USSR to attack Japan once Germany defeated UN to be set up after war 	
The Yalta Conference- Feb 1945	
<ul style="list-style-type: none"> Germany and Berlin would be divided into four zones Eastern Europe would be a Soviet 'sphere of influence'. BUT – disagreement on amount of reparations 	
The Potsdam Conference- Aug 1945	
<ul style="list-style-type: none"> Confirmed decision to divide Germany and Berlin Germany to be demilitarised, democratised, de-Nazified and Germany to pay reparations to Allies – most of which to go to USSR. BUT – disagreement on how harshly Germany would be punished, and on free elections in Eastern Europe. 	
18	Reasons for tension after WW2:
<ul style="list-style-type: none"> 1944-48 Creation of satellite states (e.g. Poland and Hungary) as Stalin wants a buffer zone in Eastern Europe. Use of salami tactics to take over 'slice by slice' 1946 Long and Novikov Telegrams- US diplomat Kennan recommended firm action against USSR and Novikov accused the USA of seeking world domination. 1946 Iron Curtain Speech- Church gave a speech saying a iron curtain now divided Europe Arms Race 	
19	Truman Doctrine and consequences:
<ul style="list-style-type: none"> 1947 Truman Doctrine- Began the policy of containment (stopping the spread of communism) by using US influences and resources. Now means that US will continue to be active in Europe after WW2, increases tensions. 1948 Marshall Aid- to achieve the policy of containment gave economic aid (\$12 billion) to help European countries. Stalin referred to it as 'Dollar Imperialism' 1947 Cominform- Communist Information Bureau-response to Truman Doctrine, gave Stalin greater control over communist countries. 1949 Comecon- Allows Stalin to control Eastern European economies and take their resources- a response to Marshall Aid. 	

Tension in Germany and Hungary	
20	The Berlin Crisis 1947-9
<u>1945 Division of Germany and Berlin:</u> At Potsdam the Allies agreed to divide Germany and its capital, Berlin, into four zones – American, British, French and Soviet. Differences quickly emerged over how to run Germany.	
<u>1947 Creation of Bizonia:</u> In January 1947 the British and American zones were merged together to create the 'Bizone' – the French zone joined the following year (Trizonia) and in 1948 they introduced a new currency the Deutsche Mark	
<u>1948 The Berlin Blockade:</u> In response the USSR introduced its own currency – the Ostmark – to the Soviet Zone and cut off road, rail and canal traffic in an attempt to starve West Berlin.	
<u>1948-9 The Berlin Airlift:</u> The Allies used the three air corridors to airlift supplies (4600 tons of supplies a day on average) to West Berlin over the following ten months. In May 1949 Stalin backed down.	
<u>Consequences/Importance:</u>	
<ul style="list-style-type: none"> First direct confrontation between the USA and USSR Confirmed impossible to cooperate over Germany West Germany (FRG) formed in late May 1949, East Germany (GDR) formed in Oct Formation of NATO – US commitment to defence of western Europe, first military alliance 	
21	Hungarian Uprising 1956
<u>1953- Death of Stalin-</u> People were unhappy with the leader of Hungary (Matyas Rakosi- nicknamed the Bald Butcher) who was a Stalinist. Economic failure and terror in Hungary	
<u>1956- Imre Nagy becomes leader of Hungary</u> Nagy proposes reforms to economy, freedom of press, freedom of speech and withdrawal from Warsaw pact. Student anti-communist protests.	
<u>Nov 1956- Soviet invasion restores control-</u> Khrushchev orders 200,000 Warsaw Pact troops to retake control of Hungary. USSR appoints Janos Kadar to replace Nagy who is imprisoned and executed.	
<u>Consequences/Importance</u>	
<ul style="list-style-type: none"> Khrushchev appears strong and fully gains control of the satellite states While the US government publicly criticizes the USSR and raises aid money for refugees there is no military intervention despite its declaration to roll back communism 20,000 Hungarians killed 	

Year 10 Hospitality and Catering

Autumn Term Knowledge Organiser - The Importance of Nutrition

Key Vocabulary:		
1	Amino acid	The basic component of all proteins.
2	High biological value (HBV) protein	A protein that contains all of the essential amino acids.
3	Low biological value (LBV) protein	A protein that lacks one or more of the essential amino acids.
4	Sugary foods	Foods high in sugar, such as jam, cakes, biscuits and ice cream.
5	Starchy foods	Foods high in starch, such as pasta, rice, potatoes and bread.
6	Fat-soluble vitamins	Vitamins that dissolve in fat; these are vitamins A and D.
7	Dietary fibre	A type of carbohydrate found in the cell walls of vegetables, fruits, pulses and cereal grains. It is also known as non-starch polysaccharide (NSP).
8	Immune system	The processes of the body that protect against disease.
9	Fortified cereals	Cereals with added vitamins and minerals.
10	Haemoglobin	Part of the red blood cell that carries oxygen around the body.
11	High blood pressure	A higher than normal force of blood pushing against the arteries.
12	Constipation	A condition where emptying the bowels is difficult.

Nutrition at different life stages	
13	Adults
Early	Growth in regard to height of the body continues to develop until 21 years of age. Therefore, all micro-nutrients and macro-nutrients especially carbohydrates, protein, fats, vitamins, calcium and iron are needed for strength, to avoid diseases and to maintain being healthy.
Middle	The metabolic rate starts to slow down at this stage, and it is very easy to gain weight if the energy intake is unbalanced and there isn't enough physical activity.
Elderly	The body's systems start to slow down with age and a risk of blood pressure can increase as well as decrease in appetite, vision and long-term memory. Because of this, it is essential to keep the body strong and free from disease by continuing to eat a healthy, balanced diet.
14	Children
Babies	All nutrients are essential and important in babies, especially protein as growth and development of the body is very quick at this stage. Vitamins and minerals are also important. You should try to limit the amount of salt and free sugars in the diet.
Toddlers	All nutrients remain very important in the diet at this stage as growth remains. A variety of foods are needed for toddlers to have all the micro-nutrients and macro-nutrients the body needs to develop.
Teenagers	The body grows at a fast pace at different times at this stage as the body develops from a child to an adult, therefore all nutrients are essential within proportions. Girls start their menstruation which can sometimes lead to anaemia due to not having enough iron in the body.

Special dietary needs	
The amount of energy the body needs is determined by lifestyles, occupation, age and activity level.	
15	Medical conditions
Allergens	Examples of food allergies include milk, eggs, nuts and seafood.
Lactose intolerance	Unable to digest lactose which is mainly found in milk and dairy products.
Gluten intolerance	Follows a gluten free diet and eats alternatives to food containing wheat, barley and rye.
Diabetes (type 2)	High level of glucose in the blood, therefore changes include reducing the amount of fat, salt and sugar in the diet.
Cardiovascular disorder	Needing a balanced, healthy diet with low levels of salt, sugar and fat.
Iron deficiency	Needing to eat more dark green leafy vegetables, fortified cereals and dried fruit.

16 Dietary requirements	
Religious beliefs	Different religions have different dietary requirements.
Vegetarian	Avoids eating meats and fish but does eat dairy products and protein alternatives such as Quorn and tofu.
Vegan	Avoids all animal foods and products but can eat all plant-based foods and protein alternatives such as tofu and tempeh.
Pescatarian	Follows a vegetarian diet but does eat fish products and seafood.

Autumn Term Year 10 Music Component 1 Early pop music Knowledge Organiser

Key Vocabulary:

1	Harmony	The chords or accompaniment supporting the melody
2	Sonic Features	The parts of the music (melody/rhythm) that make the piece able to be identified as a certain style
3	Texture	How the parts of the music fit together
4	Practice	The method to learn something new – includes playing short chunks, repeating parts, playing slowly
5	DAW	Use of computer interfacing software – loops and samples
6	Blues	Music from the USA plantations
7	Improvisation	To make up a melody or rhythm on the spot to fit with a set bass line
8	Guitar techniques	Sliding/bending – bending the string inwards to change the pitch and sliding from note to note
9	Distortion	A feature of the guitar amplifier – makes the sound crunchy
10	7 th Chords	Block chords with a 7 th note added – ie CEGB
11	Acapella	Unaccompanied singing

Learning Aim A

12	Blues
	<ul style="list-style-type: none"> The Blues originated on Southern plantations in the 19th Century Key features: 12-bar blues, walking bass line, melody, chords, call and response, tempo, repetition Instruments: early Blues was mainly vocals and guitar, later the: double bass, piano, trumpet and saxophone Playing techniques: improvisation, bending/sliding guitar, muting trumpet Famous artists: Bessie Smith, Robert Johnson, Muddy Waters, BB King Associated genres: Jazz, Swing, Ragtime, Country, Gospel
13	Rock and Roll
	<ul style="list-style-type: none"> Originated in the US during the late 1940's and early 1950's Influences: Blues, Jazz, Gospel, Country Key features: backbeat rhythm, boogie woogie Instruments: Saxophone, piano, lead and rhythm electric guitars, double bass, drum kit Technological advances: microphone, amplifier, use of distortion Famous artists: Elvis Presley, Buddy Holly, Chuck Berry, Bill Haley, Little Richard Rock n Roll styles: Rockability, doo wop
14	Bessie Smith 1894 - 1937
	<ul style="list-style-type: none"> Bessie Smith was an American Blues singer widely renowned during the Jazz age. Nicknamed the "Empress of Blues" she was the most popular female Blues singer of the 1920's and 1930's. In 1923 she made her first recordings and singed for Columbia records. Her song Downhearted Blues sold approximately 800,000 copies The songs Bessie sang were of the classical blues themes: poverty, oppression and love lost She collaborated with many artists such as, Louis Armstrong



15	The early 1960's
	<ul style="list-style-type: none"> Rock and Roll was gradually overtaken by Pop-rock The 1960's were a time of upheaval in society, fashion, attitudes and music Key Features: verse, chorus, fusion, multi-tracking, chord sequence, major, minor hook Instruments: guitar, bass guitar, drum kit, piano Playing techniques: guitar licks, fills, simple melodies, rhythmic guitar work, standard song form, acapella Famous artists: The Beatles, The beach boys, The Kinks, The Supremes, Marvin Gaye 60's genres: Rock, Funk, Soul, Motown, R&B, Ska, Folk
16	The end of the 1960's
	<ul style="list-style-type: none"> In the late 60's outdoor rock festivals began and psychedelic music reflected the growing hippie culture Television became a major force in rock music, attracting younger audiences Key features: riff, 7th Chords, bass line, lyrics Instruments: guitar, bass guitar, drum kit, piano, synthesizer Famous artists: The Who, The Rolling Stones, Cher, The Monkees, Tom Jones Rock subgenres: Pop rock, Psychedelic rock, Progressive rock, Blues rock
17	The Beatles 1960 - 1970
	<ul style="list-style-type: none"> The Beatles were an English rock band formed in Liverpool in 1960. There were four members – John Lennon (guitar and vocals), Paul McCartney (Bass and vocals), George Harrison (lead guitar) and Ringo Starr (drums) In 1961 they signed with EMI. The music was influenced by Rock and Roll, Classical music, Indian traditional music and Psychedelia Their first single was a huge success in the UK and started "Beatlemania". They appeared on TV in the USA to an audience of over 70 million. They also pioneered the use of technology using: sound effects, tape loops, double tracking, van-speed recording and unusual microphone placements They recorded: 130 songs, had 17 number 1's



Autumn Term Year 10 Music Component 1 Examples of assessment

Key Vocabulary:			Music for Film		The Delta Blues	
1	Harmony	The chords or accompaniment supporting the melody	12	Style and facts	14	Style and Facts
2	Sonic Features	The parts of the music (melody/rhythm) that make the piece able to be identified as a certain style	<ul style="list-style-type: none"> • Music for media has gained popularity during the last century, with music becoming an integral part of film, TV and video games. • From the early 1900s, music has been used in various sources of media to accompany the on-screen action, create atmosphere and establish mood. • Music for media is composed with the intention of enhancing a product or production. It is not written specifically for direct sale to the public, which is where it differs from commercial music. 		<p>Delta Blues is one of the earliest-known styles of Blues music.</p> <p>It originated in the Mississippi Delta in the USA</p> <p>Some of the earliest Delta Blues recordings date back to the late 1920s (though it was likely being played before the turn of the century), when record companies realised the potential African-American market for ‘race’ records.</p> <p>The Delta Blues ‘sound’ is predominantly a single performer with vocals and acoustic guitar but live performances include an upright bass and drums</p>	
3	Leitmotif	a short musical idea that represents a particular location/ character				
4	Motif	a short musical idea	<p>13</p> <p>Analysis</p> <ul style="list-style-type: none"> • Interstellar – the Cornfield = Hans Zimmer • The piece is in the minimalism style • There is a prominent disjunct motif melody heard throughout, performed using ‘bell chimes’ percussion. • The original motif is exposed at the beginning and there are variations to this melody throughout the piece. • There are time signature changes throughout, with a mix of regular and irregular beats per measure e.g. 3/4 to 5/8. • The tonality is a major key • The melodies become more complex as the piece develops • There is a dynamic ‘crescendo’ throughout • There is a tempo ‘accelerando’, going from moderato to presto 		<p>15</p> <p>Analysis</p> <p>Crossroads – Robert Johnson</p> <ul style="list-style-type: none"> • The lyrics follow the typical delta blues AAB structure over the traditional 12-bar blues. • The song has a homophonic texture (melody and guitar accompaniment). • The guitar rhythm is a typical blues shuffle in F major, in which 8th note triplets are performed for an authentic delta blues groove. • Power chords are used in the main guitar harmony. • The F blues scale is used to perform the guitar riffs heard in this song. • The song also contains typical blues riffs of descending semitones in the guitar melody/ 7th chords- this is known as a chromatic run. • The guitar melody uses hammer-ons to decorate (ornamentation) the guitar melody. 	
5	Theme tune	memorable piece of music that represents a TV series, film, video game.				
6	Conjunct	a melody built upon notes that are close together				
7	Disjunct	a melody built upon notes that are far apart				
8	Diegetic	music & sounds that are part of the production that are heard by the characters				
9	Non-diegetic	music & sounds only heard by the audience				
10	Stop time	when a few notes/ chords are played that are separated by silence				
11	12-bar Blues	a song structure built on twelve bars of music that uses chords I, IV and V.				

Autumn Term Year 10 Music Component 1 Later pop music

Key Vocabulary:			12	Disco	16	Styles and Facts						
1	Harmony	The chords or accompaniment supporting the melody	<ul style="list-style-type: none"> Disco is a genre of dance music from the US Key features: four-on-the-floor, syncopated, bassline, octave, major 7th, minor 7th, chords Instruments: strings, horns, electric piano, synthesizers, electric rhythm guitars, electric drums Playing/vocal techniques: falsetto, reverb Famous artists: The Bee Gees, Donna Summer, Gloria Gaynor Associated genres: EDM, House music, Hip Hop 	<ul style="list-style-type: none"> One of the first events of the 1970's was The Beatles breaking up. Heavy metal became popular. Key features: syncopated, syllabic, riff, timbre, verse, chorus, bridge, repetition Instruments: guitar, vocals, drum kit, keyboard Playing/vocal techniques: distorted guitar, feedback, reverb, palm muting Famous artists: Queen, Led Zeppelin, Rainbow Sub-genres: Hard rock, Glam rock, Progressive rock, Punk rock, Heavy metal 	<table border="1"> <thead> <tr> <th>Classical music 1830 - 1900</th> <th>Film music</th> </tr> </thead> <tbody> <tr> <td> <ul style="list-style-type: none"> Large Orchestra Increased use of chromatics and complex harmony Programme music – tells a story Song like melodies Use of recurring themes and leitmotifs Great technical virtuosity Increased use of the piano </td> <td> <ul style="list-style-type: none"> Use of motif/theme to represent characters/places/ideas Variation in music to show progression/development of the plot Music that sets the scene Time and place Conveys moods Adds drama Transitions scenes </td> </tr> <tr> <td> <ul style="list-style-type: none"> Tchaikovsky Brahms Verdi Chopin </td> <td> <ul style="list-style-type: none"> John Williams Hans Zimmer Danny Elfman Enrico Morricone </td> </tr> </tbody> </table>		Classical music 1830 - 1900	Film music	<ul style="list-style-type: none"> Large Orchestra Increased use of chromatics and complex harmony Programme music – tells a story Song like melodies Use of recurring themes and leitmotifs Great technical virtuosity Increased use of the piano 	<ul style="list-style-type: none"> Use of motif/theme to represent characters/places/ideas Variation in music to show progression/development of the plot Music that sets the scene Time and place Conveys moods Adds drama Transitions scenes 	<ul style="list-style-type: none"> Tchaikovsky Brahms Verdi Chopin 	<ul style="list-style-type: none"> John Williams Hans Zimmer Danny Elfman Enrico Morricone
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2	Sonic Features	The parts of the music (melody/rhythm) that make the piece able to be identified as a certain style										
3	Reverb	The use of reverb to create an echo effect to the instruments										
4	Palm muting	Using the palm of the hand to stop the strings of the guitar vibrating loudly										
5	Falsetto	A man singing in a very pitch										
6	Disco	A form of dance music – involving strutting and pointing	13	Rock	<table border="1"> <thead> <tr> <th>Rock and Roll</th> <th>Minimalism</th> </tr> </thead> <tbody> <tr> <td> <ul style="list-style-type: none"> Fast tempo Based on the 12-bar blues Improvised solos Instruments: vocals, backing vocals, electric guitars, double bass, drums, piano, harmonica, saxophone and other brass Use of major keys and the blues scale Strong back beat on 2 and 4 Walking bassline Use of shuffle rhythm </td> <td> <ul style="list-style-type: none"> Layers of ostinato Constantly repeated patterns that are gradually changed Layered textures Interlocking repeated phrases and rhythms Diatonic harmony Additive/subtractive patterns Polyrhythms </td> </tr> <tr> <td> <ul style="list-style-type: none"> Chuck Berry Jerry Lee Lewis </td> <td> <ul style="list-style-type: none"> Philip Glass Steve Reich </td> </tr> </tbody> </table>	Rock and Roll	Minimalism	<ul style="list-style-type: none"> Fast tempo Based on the 12-bar blues Improvised solos Instruments: vocals, backing vocals, electric guitars, double bass, drums, piano, harmonica, saxophone and other brass Use of major keys and the blues scale Strong back beat on 2 and 4 Walking bassline Use of shuffle rhythm 	<ul style="list-style-type: none"> Layers of ostinato Constantly repeated patterns that are gradually changed Layered textures Interlocking repeated phrases and rhythms Diatonic harmony Additive/subtractive patterns Polyrhythms 	<ul style="list-style-type: none"> Chuck Berry Jerry Lee Lewis 	<ul style="list-style-type: none"> Philip Glass Steve Reich 	
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7	Rock	A genre of music known for its use of guitars and drums										
8	Monophonic	One line of music at a time – or all parts playing the same thing										
9	Overdrive	A guitar feature changing the sound of the guitar										
10	Over dubbing	Recording multiple layers of the same instrument	14	1980's								
11	Feedback	High pitched squeak sound from the Amp	15	1990's								
				<ul style="list-style-type: none"> Britpop was a UK based music. It produced brighter and catchier alternative rock into mainstream music Key features: vocals, electric guitar, electric bass, acoustic guitar, drums, piano, strings Playing/vocal techniques: live playing, clean guitar, overdrive, string arrangements, open chords Famous artists: Blur, Oasis, Pulp Associated genres: Alternative, Indie pop 								

KS4 Physical Education Autumn Knowledge Organiser

Key Vocabulary:		
1	Cholesterol	High cholesterol = too much of a fatty substance called cholesterol in your blood. Caused by eating fatty food, not exercising enough, being overweight, smoking and drinking alcohol
2	Obese	weighing significantly more than expected. 30 BMI and above
3	Over exertion	Overexertion can occur when you push yourself too hard physically and mentally
4	Self esteem	how we value and perceive ourselves. It's based on our opinions and beliefs about ourselves, which can feel difficult to change.
5	nutritionist	A nutritionist is a person whose job is to give advice on what you should eat to remain healthy.
6	analyst	someone whose job is to study or examine something in detail
7	Therapist	treats a particular type of mental or physical illness or disability, usually with a particular type of therapy. Speech therapist, Art Therapist, physiotherapist.

8	Health and Wellbeing
	<p>Well being – a combination of physical, emotional and social health. Positives effects of training/exercise on:</p> <p>Physical health</p> <ul style="list-style-type: none"> • Stronger bones (increased bone density) • Lower cholesterol / reduced obesity • Increase/development of components of fitness • Increase life expectancy  <p>Emotional health</p> <ul style="list-style-type: none"> • To increase self esteem/confidence – increased endorphins released • Reduced risk of age-related diseases - dementia • Relieve stress and tension • Fun/enjoyment / reduced boredom  <p>Social health</p> <ul style="list-style-type: none"> • To develop teamwork skill • To meet new people/friends • Develop communication skills • Develop leadership skills <p>Negative effects of training on:</p> <ul style="list-style-type: none"> • Physical health – overexertion leading to heart failure / overuse injuries • Emotional health – training can lead to injury and cause depression • Social health – training long hours means less time spent with family.

9	Career Opportunities
	<p>Sports coach</p> <p>Plan fun, engaging safe coaching sessions (can be sport specific). Give feedback on performance, how to improve and motivate and inspire. Design advanced programmes for elite sportspeople, support performers at events and competitions https://nationalcareers.service.gov.uk/job-profiles/sports-coach</p> <p>Sports Commentator</p> <p>Research facts on performers, describe action as it happens, give updates on results and highlights. Take direction from the show's producer, interview sports professionals live or for recorded clips, provide online social media content https://nationalcareers.service.gov.uk/job-profiles/sports-commentator</p> <p>Performance Sports Scientist</p> <p>Analyse training and competition data to identify areas for improvement, design development plans to improve individual and team performance. Help people improve their health through exercise and fitness, advise on the design and manufacture of sports equipment https://nationalcareers.service.gov.uk/job-profiles/sports-scientist</p>
10	School Values
	<p>RESPECT – understand every choices will be different to ours</p> <p>RESILIENCE – Positivity- try something new – get a now hobby</p> <p>ASPIRATION – build your self esteem – help others to improve yourself</p>

Year 10 Drama Autumn Term Knowledge Organiser

Key Vocabulary:

1	Stage Levels	To show power, status or just different locations for the scenes.
2	Genre	Comedy, Thriller, Melo drama
3	Creative Intentions	What was the director/ writer/ creator thinking about? Themes / issues / response to stimulus / style/genre / contextual influences / collaboration with other practitioners / influences by other practitioners.
4	Purpose	Why was it made? to educate / to inform / to entertain to provoke/ to challenge viewpoints / to raise awareness / to celebrate...
5	Theme	The topic of the performance e.g. Conflict, Family
6	Stylistic Qualities	How a performance is structured – Musical, Inclusivity, Epic theatre - storytelling
7	Processes used in development, rehearsal and performance	Responding to stimulus to generate ideas for performance material / exploring and developing ideas to develop material / discussion with performers / setting tasks for performers / sharing ideas and intentions / teaching material to performers / developing performance material / organising and running rehearsals / refining and adjusting material to make improvements / providing notes and/or feedback on improvements.

Component 1- Learning Aim A

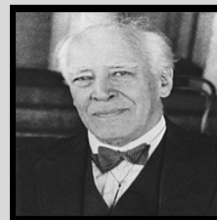
Professional performance material, influences and creative purpose

8

A1

Styles of performance:

Realism – Konstantin Stanislavski:
The System;
These are the 7 Stanislavski techniques;
Who am I? imagination. ...
Where am I? ...
What time is it? ...
What do I want? ...
Why do I want it? ...
How will I get what I want? ...
What must I overcome to get what I want?



Epic Theatre – Bertolt Brecht
Brecht's epic theatre was when the audience was persuaded—by staging methods and naturalistic acting—to believe that the action onstage was “real”



9

A2

Roles and Responsibilities

ACTOR: The role of the actor is to learn their character in depth and become the character as they perform. In Billy Elliot, this is shown as the actors feel like they are the characters and are able to portray them and their emotions well.

They are responsible for attending casting calls and auditions, as well as following a rehearsal schedule.

They also need to learn their character in depth, through research and improvisation. They also need to be aware of their character’s relationships with others to ensure effective acting.

Also, they should be able to take opportunities that may not be appealing so they can get experience.

DIRECTOR: The role of the director is to oversee the creative process and the overall vision of the performance. They need a thorough understanding of the script therefore, need to carry out extensive research. They need to supervise all creative aspects of the performance and make changes, if necessary, that may be critical to the performance.

They are responsible for the full creative process therefore are required to arrange and attend casting calls and auditions, as well as organise the rehearsal schedule, where full staging and blocking takes place. A directors responsibility is to select the best choice of actors for the roles and cleverly consider the abilities of each individual. They also need to direct the actors during rehearsal or filming. They need to communicate effectively with the production team to ensure the whole performance is effective.

Component 1 – Learning Aim B Demonstrating understanding of skills, techniques and approaches used by professionals to create a performance

10

B1

Processes used in rehearsal

- Responding to a stimulus
- Exploring and developing ideas
- Sharing ideas and intentions
- Teaching material to performers
- Refining and adjusting material

11

B2

Production process

Processes such as;

- Rehearsal – Practising your work
- Production – How the set, costume, staging comes together.
- Technical Rehearsal – Lighting and sound
- Performance – Final presentation of ideas to a target audience
- Post performance evaluation/review – How well did we do? What could be improved? How do we know?

Year 10 GCSE Religious Studies Autumn Term Knowledge Organiser: Christian Beliefs

Key Vocabulary:			Key Christian Beliefs		Key Christian Beliefs	
1	Benevolence	God is wholly good and His love is without condition or limit	1	The nature of God	6	Resurrection
2	Omnipotence	God is wholly powerful and His power is without condition or limit.		Christians believe that God is omnipotent, benevolent and just. These attributes are supported by different Christian teachings such as the story of Noah and the Flood, and the trials of Job. Christians also believe that God is one, indivisible being but that the Three Persons of the Trinity represent His different roles as Father, Son and Holy Spirit.		Three days after Jesus' crucifixion, he resurrected. Christians believe that as Jesus was God incarnate, he defeated death and resurrected. His disciples did not recognise his resurrected form and some doubted his return.
3	Just	God is fair. He rewards and punishes us as we deserve.	2	Beliefs about creation	7	Ascension
4	Trinity	God is one, indivisible being. There are the Three Persons of the Trinity: Father, Son and Holy Spirit.		Some Christians believe that the Genesis creation story is literally true. They are called Creationists. Other Christians believe the story is metaphorical, and is meant to teach us about God's omnipotence. Christians also believe that Jesus was present at the creation of the world, as mentioned in John 1:1-3.		Following the resurrection Jesus remained with his followers for 40 days. After concluding his ministry and passing on important wisdom, Jesus finally ascended (went up) to Heaven to be 'at the right hand of God'. Before the ascension, Christians believe Jesus breathed the Holy Spirit into his disciples, which continues to inspire Christians today.
5	Creationism	A Christian approach that teaches that God literally created the world in 6 days.	3	Christian Beliefs about the afterlife	8	Sin
6	Resurrection	Jesus rose from the dead. Christians believe we will all be raised from the dead for an eternal afterlife.		Christianity teaches that there is life after death, and that through Jesus' sacrifice on the cross, we may experience resurrection. Some Christians, like Catholics, believe that we must work off our sins first in purgatory, whereas other Christians believe that everybody can go to Heaven. Christians also believe that those who sin, or go against God, are punished in Hell which is a place of torment and separation from God.		Different Christian denominations have different ideas about sin. Some, like Catholics, believe that we are all born with original sin which is inherited from Adam and Eve. This sin is cleansed through infant baptism. Others believe that we will all sin, but that God is benevolent and so chooses to forgive our sins.
7	Ascension	40 days after the resurrection, Jesus ascended (went up to) Heaven to be reunited with God.	4	Doctrine of the Incarnation	9	Salvation
8	Incarnation	The idea that Jesus is God made flesh.		Jesus is 'God made flesh'. The doctrine of the incarnation teaches that Jesus is both 100% human and 100% divine. This concept is called hypostatic union and explains how Jesus, who was born to a human mother and lived a human life, was able to perform miracles, resurrect and ascend to Heaven.		Christians believe that we have been saved from the consequences of sin through Jesus' crucifixion. There are different models of salvation:
9	Salvation	Saving of the soul and being able to enter eternal life in heaven.	5	Crucifixion		<ol style="list-style-type: none"> 1) Salvation Through Law – this is the idea that we are able to avoid sin and achieve heaven by following the rules and laws laid out by God in the Bible. 2) Salvation Through Grace – this is the idea that as God is so benevolent, He has decided that humans can achieve salvation simply through His command. 3) Salvation Through Spirit – this is the idea that as the disciples breathed the Holy Spirit into Christians, we are all able to access the messages and teachings of God, follow these, and access heaven.
					10	Atonement
				Christian doctrine is that Jesus was betrayed by Judas and handed over to the Jewish and Roman authorities who sentenced him to death. The crucifixion took place at Golgotha, the Place of the Skull, and concluded with Jesus dying on the cross. Christians believe that Jesus was both human and divine, and so felt all the physical and mental pain of the crucifixion. His death allowed humanity to be cleansed of original sin and means that all Christians can now share in resurrection and life after death.		When Adam and Eve sinned against God, it created a schism, or split, between God and mankind. God never intended to separate Himself from us and so sent Jesus to repair this relationship. The idea that God and man are brought back together as one is called atonement.

Year 10 GCSE Religious Studies Autumn Term Knowledge Organiser: Christian Practices

Key Vocabulary:			Key Christian Practices		Key Christian Practices	
1	Liturgical	A church service which follows a set structure or ritual.	1	Different forms of worship	5	Role of the Church in the local community
2	Non-liturgical	A service which does not follow a set text or ritual; sometimes spontaneous or charismatic		There are no rules in Christianity about how or when to worship, and many different denominations choose to worship in different ways. Liturgical worship follows set structures, and includes worship like saying the Lord's Prayer or taking part in the Eucharist. Non-liturgical worship is often private and spontaneous.		Christians believe it is their duty to 'love your neighbour'. This means that many Churches are involved in supporting the local community. Organisations like the Trussell Trust help run food banks for people experiencing financial difficulty, and street pastors go onto the streets at night to support people who might need it.
3	Sacrament	The outward and visible sign of an invisible and spiritual grace. (e.g. Baptism and the Eucharist are recognised as sacraments by most Christians).	2	Role and Meaning of Sacraments	6	Place of Mission and Evangelism
4	Baptism	The sacrament through which people become members of the Church. It involves the use of water as a symbol of the washing away of sin.		There are two main sacraments: 1) Baptism. This is when people join the church. Some Christians think this should happen as a baby, called infant baptism, so you can be raised as a Christian. Others think it should happen when you are old enough to understand, this is called Believers' Baptism. 2) Eucharist. This takes lots of different forms but is the practice of Christians remembering Jesus' sacrifice and death through consuming bread and wine.		Jesus told his disciples to spread the message he had shared with them, and many Christians believe it is their duty to continue sharing the message. Evangelising, or preaching the message of God, is important to lots of denominations as they believe that only Christians can go to Heaven, so everybody needs to hear the message of the gospel.
5	Eucharist	Literally 'thanksgiving'; a sacrament in which the death and resurrection of Jesus are celebrated, using bread and wine.	3	Role and Importance of Pilgrimage	7	Work of the Church for reconciliation
6	Pilgrimage	A religious journey to a holy site/sacred place, it is an act of worship and devotion.		Christians do not have to go on a pilgrimage, but many think it is a good way of getting closer to God and even to access miracles. Catholic Christians believe that sites like Lourdes carry spiritual significance because of events that have happened there, and believe that visiting can help cure people of illnesses. Others believe sites like Iona in Scotland are important because they allow us to feel closer to God and deepen our understanding of religion.		Worldwide conflict has affected Christian communities for many years, and lots of Christian organisations try to bring people back together. The Corrymeela Community is a Christian organisation that works in Northern Ireland, and did lots of work to bring Catholic and Protestant communities back together after the Troubles.
7	Street Pastors	A Christian organisation involving people working, mainly at night, on city streets giving care to those who need it	4	Role and Importance of Festivals	8	How churches respond to persecution
8	Evangelism	Preaching the gospel (the good news about God) to convert people to the Christian faith.		Christians celebrate two major festivals: 1) Christmas. This is the celebration of Jesus' birth and reminds Christians of the doctrine of the incarnation. Christmas is preceded by the 4 weeks of Advent. 2) Easter. This is the celebration of Jesus' crucifixion and resurrection. Easter is preceded by the 6 weeks of Lent.		Christians are the most persecuted religious group worldwide. Persecution is when people are treated badly, and in some cases even killed, for practising their faith. Many Christian groups have been set up to support Christians facing persecution. They do this by providing Bibles and resources to underground churches, offering loans and financial support to people facing persecution and by working with those who have escaped persecution to support with their futures.
9	Reconciliation	Making up and rebuilding relationships between two groups/sides after disagreement.			9	The work of Christian charities
						We will look at the work of CAFOD (Catholic Agency for Overseas Development), Christian Aid and Tearfund. These organisations work to support people around the world who are facing poverty, persecution, discrimination and other hardships. They include programmes that support with development, such as education and skills training, as well as charitable donations and financial support.

Year 10 Spanish Autumn Term Knowledge Organiser - La Familia / Family

1. Los miembros de la familia / Family members		2. Un buen amigo / A good friend		6. Model Text:	
<p>padrastro – stepdad madrastra – stepmum hermanastro/a – stepbrother/sister tío – uncle tía – aunty primo – cousin (m) prima – cousin (f) bisabuelo – great-grandad bisabuela – great-nan sobrino – nephew sobrina – niece hijo – son hija – daughter nieto – grandson nieta – granddaughter novio – boyfriend novia – girlfriend marido – husband mujer – wife mis parientes – my relatives</p>		<p>Un buen amigo es alguien que... - a good friend is someone who...</p> <p>te apoya – supports you te escucha – listens to you te conoce bien – knows you well te acepta como eres – accepts you as you are te quiere mucho – loves you a lot te da consejos – gives you advice te hace reír – makes you laugh</p> <p>Pienso que soy un buen amigo/una buena amiga porque... - I think I am a good friend because...</p>		<p>1 Me llamo María y tengo quince años. My name is Maria and I am 15.</p> <p>2 Tengo el pelo largo y rubio y no soy ni alto ni bajo. I have long blond hair and I'm neither tall nor short.</p> <p>3 Si tuviera la opción, quisiera tener un tatuaje pero lo haré cuando sea mayor. If I had the option I would like to have a tattoo but I will do it when I'm older.</p> <p>4 En mi familia somos cinco. In my family there are five people.</p> <p>5 En general diría que me llevo bien con mis padres aunque sean estrictos a veces. In general I would say that I get on well with my parents even though they are strict sometimes.</p> <p>6 Yo me parezco mucho a mi madre. Las dos tenemos el pelo castaño. I look a lot like my mum. We both have brown hair.</p> <p>7 También nos llevamos superbien ya que tenemos mucho en común y siempre me apoya. Also, we get on really well because we have a lot in common and she always supports me.</p> <p>8 Antes adoraba a mi hermana menor pero ahora la encuentro molesta y nunca guarda mis secretos. Before I loved my little sister but now I find her annoying and she never keeps my secrets.</p> <p>9 Para mí un buen amigo debe ser comprensivo y creo que es importante que tengamos intereses en común, por ejemplo la música. For me a good friend should be understanding and I believe that it's important that we have common interests, for example music.</p> <p>10 Creo que soy una buen amiga ya que siempre apoyo a mis amigos y doy consejos buenos. I believe that I am a good friend because I always support my friends and I give good advice.</p>	
3. Descripción física / Physical description					
<p>Soy – I am calvo – bald alto – tall bajo – short Es – he/she is gordo – fat delgado - slim Son – they are</p>		<p>Los ojos - eyes azules – blue marrones – brown la piel blanca/morena – fair/dark skin El pelo - hair verdes - green moreno – dark brown rubio – blonde castaño – brown rojo – red rizado – curly los dientes prominentes – big teeth liso – straight ondulado – wavy pecas – freckles corto – short largo – long Un tatuaje – a tattoo fino – fine de punta – spiky</p> <p>Llevo – I wear/ have gafas – glasses Lleva – he/she wears/has barba – a beard Llevamos - we wear/have bigote – a moustache</p>			
4. Relaciones familiares / Family relationships					
<p>Me llevo bien con... - I get on well with Me divierto con... – I have fun with Echo de menos a... - I miss</p>		<p>Me apoya(n) – he/she supports me Me acepta(n) como soy – he/she accepts me as I am Me hace(n) reír – he/she makes me laugh Me conoce(n) bien – he/she knows me well Nunca me critica(n) – he/she never criticises me Guarda(n) todos mis secretos – he/she keeps all my secrets Tenemos mucho en común – we have a lot in common Me da(n) consejos – he/she gives me advice Me dice(n) la verdad – he/she tells me the truth</p> <p>No me llevo bien con... - I don't get on well with Me peleo con... - I argue with Estoy harto de... - I am fed up of</p>			
<p>No me llevo bien con... - I don't get on well with Me peleo con... - I argue with Estoy harto de... - I am fed up of</p>		<p>Me juzga(n) – he/she judges me Me trata(n) como un niño/una niña – he/she treats me like a child No me deja(n) salir – he/she doesn't let me go out No me da(n) libertad – he/she doesn't give me freedom Me critica(n) – he/she criticises me</p>			
5. WOW!					
<p>Ojalá tuviera un hermano/una hermana – If only I had a brother/sister Nos peleamos como el perro y el gato – we fight like cat and dog Somos uña y carne – we're inseparable Lo que más me gusta es (que)... - the thing I like the most is (that) ... Lo que menos me gusta es (que)... - the thing I like the least is (that) ...</p>					

Year 10 Spanish GCSE Autumn Term Knowledge Organiser - Intereses e influencias

1. Las actividades / Activities			4. Model Text:								
<p>Suelo – I tend to Me encanta – I love Me mola – I like Me chifla – I’m crazy about Prefiero – I prefer Mi pasión es – my passion is</p>	<p>descansar – relaxing escuchar música – listening to music hacer deporte – doing sport ir al cine – going to the cinema leer libros/revistas/periódicos – reading books/magazines/papers salir con mis amigos – going out with friends quedar con amigos – meeting with friends ir de compras – going shopping montar en bici/monopatin – riding my bike/skateboard usar el ordenador – using the computer ver la tele – watching tv jugar con los videojuegos – playing video games cocinar – cooking</p>	<p>es – it is</p>	<p>divertido – fun entretenido – entertaining relajante – relaxing sano – healthy aburrido – boring malsano – unhealthy adictivo - addictive</p>	1	En mi tiempo libre suelo descansar	In my free time I tend to relax					
				<p>porque – because</p>	2	o, a veces, quedar con amigos en el centro	or, sometimes, meet my friends in town				
<p>No aguanto – I can’t stand No soporto – I can’t stand Odio – I hate</p>	<p>ya que – because</p>	<p>dado que – because</p>	<p>soy adicto/a... - I’m addicted me ayuda a relajarme – it helps me to relax me hace reír – it makes me laugh me ayuda a olvidarme de todo – it helps me to forget everything necesito comunicarme con otra gente – I need to have contact with other people me aburre como una ostra – it bores me to death no me interesa – it doesn’t interest me</p>	3	para ir de compras ya que es entretenido .	to go shopping because it’s entertaining .					
				<p>porque – because</p>	4	En mi opinión, salir con mis amigos me hace reír	In my opinion, going out with my friends makes me laugh				
2. La música / Music				5	y me ayuda olvidarme de todo	and helps me to forget everything					
<p>Me encanta escuchar – I love to listen to Suelo escuchar – I tend to listen to</p>			<p>el soul/el rap/ el dance/ el hip-hop/el pop/el rock/el jazz/ la música clásica/electrónica la música de... - ...’s music</p>			6	sin embargo nunca monto en bici	however I never ride my bike			
<p>Toco – I play Toca – he/she plays Tocan – they play</p>			<p>El teclado – the keyboard el piano – the piano La batería – the drums la flauta – the flute La guitarra – the guitar la trompeta – the trumpet</p>			7	ya que me aburre como una ostra	because it bores me to death			
<p>Asistir a un concierto – to attend a concert Mi cantante favorito/a es... - my favourite singer is... Cantar – to sing</p>			<p>Mi grupo favorito es... - my favourite band is... Una canción – a song un espectáculo – a show Un cantante – a singer</p>			8	aunque sé que es sano.	although I know that it’s healthy.			
3. Los deportes / Sports						9	Además , me encanta escuchar música y	Moreover , I love listening to music and			
<p>Soy – I am Era – I was</p>			<p>aficionado/a de – a fan of hinch(a) de – a fan of fanático/a de – a ____ fanatic miembro de un club de... - a member of a ____ club</p>			<p>correr – to run entrenar – to train marcar un gol – to score a goal participar – to participate un partido – a match la temporada – the season</p>			10	suelo escuchar la música de Adele	I tend to listen to Adele’s music
<p>Juego - I play</p>			<p>al badminton/fútbol/rugby/tenis/hockey/croquet/béisbol al balonmano – handball al baloncesto – basketball al voleibol – volleyball</p>			11	dado que canta bien y me encanta la letra.	because she sings well and I love the lyrics.			
<p>Hago – I do</p>			<p>judo - judo karate – karate atletismo – athletics baile – dance boxeo – boxing ciclismo – cycling equitación – horseriding escalada – climbing gimnasia – gymnastics natación – swimming remo – rowing vela – sailing patinaje sobre hielo – ice skating tiro con arco – archery piragüismo – canoeing</p>			12	No toco un instrumento pero en el futuro	I don’t play an instrument but in the future			
						13	voy a aprender tocar la batería .	I’m going to learn to play the drums .			
						14	Cuando era joven era hinch(a) de FC Barcelona	When I was younger I was a fan of Barcelona FC			
						15	porque jugaba mucho el fútbol	because I played loads of football			
						16	pero ya no .	but I don’t anymore .			
						17	Ahora prefiero ver un partido.	Now I prefer to watch a match.			

Autumn Term - Knowledge Organiser BTEC Tech Award in Sport

Component 1: Preparing Participants to Take Part in Sport and Physical Activity



Key Vocabulary:			Types of sport and physical activity providers		Equipment, technology and preparing participants	
1	Sport	Competitive activities that involve physical exertion, have rules and regulations and a National Governing Body. These can be team or individual sports.	7	Sports – team/individual A team sport includes playing sports with other people such as volleyball, rugby and cricket. Individual sports includes sports where you play alone such as golf, tennis and archery.	12	Types of technology in sport To improve performance and participant experience Clothing to increase performance and experience – improved thermoregulation, clothing designed to improve aerodynamics. Footwear – sport-specific new designs or materials; improve grip; rebound. Sport-specific equipment – new materials for lightness and strength to include composite materials (racquet), safety and disability sport. Facilities – surfaces to reduce the risk of injury. Officiating – computer assisted systems; video assisted decision making.
2	Physical Activity	An activity involving movement that results in energy expenditure but without competition against another person or team.	8	Outdoor activities Outdoor activities – activities carried out outdoors or in recreation areas that are adventurous. Examples include rock climbing, kayaking, wind surfing, pot holing, hiking, paragliding and hang gliding. Benefits of taking part in outdoor activities – positive risk taking activities, improved self confidence and self esteem, meet new people, learn new skills, time away from life stresses and electronic devices.	13	Limitations of using technology Limitations that technology can have for sport and physical activity participation. Time – setting up, using equipment, compiling data, giving feedback to participant. Access to technology – equality and unfair advantages as not all participants have access to technology. Cost of technology – initial cost and follow-up maintenance of equipment. Accuracy of data - provided by equipment. Usability – specific training required.
3	Benefits	Benefits of taking part in sport – improve fitness, meet new people, develop leadership skills, learn team work skills, resilience and self confidence from competition.	9	Physical Fitness activities Physical fitness activities – activities to increase fitness such as weight training, Zumba, spinning, boxercise and yoga classes. Benefits of taking part in physical activities – meet new people, set fitness goals, improve confidence, improve body composition, improve physical health.	14	Planning and delivering a warming up Warm-ups should be safe, effective and appropriate. Planning a warm-up – Types and structure (3 part) Pulse raiser – activities that gradually increase in intensity to increase the heart rate. Stretching and mobilising – muscles and joints Responses of the body systems – cardiovascular & musculoskeletal Increase HR, blood flow (oxygen supply), body temperature, muscle elasticity and range of movement. Delivering a warm-up – consider size of space/areas used, equipment, organisation of participants, timing and positioning when demonstrating. Supporting participants as they take part in the warm-up; observing participants, providing instructions teaching points and feedback to participants.
4	Barriers	Barriers to participation that can prevent some types of participant from taking part in regular sport and physical activity.	10	Types and needs of sport and physical activity participants Understanding the characteristics of different types of participant and how this affects their different physical, social and mental health needs. Types of participants – including those of different ages, with disabilities and long-term health conditions. Government recommended guidelines for types, frequency and intensity of physical activity for different types of participant (physical, social mental health needs).		
5	Provision	Places that provide sporting opportunities for the public sector include local authorities and school. Private sector – provided by organisations who aim to make a profit. Voluntary sectors – activities provided by volunteers who have a common interest in the sport /activity.	11	Barriers to participation in sport and physical activity Methods to address barriers to participation Barriers to participation such as cost, access, time, personal and cultural. Methods to address barriers such as discounts, increased local provision, creche facilities, opening hours and targeted group sessions (women only).		
6	Participants	The characteristics of different types of participant and how this affects their different physical, social and mental health needs.				