DIXONS
ALLERTON
ACADEMY

Name: _____

Student Number: _____

KNOWLEDGE ORGANISER YEAR 10 2025/2026

C2

DIXONS ALLERTON ACADEMY

Every day all students at DAA are expected to be the best they can be.

All students are expected to achieve their mission as detailed below and strive for this every day by giving 100% at all times.

"At DAA, I developed good moral principles and achieved exceptional outcomes that enabled me to have ambitious life choices"

During their time with us they will achieve this through their industry by showing hard work and resilience in all that they do every day.

Our core values are:

Happiness

The joy of life and learning. In the context of your emotional state, including positive and pleasant emotions ranging from contentment to intense joy. It is important you to have a grasp on your own happiness and well-being and your capacity to influence other people's happiness and well being

Industry

(Hard work & resilience) – This is how hard you work and how you overcome the challenges you face in your learning and life; if you can rise to the challenge when it matters you will be successful.

Responsibility

This is being accountable for the choices that you make and making the right choices to be organised, behave properly and achieve as much as you can. Taking responsibility for your learning will help you to be successful at DAA.

Contents

CYCLE 2 SPELLINGS

WEEK 2	
plosive	'b', 'p' 't' and 'd' sounds for harsh, aggressive, or shocking effect.
ambiguity	More than one possible meaning and its unclear which is correct.
scale	The size or level of something.
mutiny	A rebellion against senior officer.
eucharist	Bread and wine ceremony enacting Jesus' last meal.
Trade Union	Organisation that represents workers.
respiration	The action of breathing.
dodecahedron	A 12-sided shape.
tectonic	To do with the movement of the earth's surface.
volta	A turning point in a poem.

WEEK 3	
assonance	A repetition of vowel sounds.
stanza	A group of lines separated from others in a poem.
texture	The feel, appearance or consistency of a surface/substance.
republicanism	Belief in a country with no monarchy.
reconciliation	Repair relationships together.
reparations	Compensation money.
ascending	In order from smallest to largest.
descending	In order from largest to smallest.
atmospheric	To do with the air surrounding the Earth.
persona	The speaker of the poem who is different from the writer.

WEEK 4	
anaphora	A repetition of words, phrases or clauses.
enjambment	When a sentence runs over one line with no punctuation.
sculpture	The art of making 2 or 3 dimensional representative forms.
socialism	Belief workers should own parts of companies.
persecution	Hostility or ill treatment of someone/groups.
photosynthesis	An endothermic reaction when plants take in energy.
demographic	To do with population.
parody	A comic imitation of another writer's work.
evolution	The gradual development of something.
erosion	Wearing away and removal of rock.

WEEK 5	
juxtaposition	Two things being placed closed together for contrasting effect.
caesura	A stop or pause in a line of poetry.
architecture	The art or practice of designing and constructing buildings.
evangelism	Preaching to convert others.
chlorophyll	Green pigment in chloroplasts that absorb energy from sunlight.
temperature	The degree or intensity of heat.
sanitation	Water and cleanliness.
variable	Liable to change with conditions.
accelerate	To move faster; to gain speed.
urbanisation	The growth in population living in towns and cities.

WEEK 6	
oxymoron	Combines **contradictory** words with **opposite** meanings.
elegy	Form of poetry about the **death** of its subject.
refugee	A person forced to **leave their country** to escape war or disaster.
communism	Ideology that believes in **no private** property.
sacraments	Outward **signs** of faith.
denominator	The number **below the line** in a fraction; a divisor.
couplet	A **pair** of **rhyming lines** which follow on from one another.
perpendicular	A **straight line** at an angle of **90 degrees** to a given line/surface.
organism	An individual animal, plant or **single celled** life form.
source	The **start** of a **river.**

WEEK 7	
antithesis	Placing **contrasting** ideas together.
quatrain	**4-line** stanza.
abdication	Monarch **leaving** the **throne**.
constitution	**Rules** governing a country.
baptism	Ceremony to **wash away sins**.
acute	An angle that is **less than 90** degrees.
irony	Something happens that is the **opposite** from what's **expected.**
parallel	Side by side with the same **difference continuously** between them.
opaque	**Not transparent.**
hypothesis	A **proposed explanation**.

WEEK 8	
plosive	'**b**', '**p**' '**t**' and '**d**' sounds for harsh, **aggressive**, or shocking effect.
ambiguity	More than one possible meaning and it's **unclear** which is correct.
scale	The **size** or level of something.
mutiny	A **rebellion** against senior officer.
eucharist	**Bread and wine** ceremony enacting Jesus' last meal.
Trade Union	Organisation that represents **workers.**
respiration	The action of **breathing**.
dodecahedron	A **12-sided** shape.
tectonic	To do with the **movement** of the earth's surface.
volta	A **turning point** in a poem.

WEEK 9	
assonance	A repetition of **vowel** sounds.
stanza	A **group of lines** separated from others in a poem.
texture	The **feel**, appearance or consistency of a surface/substance.
republicanism	Belief in a country with **no monarchy**.
reconciliation	**Repair relationships** together.
reparations	Compensation **money.**
ascending	In order from **smallest to largest**.
descending	In order from **largest to smallest.**
atmospheric	To do with the **air surrounding** the Earth.
persona	The **speaker** of the poem who is different from the writer.

WEEK 10	
anaphora	A **repetition** of words, phrases or clauses.
enjambment	When a sentence **runs over** one line with no punctuation.
sculpture	The art of making 2 or 3 dimensional **representative** forms.
socialism	Belief workers should **own parts** of **companies**.
persecution	**Hostility or ill treatment** of someone/groups.
photosynthesis	An **endothermic** reaction when plants take in energy.
demographic	To do with **population**.
parody	A comic **imitation** of another writer's work.
evolution	The **gradual development** of something.
erosion	**Wearing** away and removal of **rock**.

WEEK 11	
juxtaposition	Two things being placed closed together for **contrasting** effect.
caesura	A **stop or pause** in a line of poetry.
architecture	The art or practice of **designing** and constructing **buildings**.
evangelism	Preaching to **convert** others.
chlorophyll	Green **pigment** in chloroplasts that absorb energy from sunlight.
temperature	The degree or intensity of **heat**.
sanitation	Water and **cleanliness**.
variable	Liable to **change** with **conditions**.
accelerate	To move **faster**; to gain speed.
urbanisation	The **growth in population** living in towns and cities.

WEEK 12	
oxymoron	Combines **contradictory** words with **opposite** meanings.
elegy	Form of poetry about the **death** of its subject.
refugee	A person forced to **leave their country** to escape war or disaster.
communism	Ideology that believes in **no private** property.
sacraments	Outward **signs** of faith.
denominator	The number **below the line** in a fraction; a divisor.
couplet	A **pair** of **rhyming lines** which follow on from one another.
perpendicular	A **straight line** at an angle of **90 degrees** to a given line/surface.
organism	An individual animal, plant or **single celled** life form.
source	The **start** of a **river.**

WEEK 13	
antithesis	Placing contrasting ideas together.
quatrain	**4-line** stanza.
abdication	Monarch **leaving** the **throne**.
constitution	**Rules** governing a country.
baptism	Ceremony to **wash away sins**.
acute	An angle that is **less than 90** degrees.
irony	Something happens that is the **opposite** from what's **expected.**
parallel	Side by side with the same **difference continuously** between them.
opaque	**Not transparent.**
hypothesis	A **proposed explanation**.

WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6
1.	1.	1.	1.	1.
2.	2.	2.	2.	2.
3.	3.	3.	3.	3.
4.	4.	4.	4.	4.
5.	5.	5.	5.	5.
6.	6.	6.	6.	6.
7.	7.	7.	7.	7.
8.	8.	8.	8.	8.
9.	9.	9.	9.	9.
10.	10.	10.	10.	10.

WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11
1.	1.	1.	1.	1.
2.	2.	2.	2.	2.
3.	3.	3.	3.	3.
4.	4.	4.	4.	4.
5.	5.	5.	5.	5.
6.	6.	6.	6.	6.
7.	7.	7.	7.	7.
8.	8.	8.	8.	8.
9.	9.	9.	9.	9.
10.	10.	10.	10.	10.

WEEK 12	WEEK 13	NOTES
1.	1.	
2.	2.	
3.	3.	
4.	4.	
5.	5.	
6.	6.	
7.	7.	
8.	8.	
9.	9.	
10.	10.	

Section 1 Key context – Monarchy and power

Divine Right of Kings

People believed that monarchs received their authority from God, and thus to rebel against a King (treason) was like going against God, and highly sinful.

Natural order

This is the natural way of things, which the King was considered a part of. People believed if the natural order was altered, nature was disrupted and God would correct it.

Linking of the Church and monarch

Catholicism was made illegal in the 1500s, so the majority of people in the country had strong Christian beliefs and followed the Church of England/Scotland which King James I was head of. Allegiance and loyalty to the King were seen as religious/moral duties.

Some people in the Jacobean era (the time of King James I's reign) questioned the country's power structures.

Most people would have seen the King as being aligned with God, but some – for instance Catholics - challenged this.

In the G**unpowder plot of 1605**,. Catholic rebels, led by Guy Fawkes, attempted to take power back by assassinating King James I.

Section 2 Shakespeare

Shakespeare's company of actors, The King's Men, were funded by the King from 1603 onwards. King James I was their first royal patron. Shakespeare needed to please the King with the play Macbeth (1606), hence his portrayal of punishment for treason and witchcraft.

Witches

There was a Witch Panic in Europe in the 15-1700s.

King James I was involved in hundreds of Witch Trials and executions and wrote a book on witchcraft (Daemonologie). He encouraged the reporting of suspected witchcraft (this could be for something as small as not going to Church) and believed the Devil was working through witches.

The witches' first key moments in the play – act 1 scene 1

Thunder and lightning show the darkness of witches and suggests they are controlling the weather.

Their chanting (shown through rhyming couplets) and equivocal language would also provoke fear.

'Fair is foul and foul is fair' - this line shows us how things in the play will not be as they seem.

Macbeth mirrors their language, saying '**so fair and foul a day I have not seen'.** This could suggest the witches have control over him.

Section 3 Key moments and quotations – act 1 scene 2 - 3

The Scots have successfully defended their country and their king, Duncan from the Norwegians and traitors.

Macbeth, Thane of Glamis is noticed for his efforts by a Sergeant and then King Duncan, who tells the Sergeant to name Macbeth Thane of Cawdor.

Sergeant: **all's too weak: For brave Macbeth**

The witches seek out Macbeth and Banquo as they travel, and give Macbeth some prophecies (of course the first one has already been decided by the King, but Macbeth has not been told yet)

'All hail, Macbeth, thou shalt be King hereafter!'

Macbeth is excited by the witches, even though he should know to avoid them, and asks them to **'stay, you imperfect speakers, tell me more'**

Banquo is more suspicious of the witches even though they say his children will be Kings, Banquo calls the witches **'instruments of darkness'.**

When Macbeth is informed officially that he will be made Thane of Cawdor, he decides that the other 2 prophecies must be correct too, and sends an excited letter to his wife, Lady Macbeth, telling her about this.

Section 4 Key moments and quotations – act 1 scene 4 – 7

Macbeth hears that Duncan's son, Malcolm, has been named heir to the throne and says this is a **'step'** that is **'in my way'**. The audience hear him already displaying unnatural intentions and language as he talks about his desire to become King: **'Stars, hide your fires; Let not light see my black and deep desires'**

Lady Macbeth receives his letter and the first words she says in the play are Macbeth's. She vows that she will support his ambitions and calls on **'spirits'** to help her become cruel enough to do so.

She asks for 'masculine' qualities: **'Unsex me here, and fill me from the crown to the toe top-full of direst cruelty!'**

She advises Macbeth to hide his intention to kill King Duncan when he comes to stay at their castle: **'look like the innocent flower, but be the serpent under't'**

Macbeth seems to have second thoughts and says **'we will proceed no further in this business',** but Lady Macbeth challenges his manhood **(when you durst do it, then you were a man')** and he swiftly goes back to following their plan.

Section 5 Key moments and quotations – act 2

Lady Macbeth drugs the drinks of Duncan's guards but says she cannot kill Duncan as he looks like her father. Macbeth murders Duncan and we see his guilt immediately: **'Will all great Neptune's ocean wash this blood Clean from my hand?'**.

Lady Macbeth tries to calm Macbeth down by minimising his actions and telling him to wash his hands: '**a little water clears us of this deed'.**

In the morning, we see how the murder has affected the weather, showing how it goes against the Natural Order: **'some say the Earth was feverous and did shake'** (Lennox)

Macduff finds Duncan's body and shows genuine grief **'o horror, horror, horror!'** He also links Duncan's body to Christianity and the Divine nature of Kings- **'Most sacrilegious murder hath broke ope The Lord's anointed temple'**

Macbeth kills the guards in case they saw the murder of Duncan but says he did it because he loved Duncan so much. Duncan's sons Malcolm and Donalbain, flee from fear: **'there's daggers in men's smiles'** (Donalbain).

Section 6 Key moments and quotations – act 3 scene 1 - 4

Banquo becomes suspicious of how Macbeth has become King following their meeting with the witches: **'I fear, Thou play'dst most foully for't.'**

Macbeth is extremely paranoid that he will lose his throne and tells Lady Macbeth **'O full of scorpions is my mind, dear wife!'**

Macbeth hires murderers to kill Banquo and his son Fleance. They kill Banquo very violently: **'safe in a ditch he lies, with twenty trenched gashes in his head'.**

Fleance escapes, and nobody ever captures him, so we could wonder by the end whether he will come back for revenge, or the throne.

Macbeth does not tell Lady Macbeth he has had Banquo and Fleance murdered, but when the Macbeths host a banquet that Banquo was due to attend, Macbeth hallucinates Banquo's ghost at the end of the table and begins to shout at the ghost: **'never shake thy gory locks at me'**

Lady Macbeth again questions Macbeth's manhood **('Are you a man?)** to try and calm him down, and asks the guests to leave, saying that Macbeth is unwell.
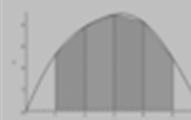
Section 7 Key moments and quotations – act 3 scene 4 and 5

After the banquet, Macbeth decides he will seek out the witches for more information.

This shows further sin and responsibility from Macbeth as he is seeking them out of his own free will (the first time, they came to him).

Macbeth seems to have become numb to the violence he has committed and he almost sees no point in trying to stop: **"I am in blood Stepp'd in so far that, should I wade no more, Returning were as tedious as go o'er:'.** The repeated imagery of blood emphasises his sin and guilt.

Before Macbeth reaches the witches, we see Hecate (the head witch) is angry with the 3 witches for meddling with Macbeth and causing trouble.

Lennox and a Lord discuss how Macduff is in England, trying to get support from King Edward of England to challenge Macbeth. This scene is very complimentary of Edward, probably because King James I was desperate to unify Scotland and England under one Church and one monarch.

Section 8 Key moments and quotations – act 4 scene 1 and 2

Macbeth visits the witches and even they see him as 'wicked': **'by the pricking of my thumbs, something wicked this way comes'.** They show him a bloody child and a parade of Kings, one of which he thinks looks like Banquo, and this seems to increase his paranoia.

They give him some more prophecies: **'Beware Macduff!' 'none of woman born shall harm Macbeth', 'until Great Birnam wood to high Dunsinane'.**

As all men are born from women, and trees cannot move, Macbeth should feel safe, but decides to take matters into his own hands (again) and orders the murder of Macbeth's wife and children: **'Seize upon Fife; give to the edge o' the sword His wife, his babes, and all unfortunate souls That trace him in his line.'** This is needless violence against total innocents, which further shows how sinful and treacherous Macbeth has become.

Lady Macduff wisely points out before she is killed that on Earth, sometimes things are unjust, which reminds the audience of the punishment for sin in the afterlife: **'I am in this earthly world, where to do harm Is often laudable, to do good sometime Accounted dangerous folly:'**

Section 9 Key moments and quotations – act 4 scene 3

Malcolm (Duncan's son and heir to the throne) is raising an army to challenge Macbeth and wants to test Macduff's loyalty to Scotland.

Malcolm pretends that he is going to be a worse tyrant than Macbeth to see Macduff's reaction. When he tells Macduff this, Macduff bravely says that he is **'fit to govern! No, not to live!'** and Malcolm can see that Macduff is loyal to the country (Scotland) and not just searching for power and titles from Malcolm.

Malcolm uses religious language to praise Macduff, and we can see from this and the contrast between heavenly and hellish language (soul vs black scruples) that Shakespeare is presenting Macduff as a role model and the antithesis of Macbeth: **'Macduff, this noble passion, Child of integrity, hath from my soul Wiped the black scruples'**

When Macduff finds out his family has been murdered, he also shows true emotion and tender masculinity, which contrasts with the toxic masculinity of Macbeth: **"all my pretty chickens and their dam At one fell swoop?'** He says he must 'feel it like a man', meaning his grief, and then vows to seek revenge against Macbeth.

Section 10 Key moments and quotations – act 5 scene 1 to 5

Whilst Lady Macbeth has not spoken at all in act 4, she is the first key character we see in act 5 scene 1.

She is being cared for by a Doctor and a Gentlewoman and she seems to have lost her sanity due to guilt. She hallucinates blood on her hands and shouts **'Out, damned spot!'** at the imaginary blood.

In contrast with her words in act 2, she shows that she is now overwhelmed by guilt for her role in Duncan's murder: **'all the perfumes of Arabia will not sweeten this little hand'.** This hyperbole mirrors Macbeth's words from act 2 and shows how the two of them have taken completely opposite trajectories since the murder.

Lady Macbeth dies off-stage and this is portrayed as a suicide. Christians believed this was a sin and this therefore tells the audience that despite not actually murdering Duncan, Lady Macbeth will still suffer in Hell for her sins in supporting Macbeth.

When Macbeth is informed of her death, he says **'she should have died hereafter',** meaning she was going to die anyway, and makes a speech about the pointlessness of life (**'life is but a walking shadow'**), showing he has also lost faith in both what he was trying to achieve, and God.

Section 11 Key moments and quotations – act 5 scene 5 to 8

Whilst Lady Macbeth has died, Macbeth's servants have been keeping watch. Malcolm's army has arrived at the castle carrying branches from Birnam Wood.

Macbeth is still determ

ined to fight for his throne: **'bear-like, I must fight the course'.** Macbeth realises the trickery of the witches when he finds Macduff was born by Caesarean section and calls them **'juggling fiends',** but still does not give up.

Macduff kills Macbeth and carries his bloody head on stage. This violence and other types of public violence e.g. public hangings of witches and executions of traitors were warnings to the public of the punishment for treason or ungodliness. Macbeth is clearly guilty of both, and his journey and ending remind the audience of the importance of loyalty to the King and of avoiding witchcraft, treason and sin.

In his final speech, Malcolm uses natural imagery and talks about future growth, which shows that the Natural Order has been restored: **'What's more to do, Which would be planted newly with the time'** He also refers to the Macbeths as **'this dead butcher and his fiend-like Queen',** which shows a huge contrast from the way they were viewed by Duncan at the beginning, and again warns of the consequences of sin.

Section 12 Key vocabulary

Heir - next in line (hereditary) to inherit something

Tyrant – cruel, controlling leader

Trajectory - journey

Equivocal language – language which is confusing and seems to have 2 opposite meanings

Foil – a character who is deliberately very different to another key character (Banquo)

Antithesis – a character type which is the total opposite to another key character (Macduff)

Masculinity – characteristics/behaviours associated with men

Treason – crime against the monarch or government

Traitor – somebody who betrays

Catholic – somebody who follows the Catholic Church- at the time the play was written, Catholicism was illegal

Puritans – English protestants who wanted to ensure religious reform, I.e. that everyone in the UK followed the Church of England/Scotland (King James I was the first King of both) and not Catholicism

Unify – bring together/make uniform (make the same)

Hamartia – fatal flaw –we could say this is ambition

Duplicitous – two-faced

COORDINATES Section 1

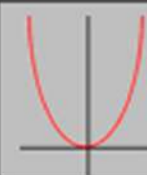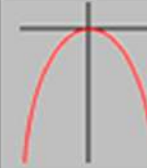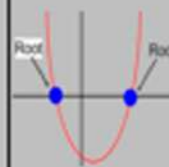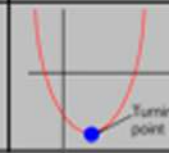|	
line segment	a line joining **two points**
length of line segment	distance between two points calculated using **Pythagoras' theorem**.
Pythagoras' theorem	a relationship between the 3 sides on a **right angled triangle** $a^2 + b^2 = c^2$
midpoint (3,2)	the middle of a line segment

REAL LIFE GRAPHS Section 3

gradient of a curve	the gradient of a curve at a point is the same as the gradient of the **tangent** at that point
tangent to a curve	a straight line that **touches a curve at exactly one point**
area under a curve	to estimate the area under a curve, split it up into simpler shapes – such as **rectangles, triangles and trapeziums**

LINEAR GRAPHS Section 2

$y = mx + c$	the general equation of a linear graph m is the **gradient** c is the **y-intercept** when plotting: use a **table of values**, substitute in values of 'x' to generate 'y', plot the coordinates, join with line
gradient	how steep a line is can be **positive or negative** $\frac{(\text{Change in y})}{(\text{Change in x})}$ or $\frac{dy}{dx}$ It gives the **rate of change**
y- intercept	where the line crosses the y-axis (0, a)
equation from gradient and a point	substitute the gradient for 'm', and the 'x' and 'y' values from the **coordinates** to find 'c' re-write the equation in the form **y = mx + c**
equation from two points	find the **gradient** using dy/dx, then use the method as above
parallel lines	lines with the **same gradient** ('m' is the same) they **never meet** they are always the **same distance apart**
perpendicular lines	two lines that meet at a **right angle (90°)** the product of the two gradients is always **-1** the gradient of one line will be the **negative reciprocal** of the gradient of the other line

QUADRATIC GRAPHS Section 4

|	
quadratic graph	a graph where the **highest power of x is x^2** it is always a **parabola (a U-shape)**
	$y = x^2$
	$y = -(x^2)$
roots (of graphs)	the **'solutions'** of a graph, where a **function equals zero** can be found in a graph where the **curve meets the x axis**
turning point	the point where a graph **turns**, from negative to positive gradient or positive to negative gradient
sketching quadratics	decide if it is a **U** or **∩** shape **factorise** to find the **roots**, mark them on **complete the square** to find the **turning point**, mark it on use the 'd' value as the **y-intercept**, mark it on

SOLVING QUADRATIC EQUATIONS Section 5

quadratic	a polynomial where the highest power of x is x^2
solving a quadratic	finding the roots of the graph there are usually two roots / solutions
general quadratic equation	a quadratic equation is of the form $ax^2 + bx + c = 0$ where a, b and c are numbers, a ≠ 0
the quadratic formula	$x = \dfrac{-b \pm \sqrt{b^2 - 4ac}}{2a}$
factor	a quantity which divides equally into a number, e.g. factors of 8 are 1, 2, 4 and 8
factorising a general quadratic	quadratic: $x^2 + bx + c$ factorised form: (x + ?)(x + ?) '?' are two numbers whose product is 'c' and sum is 'b'
difference of two squares	quadratic: $a^2 - b^2$ factorised form: (a − b)(a + b) square root each number from the original expression
completing the square	a quadratic in the form $x^2 + bx + c$ written in the form $(x + p)^2 + q$ the turning point of the quadratic is (-p,q)

BOUNDS Section 6

lower bound (LB)	the smallest value that would round up to the estimated value
upper bound (UB)	the smallest value that would round up to the next estimated value
error interval	the range of values that a number could have taken before being rounded or truncated written as an inequality: lower bound ≤ x < upper bound
adding with bounds	UB + UB = UB LB + LB = LB
subtracting with bounds	UB − LB = UB LB − UB = LB
multiplying with bounds	UB x UB = UB LB x LB = LB
dividing with bounds	UB ÷ LB = UB LB ÷ UB = LB

SURFACE AREA Section 7

surface area	the total area of all the surfaces on a 3D shape, find the area of each face separately, then add them together
surface area of a sphere	$A = 4\pi r^2$
surface area of a cone	curved surface area = $\pi r l$ circle base area = πr^2 add these together
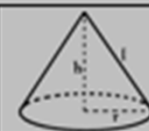
3D SOLIDS: OTHERS Section 8

sphere	1 face no edges no vertices
frustum	a frustum is a solid (usually a cone or pyramid) with the top removed

VOLUME Section 9

volume	the amount of space a 3D shape takes up	
prism	volume = area of cross section x length	
cube	volume = one side cubed (or area of square x length of prism)	$V = l^3$
cuboid	volume = area of rectangle x length of prism	$V = lbh$
triangular prism	volume = area of triangle x length of prism	$V = \dfrac{lbh}{2}$
cylinder	volume = area of circle x length of prism	$V = \pi r^2 h$
pyramid	volume = $\frac{1}{3}$ x area of cross section x length	
square based pyramid	volume = $\frac{1}{3}$ x area of square base x height of pyramid	$V = \dfrac{lwh}{3}$
cone	volume = $\frac{1}{3}$ x area of circle base x height of cone	$V = \dfrac{\pi r^2 h}{3}$
sphere	$V = \dfrac{4}{3}\pi r^3$	

1. Reactivity series

Metals react with oxygen to produce metal oxides. The reactions are oxidation reactions because the metals gain oxygen.

When metals react with other substances the metal atoms form positive ions.

Metals can be arranged as a reactivity series in order of how readily they react with other substances.

Some metals react with acids to produce salts and hydrogen.

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

Unreactive metals such as gold are found in the Earth as the metal itself but most metals are found as compounds that require chemical reactions to extract the metal.

Metals less reactive than carbon can be extracted from their oxides by reduction with carbon.

Reduction involves the loss of oxygen.

Metal	Reactivity			
Potassium	React with water		React with oxygen	Very reactive
Sodium				
Lithium				
Calcium		React with acid		
Magnesium				
Aluminium				
Carbon				
Zinc				
Iron				
Tin				
Lead				
Hydrogen				
Copper				
Silver				
				Very unreactive
Gold				

2. Reactions of acids

Acids react with some metals to produce salts and hydrogen.

Acids are neutralised by alkalis (e.g. soluble metal hydroxides) and bases (e.g. insoluble metal hydroxides and metal oxides) to produce salts and water, and by metal carbonates to produce salts, water and carbon dioxide.

Acid + Alkali → Salt + Water   Sulphuric acid + Copper oxide → Copper sulphate + Water

The particular salt produced in any reaction between an acid and a base or alkali depends on:
- the acid used (hydrochloric acid produces chlorides, nitric acid produces nitrates, sulphuric acid produces sulphates)
- the positive ions in the base, alkali or carbonate.

3. Acids and alkalis

Acids produce hydrogen ions (H^+) in aqueous solutions.

Aqueous solutions of alkalis contain hydroxide ions (OH^-).

The pH scale, from 0 to 14, is a measure of the acidity (0→6) or alkalinity (8→14) of a solution, and can be measured using universal indicator or a pH probe. A solution with pH 7 is neutral.

In neutralisation reactions between an acid and an alkali, H^+ react with OH^- to produce water (H_2O).

The volumes of acid and alkali solutions that react with each other can be measured by **titration** using a suitable indicator.

A strong acid (Hydrochloric, nitric, sulphuric acid) is completely ionised in aqueous solution. A weak acid (ethanoic, citric and carbonic acid) is only partially ionised in aqueous solution. The stronger an acid, the lower the pH. As the pH decreases by one unit, the hydrogen ion concentration of the solution increases by a factor of 10.

4. Electrolysis

When an ionic compound is melted or dissolved in water, the ions are free to move about within the liquid or solution. These liquids and solutions are able to conduct electricity and are called **electrolytes**.

Passing an electric current through electrolytes causes the ions to move to the **electrodes**. Positively charged ions move to the negative electrode (the **cathode**), and negatively charged ions move to the positive electrode (the **anode**). Ions are discharged at the electrodes producing elements. This process is called **electrolysis**.

When a simple ionic compound (e.g. lead bromide) is electrolysed in the molten state using inert electrodes, the metal (lead) is produced at the cathode and the non-metal (bromine) is produced at the anode.

5. Using electrolysis to extract metals

Metals can be extracted from molten compounds using electrolysis. Electrolysis is used if the metal is too reactive to be extracted by reduction with carbon or if the metal reacts with carbon. Large amounts of energy are used in the extraction process to melt the compounds and to produce the electrical current.

Aluminium is manufactured by the electrolysis of a molten mixture of aluminium oxide and cryolite using carbon as the positive electrode (anode).

6. Electrolysis of aqueous solutions and half equations

The ions discharged when an aqueous solution is electrolysed using inert electrodes depend on the relative reactivity of the elements involved.

At the negative electrode (cathode), hydrogen is produced if the metal is more reactive than hydrogen. The positively charged hydrogen ions are reduced by gaining an electron [$2H^+ + 2e^- \rightarrow H_2$].

At the positive electrode (anode), oxygen is produced unless the solution contains halide ions when the halogen is produced. The hydroxide ions are oxidised and lose electrons. [$4OH^- \rightarrow O_2 + 2H_2O + 4e^-$].

This happens because in the aqueous solution water molecules break down producing hydrogen ions and hydroxide ions that are discharged.

N.B. **OILRIG** – **O**xidation **i**s the **l**oss of electrons and **r**eduction **i**s the **g**ain of electrons.

C4 Soluble salts – prepare a pure dry sample of a soluble salt

1. Pour 40cm^3 of 1.0M sulphuric acid into a 100cm^3 beaker.
2. Over a Bunsen burner carefully heat the acid until almost boiling. Then turn off.
3. Place the hot beaker on a heatproof mat using tongs. Add the copper oxide one spatula at a time, stirring using a glass ro. The mixture will turn clear and blue.
4. Filter the blue copper sulphate solution into a conical flask.
5. Pour into an evaporating basin and heat over a water bath until half of the water has evaporated.
6. Dip a clean glass rod into it and let it cool. If small crystals form on the rod, stop heating.
7. Using tongs, pour the solution into a crystallising dish and leave in a warm place to finish crystallising.

Word equation: Copper oxide + Sulphuric acid → Copper sulphate + Water

Symbol equation: CuO + H$_2$SO$_4$ → CuSO$_4$ + H$_2$O

C4 Titration – determine the reacting volume of solutions of strong acids   Chemistry only

Burette containing acid

Clamp stand

Known volume of alkali containing a few drops of indicator

1. Use the pipette and pipette filler to add 25 cm^3 of alkali to a clean conical flask.
2. Add a few drops of indicator and put the conical flask on a white tile.
3. Fill the burette with acid and note the starting volume.
4. Slowly add the acid from the burette to the alkali in the conical flask, swirling to mix.
5. Stop adding the acid when the **end-point** is reached (when the indicator first permanently changes colour). Note the final volume reading.
6. Repeat steps 1 to 5 until you get **concordant titres**. More accurate results are obtained if acid is added drop by drop near to the end-point.
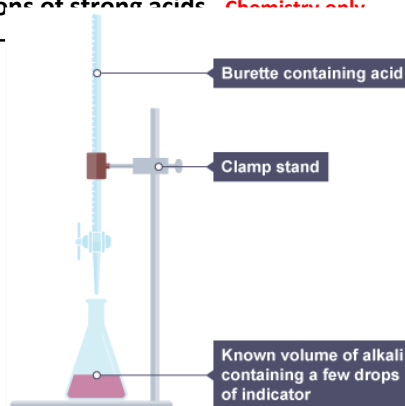
C4 Acids and alkalis

Set the equipment, as in the diagram. The positive electrode is connected to the positive terminal of a dc power pack. The negative electrode is connected to the negative terminal of the power pack.

It is best to test at least five solutions. Suitable solutions include copper sulphate, copper chloride, sodium chloride, sodium nitrate, sodium bromide. There are many more.

Set the potential difference to 4V and turn on for 5 minutes maximum, observing each electrode for bubbles of gas or deposits on any metal.

Test tube
Negative electrode
Positive electrode
Electrolyte
Beaker
12 V DC
Power supply
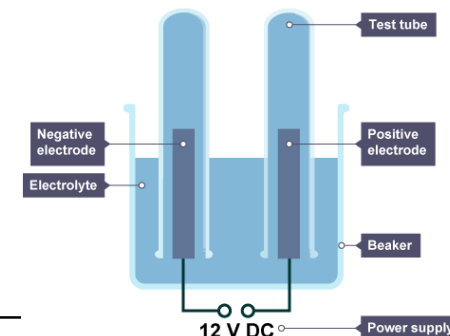
Any gases produced can be collected in the test tubes. They need to be stoppered and tested later. Gas tests include:

hydrogen - lighted splint goes out with a squeaky pop
oxygen - a glowing splint relights
chlorine - damp blue litmus paper turns red and is then bleached white

C5 Endo- & exothermic reactions – variable that affect temperature changes in reacting solutions

Method 1 (Reacting two solutions, e.g. acid & alkali)	Method 2 (Reacting a solid with a solution, e.g. metal and acid)
1. Place the polystyrene cup inside the glass beaker to make it more stable.	1. Place the polystyrene cup inside the glass beaker to make it more stable.
2. Measure an appropriate volume of each liquid, e.g. 25 cm^3.	2. Measure an appropriate volume of the solution, e.g. 25 cm^3.
3. Place one of the liquids in a polystyrene cup.	3. Measure an appropriate mass of the solid, or select a suitable sized piece of metal.
4. Record the temperature of the solution.	4. Place the solution in a polystyrene cup.
5. Add the second solution and record the highest or lowest temperature obtained.	5. Record the temperature of the solution.
6. Change your **independent variable** and repeat the experiment. Your independent variable could be the concentration of one of the reactants, or the type of acid/alkali being used, or the type of metal/metal carbonate being used.	6. Add the solid and record the highest or lowest temperature obtained.
	7. Change your independent variable and repeat the experiment. Your independent variable could be the surface area of the solid, or the type of acid being used, or the type of metal being used.

1. Homeostasis

Homeostasis is the regulation of the internal conditions of a cell or organism to maintain optimum conditions for function in response to internal and external changes.

Homeostasis maintains optimal conditions for enzyme to work. In the human body, these include control of: • blood glucose concentration • body temperature • water levels.	Automatic control systems may involve nervous or chemical responses. All control systems include: • cells called receptors, which detect stimuli • coordination centres (such as the brain, spinal cord and pancreas) that receive and process information from receptors • effectors, muscles or glands, which bring about responses which restore optimum levels.

2. The human nervous system

The nervous system allows humans to react to their surroundings and coordinate their behaviour.

In a typical response the information from receptors pass along neurones as electrical impulses to the central nervous system (CNS). The CNS is the brain and spinal cord. The CNS coordinates the response of effectors which may be muscles contracting or glands secreting hormones. The pathway is:

Stimulus → receptor → coordinator → effector → response

Reflex actions are automatic and rapid; they do not involve the conscious part of the brain. This makes the process faster and reduces the risk to the body. A reflex arc included the sensory neurone, synapse, relay neurone, motor neurone and effector.

3. Human endocrine system

The endocrine system is composed of glands which secrete chemicals called hormones directly into the bloodstream. The blood carries the hormone to a target organ where it produces an effect. Compared to the nervous system the effects are slower but act for longer.

The pituitary gland in the brain is a 'master gland' which secretes several hormones into the blood in response to body conditions. These hormones in turn act on other glands to stimulate other hormones to be released to bring about effects.
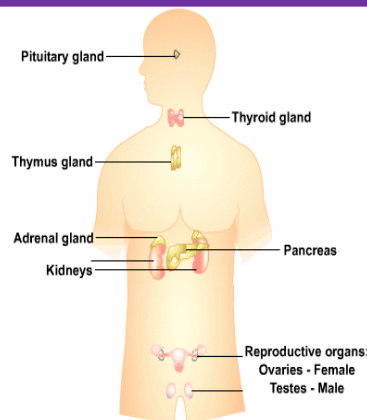
4. Blood glucose

Blood glucose concentration is monitored and controlled by the pancreas.

If the blood glucose levels are too high, the pancreas produces the hormone insulin that causes glucose to move from the blood into the cells. In liver and muscle cells excess glucose is converted to glycogen for storage.

Type 1 diabetes is a disorder in which the pancreas fails to produce sufficient insulin. It is characterised by uncontrolled high blood glucose levels and is normally treated with insulin injections.

In **Type 2 diabetes** the body cells no longer respond to insulin produced by the pancreas. A carbohydrate controlled diet and an exercise regime are common treatments. Obesity is a risk factor for Type 2 diabetes.

If the blood glucose concentration is too low, the pancreas produces the hormone glucagon that causes glycogen to be converted into glucose and released into the blood.

5. Hormones in human reproduction

During puberty reproductive hormones cause secondary sex characteristics to develop. Oestrogen is the main female reproductive hormone produced in the ovary. At puberty eggs begin to mature and one is released approx. every 28 days. This is ovulation. Testosterone is the main male reproductive hormone produced by the testes and it stimulates sperm production.	Several hormones are involved in the menstrual cycle of a woman. • Follicle stimulating hormone (FSH) causes maturation of an egg in the ovary. • Luteinising hormone (LH) stimulates the release of the egg. • Oestrogen and progesterone are involved in maintaining the uterus lining.

6. IVF treatment

IVF involves giving a mother FSH and LH to stimulate the maturation of several eggs.
The eggs are collected from the mother and fertilised by sperm from the father in the laboratory.
The fertilised eggs develop into embryos.
At the stage when they are tiny balls of cells, one or two embryos are inserted into the mother's uterus (womb).

7. Methods of contraception

Fertility can be controlled by a variety of hormonal and non-hormonal methods of contraception. These include: oral contraceptive, injection, implant or skin patch, barrier methods such as condoms and diaphragms, intrauterine devices (IUD), spermicidal agents, abstaining and surgical methods of male and female sterilisation.

8. Negative feedback

Adrenaline is produced by the adrenal glands in times of fear or stress. It increases the heart rate and boosts the delivery of oxygen and glucose to the brain and muscles, preparing the body for 'flight or fight'.
Thyroxine from the thyroid gland stimulates the metabolic rate. It is important for growth and development.

B4 Photosynthesis – effect of light intensity on the rate of photosynthesis, using pondweed

1. Set up a boiling tube containing 45 cm³ of sodium hydrogencarbonate solution (1%). Allow the tube to stand for a few minutes and shake to disperse any air bubbles that might form.
2. Cut a piece of the pondweed, *Cabomba*. The pondweed should be 8 cm long.
3. Use forceps to place the pondweed in the boiling tube carefully. Make sure that you don't damage the pondweed, or cause the liquid to overflow.
4. Position the boiling tube so that the pondweed is 10 cm away from the light source. Allow the boiling tube to stand for five minutes. Count the number of bubbles emerging from the cut end of the stems in one minute. Repeat the count five times and record your results.
5. Calculate the average number of bubbles produced per minute. Repeat the experiment at different distances away from the light source.
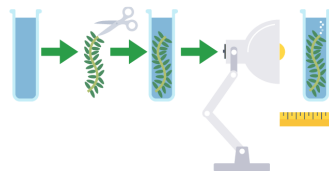
Variables
Independent variable – distance from the light source/light intensity.
Dependent variable – the number of bubbles produced per minute.
**Control variables** – concentration of sodium hydrogencarbonate solution, temperature, using the same piece of *Cabomba* pondweed each time.

Word equation: Carbon dioxide + Water → Glucose + Oxygen
Symbol equation: $6CO_2$ + $6H_2O$ → $C_6H_{12}O_6$ + $6O_2$

B5 Plant hormones – effect of light on plant growth

1. Put cotton wool into three petri dishes, and add the same volume of water to each dish.
2. Add ten seeds to each dish and place them in a warm place where they won't be disturbed.
3. Allow the seeds to germinate, and add more water if the cotton wool dries out.
4. Once the seeds have germinated, ensure the petri dishes each contain the same number of seeds, and remove any extra seeds if necessary.
5. One petri dish will sit in full light on a windowsill, the second will be in a dark cupboard, and the final dish will be placed in partial light.
6. Every day for one week, measure the height of each seedling and record the results in a table. You must record the height of the individual seedlings on each day.
7. Calculate the mean of the seedlings each day, and compare the mean heights in the three different locations.
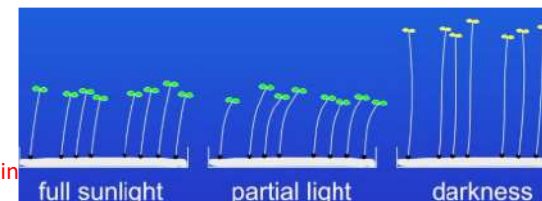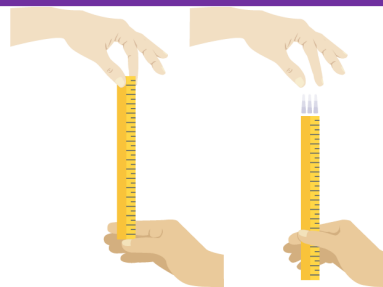
Variables
Independent variable – different colours of light, in
Dependent variable – the mean height of seedlings.
Control variables – the number of seeds on each dish, how much they are spread out, the volume of water the seedlings are given, the temperature they are kept at.

full sunlight   partial light   darkness

B5 Reaction times – the effect of a factor on reaction times

Ruler drop test
1. Work with a partner.
2. Person A holds out their hand with a gap between their thumb and first finger.
3. Person B holds the ruler with the zero at the top of person A's thumb
4. Person B drops the ruler without telling Person A and they must catch it.
5. The number level with the top of person A's thumb is recorded in a suitable table. Repeat this ten times.
6. Swap places, and record another ten attempts.
7. You can use the conversion table to help convert your ruler measurements into reaction time or just record the catch distance in cm.

Variables
Independent variable – hand used, person used, gender, noise level.
Dependent variable distance dropped/reaction time.
Control variables – position of hand, ruler, rest time between tests

1. Energy stores

A system is an object or group of objects.

The energy stored in a system can change if, for example:

- • an object projected upwards
- • a moving object hitting an obstacle
- • an object accelerated by a constant force
- • a vehicle slowing down
- • bringing water to a boil in an electric kettle.

2. Changes in energy

The kinetic energy of a moving object can be calculated using the equation:

Kinetic energy (in J) = 0.5 × mass (in kg) × (speed)^2 (in m/s)   [$E_k = \frac{1}{2} mv^2$]

The amount of elastic potential energy stored in a stretched spring can be calculated using the equation:

Elastic potential energy (in J) = 0.5 × spring constant (in N/m) × (extension)^2 (in m)   [$E_e = \frac{1}{2} ke^2$]

The amount of gravitational potential energy gained by an object raised above ground level can be calculated using the equation:

g.p.e. (in J) = mass (in kg) × gravitational field strength (in N/kg) × height (in m)   [g.p.e. = mgh]

3. Energy changes in systems

The amount of energy stored in or released from a system as its temperature changes can be calculated using the equation:

Change in thermal energy (in J) = mass (in kg) × specific heat capacity (in J/kg °C) × temperature change (°C)
$\Delta E = m c \Delta \Theta$

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.

4. Power

Power is defined as the rate at which energy is transferred or the rate at which work is done.

Power (in W) = energy transferred (in J) / time (in s)   [P = E/t]

(or)

Power (in W) = work done (in J) / time (in s)

An energy transfer of 1 joule per second is equal to a power of 1 watt

5. Conservation and dissipation

Energy can be transferred usefully, stored or dissipated, but cannot be created or destroyed.

This means that there is no net change to the total energy.

Energy that is dissipated or stored in a less useful way is often described as being 'wasted'.

Unwanted energy transfers can be reduced by methods such as lubrication and the use of thermal insulation.

The higher the thermal conductivity of a material the higher the rate of energy transfer by conduction across the material.

The energy efficiency for any energy transfer can be calculated using the equation:

efficiency = useful output energy transfer / total input energy transfer

(or)

Efficiency may also be calculated using the equation:

efficiency = useful power output / total power input

6. National and global energy resources

The main energy resources available for use on Earth include: fossil fuels (coal, oil and gas), nuclear fuel, biofuel, wind, hydro-electricity, geothermal, the tides, the Sun and water waves.

A renewable energy resource is one that is being (or can be) replenished as it is used.

The uses of energy resources include: transport, electricity generation and heating.

Several environmental issues may arise from the use of different energy resources. Such as, global warming due to greenhouse gases and global dimming due to soot particulates.

The ability to deal with these environmental issues can be difficult due to political, social, ethical, or economical considerations.

P1 Specific Heat Capacity – measure the specific heat capacity of a sample of material.

Method

1. Place the immersion heater into the central hole at the top of the block.

2. Place the thermometer into the smaller hole and put a couple of drops of oil into the hole to make sure the thermometer is surrounded by hot material.

3. Fully insulate the block by wrapping it loosely with cotton wool.

4. Record the temperature of the block.

5. Connect the heater to the power supply and turn it off after ten minutes.

6. After ten minutes the temperature will still rise even though the heater has been turned off and then it will begin to cool. Record the highest temperature that it reaches and calculate the temperature rise during the experiment.

Record results in a suitable table. The example below shows some sample results.

Current (A)	Potential difference (V)	Initial temperature (°C)	Final temperature (°C)
3.65	10.90	15	38

Analysis

The block has a mass of 1 kg and the heater was running for 10 minutes = 600 seconds.

Using the example results:

energy transferred = potential difference × current × time [E = V I t]

So, energy transferred =   10.90   x 3.65 x 600

$$E = \underline{23,700\ J}$$

Then, Specific heat capacity = $\underline{\quad\text{Energy transferred}\quad}$ [c = _E_]

mass x change in temperature   [mΔθ]

$$c = \underline{23700}$$
$$1 \times (23)$$

$$c = \underline{1,030\ J/kg°C}$$

The actual value for the specific heat capacity of aluminium is 900 J/kg°C.

The calculated value does not match exactly but it is in the correct order of magnitude.

P1 Thermal insulation - compare the effectiveness of different materials as thermal insulators.

Method

1. Place a small beaker into a larger beaker.

2. Fill the small beaker with hot water from a kettle.

3. Put a piece of cardboard over the beakers as a lid. The lid should have a hole suitable for a thermometer.

4. Place a thermometer into the smaller beaker through the hole.

5. Record the temperature of the water in the small beaker and start the stopwatch.

6. Record the temperature of the water every 2 minutes for 20 minutes.

7. Repeat steps 1-6, each time packing the space between the large beaker and small beaker with the chosen insulating material.

8. Plot a graph of temperature (y-axis) against time (x-axis).
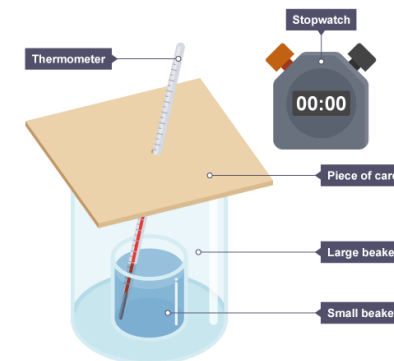
This graph shows:
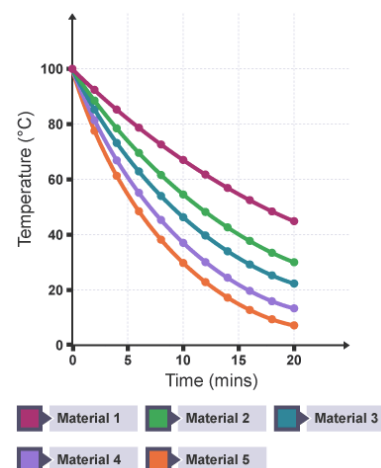
The curve which takes the longest time for the water temperature to drop (the shallowest) should be the material which is the best insulator. *(i.e. Material 1)*

The temperature falls quickly at high temperatures and slowly at low temperatures.

When the beaker is at a high temperature, there is a big difference between the temperature of the beaker and the temperature of the surrounding air. This means there is a high **rate** of transfer.

When the beaker is at a lower temperature, there is less difference between the temperature of the beaker and the temperature of the surrounding air. This means there is a lower rate of transfer.

1. Chemical measurements and conservation of mass

The **law of conservation** of mass states that no atoms are lost or made during a chemical reaction so the mass of the products equals the mass of the reactants.

This means that chemical reactions can be represented by symbol equations which are balanced in terms of the numbers of atoms of each element involved on both sides of the equation.

The **relative formula mass** (Mr) of a compound is the sum of the relative atomic masses of the atoms in the numbers shown in the formula.

In a balanced chemical equation, the sum of the relative formula masses of the reactants in the quantities shown equals the sum of the relative formula masses of the products in the quantities shown.

Some reactions may appear to involve a change in mass but this can usually be explained because a reactant or product is a gas and its mass has not been taken into account. For example: when a metal reacts with oxygen the mass of the oxide produced is greater than the mass of the metal or in thermal decompositions of metal carbonates carbon dioxide is produced and escapes into the atmosphere leaving the metal oxide as the only solid product.

2. Moles

Chemical amounts are measured in moles. The symbol for the unit mole is mol.

The mass of one mole of a substance in grams is numerically equal to its relative formula mass.

One mole of a substance contains the same number of the stated particles, atoms, molecules or ions as one mole of any other substance.

The number of atoms, molecules or ions in a mole of a given substance is the Avogadro constant.

The value of the Avogadro constant is 6.02×10^{23} per mole.

3. Amounts of substances and limiting reactants

The masses of reactants and products can be calculated from balanced symbol equations.

Chemical equations can be interpreted in terms of moles. For example:

$$Mg + 2HCl \rightarrow MgCl_2 + H_2$$

shows that one mole of magnesium reacts with two moles of hydrochloric acid to produce one mole of magnesium chloride and one mole of hydrogen gas.

In a chemical reaction involving two reactants, it is common to use an excess of one of the reactants to ensure that all of the other reactant is used. The reactant that is completely used up is called the limiting reactant because it limits the amount of products.

4. Percentage yield

Even though no atoms are gained or lost in a chemical reaction, it is not always possible to obtain the calculated amount of a product because:

• *the reaction may not go to completion because it is reversible*

• *some of the product may be lost when it is separated from the reaction mixture*

• *some of the reactants may react in ways different to the expected reaction.*

The amount of a product obtained is known as the yield. When compared with the maximum theoretical amount as a percentage, it is called the percentage yield.

$$\% \text{ Yield} = \frac{\text{Mass of product actually made}}{\text{Maximum theoretical mass of product}} \times 100$$

5. Atom economy

The atom economy (atom utilisation) is a measure of the amount of starting materials that end up as useful products. It is important for sustainable development and for economic reasons to use reactions with high atom economy.

The percentage atom economy of a reaction is calculated using the balanced equation for the reaction as follows:

$$\frac{\text{Relative formula mass of desired product from equation}}{\text{Sum of relative formula masses of all reactants from equation}} \times 100$$

6. Using concentrations of solutions in mol/dm³

The concentration of a solution can be measured in mol/dm^3.

The amount in moles of solute or the mass in grams of solute in a given volume of solution can be calculated from its concentration in mol/dm^3.

If the volumes of two solutions that react completely are known and the concentration of one solution is known, the concentration of the other solution can be calculated.

7. Use of amount of substance in relation to volumes of gases

Equal amounts in moles of gases occupy the same volume under the same conditions of temperature and pressure.

The volume of one mole of any gas at room temperature and pressure (20^oC and 1 atm. of pressure) is 24 dm^3.

The volumes of gaseous reactants and products can be calculated from the balanced equation for the reaction.

1. Key terms

Economic impact	The effect of an event on the wealth of an area or community.
Environmental impact	The effect of an event on the landscape and ecology of the surrounding area.
Extreme weather	When a weather event is significantly different from the average or usual weather
Immediate responses	The reaction of people as the disaster happens and in the immediate aftermath.
Long-term responses	Later reactions that occur in the weeks, months and years after the event.
Primary effects	The initial impact of on people and property, caused directly by a tropical storm
Secondary effects	The after-effects that occur as indirect impacts of a natural event, sometimes on a longer timescale
Social impact	The effect of an event on the lives of people or community.

2. How do tropical storms form?

1	Tropical storms need a **lot of heat** to form, which is why they usually occur over **tropical seas** (at least **27°C**)
2	The warm ocean heats the air above it causing it to rise rapidly, creating low pressure
3	Water evaporates quickly from the hot surface of the ocean, so the rising air contains great amounts of **water vapour**
4	The rising air starts to **spin** around the centre (**eye**) of the storm (anti-clockwise in the northern hemisphere)
5	As the air rises it cools, **condenses** and forms towering **cumulonimbus clouds**
6	The rapidly rising air creates an area of **intense low** pressure. The low pressure sucks in air, **causing very strong winds**
7	Once the storm moves over **land** it starts to **lose energy** and fades

3. What is climate change and how has it happened naturally?

Climate change is a large-scale, long-term shift in the planet's average weather.
This has happened naturally in the long term.

Natural causes of climate change

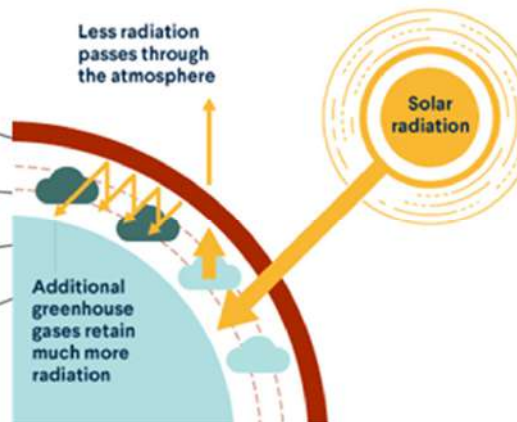|	
Orbital Changes	Some argue that climate change is linked to how the Earth orbits the Sun, and the way it wobbles and tilts as it does it.
Sun Spots	Dark spots on the Sun are called Sun spots. They increase the **amount of energy Earth receives** from the Sun.
Volcanic Eruptions	Volcanoes release large amounts of **dust containing gases**. These can **block sunlight** and results in cooler temperatures.

4. Human causes of climate change

Burning fossil fuels: burning coal, oil and gas releases carbon dioxide (a greenhouse gas).

Deforestation: trees absorb carbon dioxide. If they are cut down, there is more carbon dioxide.

Dumping waste in landfill: This releases methane, which is 25 times more powerful than carbon dioxide.

Farming: growing crops and keeping cattle releases greenhouse gases including methane.

Less radiation passes through the atmosphere

Solar radiation

Additional greenhouse gases retain much more radiation

5. Managing climate change

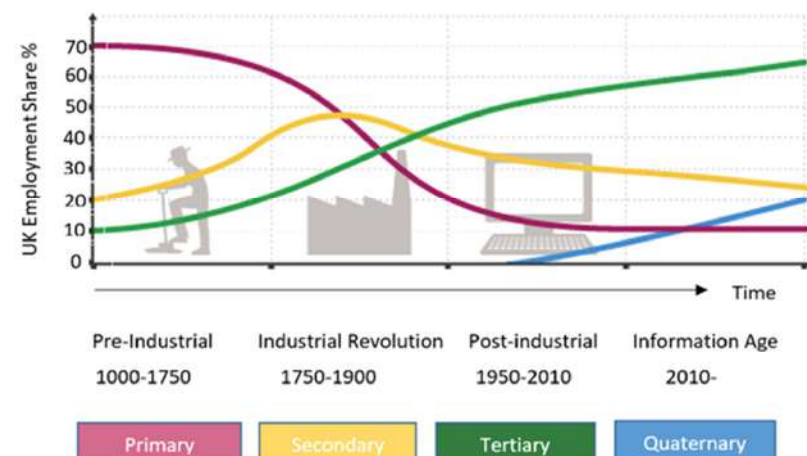|	
Carbon Capture This involves new technology designed to reduce climate change.	**Planting Trees** Planting trees increase the amount of carbon is absorbed from atmosphere.
International Agreements Countries aim to cut emissions by signing international deals and by setting targets.	**Renewable Energy** Replacing fossil fuels based energy with clean/natural sources of energy.

1. Key terms

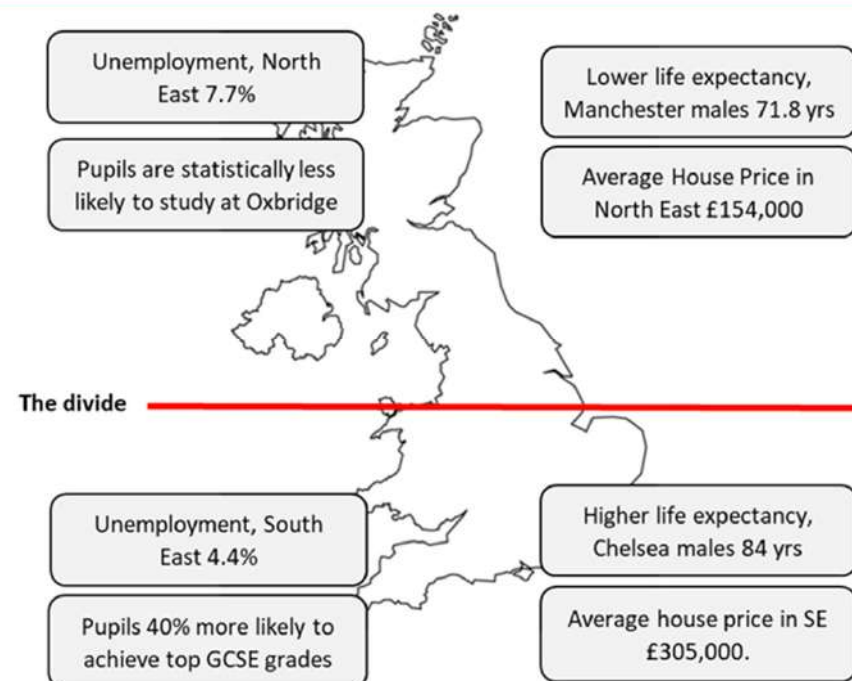|	
Industrial Structure	Proportion of people working in different sectors of the economy (types of jobs)
Primary (sector)	Extracting raw materials from the earth (e.g. mining)
Secondary (sector)	Manufacturing (making) goods from raw materials (e.g. making cars in a factory)
Tertiary (sector)	Offering a service to someone else (e.g. a mechanic, teacher, doctor)
Quaternary (sector)	Adding further knowledge to businesses and organisations through research
Urbanisation	An increase in the percentage of people living in urban areas.
De-industrialisation	The decline of a country's traditional manufacturing industry (secondary sector)
Post-industrial Economy	The shift of some HIC economies from producing goods to producing services.
North-South divide	Economic and cultural differences between southern England and northern England.

2. How has the industrial structure of the UK changed?

Pre-Industrial 1000-1750	Industrial Revolution 1750-1900	Post-industrial 1950-2010	Information Age 2010-

Primary   Secondary   Tertiary   Quaternary

3. Post-industrial landscape of the UK

Cause	Effect	Response
The economic rise of China	Factories move abroad; higher unemployment in the UK in this sector	Government gives grants to run-down areas & retraining and relocating
Mechanisation of industry.	Unemployment increases as jobs done by people now done by machines (e.g. in car-making)	Creation of new business parks in the North (e.g. Cobalt, Newcastle)
Growth of IT industries	Job creation in financial services, mainly in the South.	Britain, particularly London a global force for their IT services (e.g. online banking);

4. Is there a north-south divide in the UK?

Unemployment, North East 7.7%

Lower life expectancy, Manchester males 71.8 yrs

Pupils are statistically less likely to study at Oxbridge

Average House Price in North East £154,000

The divide

Unemployment, South East 4.4%

Higher life expectancy, Chelsea males 84 yrs

Pupils 40% more likely to achieve top GCSE grades

Average house price in SE £305,000.

1 Treaty of Versailles

	Condition
L	Land • Germany lost Alsace-Lorraine, the Saar, and all its overseas colonies
A	Army • Germany had to reduce their army to 100,000 and a tiny navy
M	Money • Germany had to pay 6.6 billion in reparations
B	Blame • Germany had to accept blame for starting the First World War

2 Weimar Republic

Characteristic	Consequence
Proportional Representation	Very difficult for one party to have strong representation by dividing the vote
Crushed Spirits	Low morale following the First World War
Political Instability	Left- and Right-wing uprisings
Suffrage	Women can vote
Article 48	Executive powers could be given to a dictator in times of emergency
Reichstag	Elected from the people to propose laws

3 Invasion of the Ruhr

Date	Event	Consequence
1922	Germany cannot afford reparations	France and Belgium enraged
1923	France and Belgium march 60,000 troops into Ruhr Workers Strike Weimar Prints more money	Resources stolen Government pays wages Hyperinflation Money is worthless

4 Political Resistance

Uprising	Event
Spartacist Uprising	Jan 1919, communist uprising led by Rosa Luxemburg and Karl Liebknecht. Uprising put down by Freikorps
Kapp Putsch	March 1920 Wolfgang Kapp uses right wing Freikorps to overthrow government. Ended by general strike
Munich Beer Hall Putsch	Nov 1923 Adolf Hitler begins Putsch in Munich. Hitler is arrested and writes *Mein Kampf* in prison

5 International Treaties

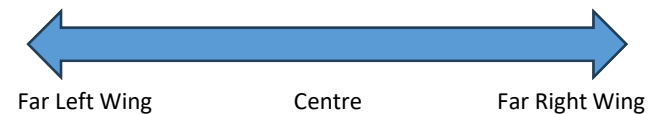| Date	Treaty
1924	Dawes Plan Reparations payments reduced and an American loan
1929	The Young Plan Reparations reduced by 20% with further American loans

6 Stresemann Era 1925-1929

Factor	Impact
Culture	German cinema, jazz, and art all expand internationally
Rentenmark	New currency restabilises economy
Prosperity	Germans had more money, nightlife flourished
Economy	German economy is supported heavily by America loans
Reputation	Germany allowed into Locano Treaty, League of Nations, and Kellogg-Briand pact. Internationally recognised again
Equality	Women had more rights, were employed, and had money

7 Wall Street Crash

Date	Consequence
Oct 1929	America recalls all German loans German economy crashes Mass unemployment Food shortages Increase in support for extreme politics

Communism
No class difference
No private ownership
Take wealth from rich to give to poor

Liberalism
People should have freedoms protected by government
Equality of opportunity

Fascism
No equal rights
Racial supremacy
Discriminate
Limited freedoms

Far Left Wing — Centre — Far Right Wing

8 — Appeal of the Nazis

Appeal of the Nazis
Hitler promised to fix Germany's problems and make it strong again
SA used fear to intimidate political opponents
Hitler gave out brownshirts to supporters to create Nazi uniform
Promised to remove Treaty of Versailles
Promised to destroy the communists
Promised to give Germany work and bread (arbeit und brot)

9 — Hitlers Rise 1929-1933

SA Power and Fear	Hitler's charisma	Campaigning	Rallies	United and strong Germany

Hitler becomes Chancellor > Reichstag Fire 1933 > Enabling Act > Death of Hindenberg > Hitler becomes Fuhrer

10 — Nazi Economic Policies

Policy	Consequence
German Labour Front 1933	Workers' union that was dominated by Nazis. Striking was banned
German Labour Service 1935	Young adults must be employed in public work schemes for six months
Rearmament	Hitler needed a strong army. He gave valuable rearmament contracts to wealthy supporters
Autarky	Germany wanted to be self-sufficient. Germany did not want to import other products

11 — Nazi Social Policies

Policy	Consequence
Jewish Persecution	1933 Jewish businesses boycotted and targeted by SA
Nuremberg Laws	1935 Lowered status of Jewish citizens
Hitler Youth	1936 Forced youth club to indoctrinate children
Kirstallnacht	1938 Mass attack on Jewish population in Germany
Women	Women encouraged to be housewives and mothers
Education	All education promoted the Nazi ideals and beliefs

12 — Nazi Key Figures

Name	Role
Adolf Hitler	Leader of Nazi Party and Fuhrer
Joseph Goebbels	Nazi head of propaganda
Ernst Rohm	Head of SA (Killed in 1934)
Hjalmar Schacht	Chief of economy (1934-1937)
Herman Goering	Chief of German Air Force and Economy (1937)
Heinrich Himmler	Chief of German Secret Police

13 — Key Words

Word	Definition
Anti-Semitism	Hatred and persecution of Jewish people
Armistice	Agreement to end First World War
Aryan	Nazi term for "pure" German
Constitution	Set of rules to govern a country
Enabling Act	Law to give politicians to rule without Reichstag
Freikorps	Paramilitary groups of soldiers from First World War
Hyperinflation	Inflation in 1923 makes money worthless
Kristallnacht	Nov 1938 attack in Jewish business and property
November Criminals	Name to describe politicians who signed armistice
Putsch	Attempt to takeover government
Third Reich	Nazi name for Germany
Trade union	Organisations aimed at improving lives of workers, banned by Nazis

1 Militarism

Key Term	Definition
Arms Race	Competition to make the largest military
Dreadnought	Largest battleship created (1906)
Navy	Military used at sea
Militarism	Desire to have the strongest military

2

Nation	Key Facts
Britain	Largest Navy. Largest empire. Experienced army
Germany	Strong military culture. Growing navy. Well-prepared
France	Outdated army. Aging military leaders. Large army
Russia	Largest army by far. Outdated equipment and tactics. Politically unstable
America	Modern army. Unaffected by the war in Europe. Isolationist until 1917

3 Alliances

Key Term	Definition	Date	Alliance
Triple Entente	Britain, France, Russia	1879	Dual Alliance (Germany and Austria-Hungary)
Triple Alliance	Germany, Austria-Hungary, Italy	1882	Triple Alliance
Encircled	Surrounded by other nations	1894	Franco-Russian Alliance (France and Russia)
Alliance	Agreement between nations	1907	Triple Entente

4

Crisis	Consequence
1905 First Moroccan Crisis	Germany embarrassed at international conference, alliances strengthen
1908 Austria Hungary annex Bosnia	Pan-Slavism increases, Russia back down from war, tension increases
1911 Second Moroccan Crisis	Germany back down and lose colonies, tension at its highest point
1912-1913 Balkan Wars	Austria-Hungary defeated, Ottomans pushed from Europe, nationalism increases

5 Imperialism

Key Term	Definition
Crisis	A time of difficulty or danger
Place in the Sun	Germany's desire to have an Empire
Annex	To take someone else's territory
Imperialism	The desire to increase the size of an Empire

6 Nationalism

Key Term	Definition
Weltpolitik	Germany's desire to be a world power
Pan-Slavism	The movement towards Slavic unity
Isolationism	Desire to take no part in international affairs
Nationalism	Zealous love of one's country over other countries

7 Stalemate

Battle	Nations	Key Moments	Casualties	Consequence
Marne Sept 1914	Germany France	• France stop the German Schlieffen Plan at the Marne river & defend Paris	• 250,000 French • 260,000 German	• German advance stops • Paris protected • Stalemate begins
Verdun Feb-Dec 1916	France Germany	• German general Falkenhayn begins attritional warfare	• 355,000 German • 400,000 French	• France defends Verdun • Britain supports defenders
Somme July-Nov 1916	Britain France Germany	• Heavy British losses in early stages • First use of tank	• 420,000 British • 440,000 German • 200,000 French	• Minimal territorial gain • Germany eventually fall back to Hindenberg line
Passchendaele July-Nov 1917	Britain France Germany	• Quagmire conditions • Constant heavy rain	• 240-400,000 British and French • 200-400,000 German	• British victory • Very heavy losses • Germany badly weakened

Nation	Culture	8
German	• Strong military culture • "Young" nation wanting to make history • Ambitious leader • Desire for power on a global stage	
British	• Largest global empire • Historically dominant at sea • Wealthy and proud of prominence	
Slavic	• Frustrated at Austro-Hungarian imperialism • Nationalist secret societies	
France	• Historic rivalry with Germany from 1870 • Wealthy Empire • Historically powerful, but outdated against Germany	

Key Term	Definition	11
Blockade	Cutting a location off from all supplies and trade	
U-Boat	German submarine	
Abdicate	Monarch gives up their title	
Storm-Troopers	Elite German shock-troops	
Mutiny	Soldiers refusing to follow commanders' orders	
Armistice	Agreed ceasefire	
Homefront	The civilian world during war	
Morale	The overall mood of a group of people	

9	Key Term	Definition
	Stalemate	When neither army could make a decisive move
	Trench	Defensive ditch or fortification soldiers fought and lived in
	Artillery	Long-range explosive weapon
	Bombardment	Prolonged artillery attack on defences
	Shell-shock	PTSD for soldiers following bombardments
	Attrition	Grinding down the enemy
	Trench-foot	Foot condition soldiers contracted standing in muddy trenches
	Tank	Heavily armoured fighting vehicle
	Shrapnel	Metals shards that came from explosives, wounding soldiers
	No Man's Land	Area of land between two armies' trenches
	Outflank	Move around the enemy to attack from a better position

Why did the war start?
Militarism, Alliances, Imperialism, Nationalism

Homefront
Morale, propaganda, industry, supplies, blockades

Why did the stalemate happen?
Trenches, artillery, attrition, technology

Why did the war end?
American joins, Naval Blockade, Failure of Ludendorff Offensive

10	End of the War		
Event	Cause		Consequence
Jutland May – June 1916	• German fleet attempts to break British Naval dominance • No clear victor • German fleet destroyed, British fleet still dominant		• Germans adopt U-Boat warfare • German fleet destroyed • Naval blockade
Russian Revolution February 1917	• Russia suffers heavy casualties on Eastern Front • Russian population starving and angry • Russian Tsar deeply unpopular		• Russia leaves the war • German troops redeployed to Western Front
America joins the war 1917	• Lusitania sunk May 1915 • Zimmerman Telegram 1917 • Submarine warfare damages US ships		• USA commits 2 million troops to war • 90,000 tonnes of meat • USA finances allies
Ludendorff Offensive March 1918	• Germany has more troops on Western Front • America is joining war, German chance of victory is shrinking		• Initial German victory • Unsustainable German advance • German troops cut off and captured
100 Days Offensive August 1918	• Germans are weakened and on brink of defeat • Unified command under General Foch • American troops join allies		• Significant allied territory gains • German army in full retreat • Allied victory close
Kaiser Wilhelm abdicates Nov 1918	• German civilian and military morale at breaking point • Kiel mutiny shows military no longer follows Kaiser's orders • German people starving from the blockade		• Germany cannot continue with war • Armistice signed November 1918

23

Trinity	God is the Father, Holy Spirit & Son	Salvation	Saving the soul from sin
Incarnate	God is Jesus/Human in flesh	Resurrection	Jesus raised from dead
Ascension 1 & 2	Jesus rose up to heaven 40 days after his resurrection & teaching his final lessons.	Omnipotence Omniscience Omnibenevolence	All-powerful All-knowing All-loving
Just	God is fair	Impersonal	God is beyond human understanding
Crucifixion	The killing of Jesus/suffering on cross		
Stewardship	Humans are carers of the earth	Grace	God's unconditional love

Influence – How does something affect you, inspire you, does it compel certain actions?
Similar – Are there any beliefs, teachings & quotes that are similar?

3	Nature of God	The Trinity	The Bible teaches,	Atheists argue,
	• Christians see God as: Just, graceful, omnipotent, omnibenevolent, omniscient & merciful • Christians pray to Him; ask for forgiveness	• Christians see God in 3 ways: The Father in heaven, the Holy Spirit that inspires us & the son incarnate – Jesus	• 'I am always with you' • 'You'll receive power with the Holy Spirit' • 'Obey God not men'	• Freud argues God is only in the human mind • God is not real you can't see him / his power

4	The Creation Story	Problem of Evil	The Bible teaches,	Atheists argue,
	• Book of Genesis says how God made the world; • Day 1: God made light • Day 2: heavens & earth • Day 3: land & sea • Day 4: Sun, Moon/Stars • Day 5: Fish & birds • Day 6: Animals/humans • Day 7- God rested • We are stewards of the earth	• If an all-loving God exists, how can He allow humans to suffer in the world? Moral (human) evil / natural (beyond this) • Floods, famine, diseases, war...	• 'God made the heavens & earth' • **The Prodigal Son**: *A father forgives & welcomes his son back after his losses* • **The Story of Job**: *life is a test. Job loses his wealth & family but God returns it testing his faith through suffering.*	• God should not make people suffer; • If God created the world why is it not perfect? Why are their floods, natural & moral evil?

5	The Original Sin	The Bible teaches,	Influence
	• Adam & Eve ate from the forbidden tree inspired by Satan • Everyone sins no one is perfect (Adam/Eve) • Sin breaks God's Law causes separation • Jesus' death atones (makes up) for our sins.	• 'Faith without good action is dead faith' • 'Christ died for our sins'	• Wrongs can be made right with the right intention • We must be careful with our freedom

6.	Incarnation	The Bible teaches,	Some argue,
	• God comes to the earth as a human • Mary gives birth to a son through the Holy Spirit • Christians appreciate God's link to humanity • God is fully human & divine	• 'The Word (God) became flesh'	• Difficult to understand – how can an omnipotent God be human at the same time? • Can be seen as a miracle

7.	Crucifixion	The Bible teaches,	Some argue,
	• Jesus was nailed to a cross & killed • He spoke to God saying he felt abandoned • This act atoned for everyone's sins • Jesus betrayed by Judas for 30 silver pieces	• 'Jesus died for our sins' • Jesus predicts own death	• Crucifixion reminds Jesus' pain & sacrifice / moral evil • Important for atonement – Christians work to do no sin

8.	Resurrection	The Bible teaches,	Influence
	• Jesus rose from the dead on the 3rd day after his crucifixion • Jesus' risen body was different & glowed	• 'Jesus had risen' • 'The body raised is imperishable'	• Resurrection possible for everyone • Shows God's power

9.	Salvation	The Bible teaches,	Influence
	• Salvation cannot be achieved if you sin • We can achieve salvation by: following God's Law, Holy Spirit & His grace • Jesus spent 40 days spreading God's word	• 'Your word is a lamp' • 'Obey God rather than men'	• Christians follow Jesus • Salvation & grace must be taught to others • Some baptise themselves

10.	Ascension	The Bible teaches,	Influence
	• After 40 days of resurrection, Jesus rose up to heaven • Jesus told disciples to carry on spreading Christian teachings	• 'He was lifted up' • 'A cloud took him from their sight'	• Christians will not stray from God's path; Jesus in heaven comforts others

11.	Afterlife & Judgement	The Bible teaches,	Influence
	• Afterlife, God will judge you fairly • Heaven, Hell or Purgatory (in between) • The point of life is to aim for heaven	• The Parable of Sheep & Goat (evil) • 'Do not judge for you will be judged'	• Ask for forgiveness • Give charity & share • Not steal or lie

12.	*Tip: Always unpack quotes*	**Where** is it from? The Bible / Jesus teaches,	**What** does it mean? This means / Some Christians believe This influences,	**Why** is it important? This signifies / highlights, This supports / challenges,

Atonement	Making amends for wrong actions	Sacraments	Outward signs of faith
Liturgical worship	Set structure to worship in a church, followed every time – scripts, routine	Baptism	Ceremony to wash your body with water to wash away sins
Non-Liturgical worship	Worship without set structure, the priest's speech is not scripted	Eucharist	Bread & wine ceremony enacting Jesus' last meal
Evangelism	Preaching to convert others	Reconciliation	Repair relationships - together
Lord's Prayer	Prayer Jesus taught others to pray	Persecution	Hostility or ill-treatment of someone / groups

Contrasting – How are practices done differently between Christians?
Similar – Are there any practices, teachings & quotes that are similar?   **1 & 2**

3.

Private Worship	Liturgical Worship	Informal worship	Non-Liturgical Worship
• Praising / honouring God on your own/meditate • Time, comfy & meaning	• A service that follows a set structure. E.g. set texts same pattern • Bible reading, singing hymns at set times	• NL worship, at times unplanned or charismatic (led by the Holy spirit)/songs • Expressive / music	• Doesn't follow set structure • Sermons on current topics e.g. in the news, pressing issues addressed…
• *'Go to your room, close the door & pray to your Father'- B*	• *'Worship God in fear & beauty of holiness' – B* • *'Ask & you'll receive' - B*	• *'Sing to the LORD'* • *'Worship Him in Spirit & truth' - B*	• *'Have no fear of bad news' – B* • *'Seek godly advice'*

4.

The Lord's Prayer	The Bible teaches,	Some argue,
• A set prayer taught by Jesus • Read during prayer / Eucharist • 'Father in Heaven, forgive our sins'	• *'Ask & you shall receive; seek & you shall find, knock & it shall be opened'*	• Worship is important for salvation – asking for forgiveness

5.

Sacraments	The Bible teaches,	Some argue,
• Words or actions show your faith • Intention is important as well • 7 sacraments e.g., **baptism, Eucharist**	• *'Love God with all your heart'* • *'Prepare your minds for action'*	• Sacraments not needed – action can feel robotic • It about heart & spirit • Sacraments are not compulsory to show faith

Tip: Always unpack quotes	**Where** is it from? *The Bible / Jesus teaches,*	**What** does it mean? *This means / Some Christians, This influences,*	**Why** is it important? *This signifies / highlights, This supports / challenges,*

11.

6.

The Eucharist & Mass	Orthodox 'Liturgy'	The Bible teaches,	Some argue,
• Ceremony to reflect Jesus' Last Supper; bread & wine symbols Jesus' blood & body – his sacrifice • Transubstantiation – bread & wine transforms into blood & body of Jesus • **Catholic Mass:** confess sins, only priest drinks wine, bread given out	• Priest gives out bread soaked in wine on a spoon • Everyone is included to have wine & take some bread home later	• *'Do this in remembrance of me'* • *'I am the bread of life'* • *'Examine yourself before the communion'*	• Reminds us we are all family – as the body of Christ • Some may not drink wine as it damages body

7.

Infant Baptism	Believers' Baptism	The Bible teaches,	Some argue,
• Parents baptise their child to wash away the Original Sin • A welcome to the faith	• Baptised when older • Jesus was baptised as an adult & use freewill	• *'Get up, be baptized & wash your sins away'* • *'One Lord, one faith, one Baptism'*	• Seeking faith through your free - will is powerful

8.

Pilgrimage to Iona	Pilgrimage to Lourdes	The Bible teaches,	Some argue,
• Appreciate nature – God's creation – sacred journey • Thin veil between heaven & earth – feel closer to God / visit church	• Water is collected to heal • Bernadette's holy vision of Mary – encouraged prayer • Reconciliation Chapel; confess sins	• *'Faith without action is dead faith'* • *'God will renew your strength'*	• There are other ways of connecting to God, Baptisms, Private worship…

9.

Local Church efforts	Church Worldwide	The Bible teaches,	Some argue,
• Churches give food parcels • Street pastors care for vulnerable groups – drunk • Salvation Army; support homeless & elderly	• Church Army International – tackle modern slavery • Christian Aid – charitable donations for emergency, short/long term aid	• *'Blessed are the peacemakers'* • *'God loves a cheerful giver'*	• Churches aren't always necessary as modern technology can help preach God's words (evangelism)

10.

Christmas	Easter	The Bible teaches,	Some argue,
• Celebrates Jesus' birth (incarnation) • Giving/receiving gifts – focus on family, relationships & reconciliation; church service	• Remembers Jesus' sacrifice & resurrection • Reflect on atonement / salvation • Church services	• *'Thanks be to God for his unspeakable gift'* • *'With his wounds we are healed'*	• Festivals lose their meaning due to commercialisation; cards, films & gifts replace original story

1 & 2

Sunni 6 Articles of Faith	Tawhid, Prophets, Angels, Holy Books, Judgement, Al-Qadr (Predestination)	Usul ad-Din 5 Shia Roots Transcendent	Tawhid, Prophets, Justice, Leaders & Resurrection God is beyond space & time
Akhirah	Belief in afterlife	Hadith	Written sayings of the prophet
Risalah	God communicates with us in 3 ways: Quran (Holy Books)/Prophets/Angels	Omnipotence Omniscience	All-powerful All-knowing – God is **immanent** (close to humans)
Just	God is fair	Impersonal	God is beyond human understanding
Barzakh	State of waiting after death	Sunnah	Written practices of the prophet

Influence – How does something affect you, inspire you, does it compel certain actions?
Similar – Are there any beliefs, teachings & quotes that are similar?

3	**Nature of God – God is 'One'**	**The Quran** teaches,	**Influence**
	• Muslims see God as: Just, omnipotent, omniscient & immanent – He acts within the world e.g. sends miracles • Muslims pray to ask for guidance • God is beneficial as he's a provider food, water (rain) & more….	• *'God is the light of the heavens & the earth'* • *'God is closer to you than your jugular vein'* • *Surah 112 – God is eternal*	• Knowing God's different roles helps know his true powers • You should not compare God to other beings this is blasphemy

4	**Six Sunni Articles of Faith**	**The Quran** teaches,	**Influence**
	• The oneness of God (Tawhid) • Angels; have different roles from God • Holy Books - Qur'an, Torah, Gospel • Prophets- God's messengers • Day of Judgement – life after death • Qadr (predestination) – nothing happens without God's will.	• *'Whoever disbelieves in God; His angels, Books, Messengers & the Last Day, has gone astray.'*	• Its about having good intentions as a Muslim; strengthens actions • Tawhid unites all Muslims as you need this is part of your faith

5	**5 Roots of Usual ad-Din**	**The Quran** teaches,	**Influence**
	• Tawhid • Prophets – God's messengers • Justice (Adalat); God is a fair planner • Resurrection: judgement/afterlife • Imamate (Leadership of Muslims after Muhammad) – 12 Imams related to the Prophet; Shias respect them as leaders that guide them. E.g. Imam Ali	• *'We made the imams & guided them'* • *'Enjoin good & forbid evil'* • *'God will not burden you beyond that which you cannot bear'*	• Shia Muslims mainly trust in justice – God is the perfect of planners & fair • Imams clarify God's words

6	**Risalah – Angels**	**Risalah – Prophets**	**Risalah – Holy Books**	**Some** argue,
	• Have no freewill, serve God • Can't sin / made from light • Jibril brings God's messages down to prophets • Mikail sends down rain / food; for sustenance • Angels guided the prophets	• Messengers of God • Muhammad/final prophet • Quran revealed to him in the Cave of Hira by Jibril • His Sunnah (actions) & Hadith (sayings) are followed today	• Torah (Musa), Gospel (Isa), Hadith, Sunnah, Zabur (Dawud) – convey God's words • Quran is the most authoritative book in Islam; its unchanged • Quran guides Shariah laws; diet, marriage, wars…	• Humanity has evolved; • Imams, tech; clarify God's laws, times change • God is 'evolver'
	• *'Angels only have intellect'- Q* • *'He sends guardian angels'- Q*	• *'Obey God & His Messenger'- Q*	• *'There has come to you a light & clear book'- Q*	• *'You have …evolved' - Q*

7	**Prophet Adam**	**Prophet Ibrahim**	**Prophet Muhammad**	**Some** argue,
	• First man & prophet • He taught mankind – is 'khalifah'- God's steward • First to build the Kaaba • Teaches anyone can wrong but God is merciful	• Considered as 'hanif' – commit to worship 1 God • Passed God's faith test on sacrificing his Son, Ismail • Teaches Muslims to sacrifice things they love for God (Eid ul Adha)	• Received the Quran, still in its original form today • Preached monotheism despite rejection • Established 5 pillars of Islam	• There is no Islam without Muhammad • Islam has been shaped by all prophets of the past.
	• *'Satan misled them'- Q*	• *'You aren't pious until you give that which you love' - Q*	• *'The messenger is an excellent model' - Q*	• *'Prophets are warmers of truth' - Q*

8 & 9	**Akirah**	**Al-Qadr**	**The Quran** teaches,	**Some** argue,
	• This life is temporary & all actions will be judged • After you die the state of waiting to be judged is called Barzakh • Actions will be weighted on a scale for you to go heaven / hell; Akirah is eternal	• Everything happens on Allah's will; life is planned • Humans still need to make the right choices with their freewill & commit good • Adam & Eve's wrongdoing acts a warning to remind us	• *'Every atom's weight shall be rewarded or punished'* • *'Death will find you even in the highest of towers'* • *'There is not a leaf that falls without Him knowing'*	• Belief in the end of the world is also important: Imam Mahdi will come to earth & help Isa fight false prophets • The living will die • The Quran will be taken to paradise & no one will remember its words

10

Tip: Always unpack quotes!	**Where** is it from? *The Quran / Prophet teaches,*	**What** does it mean? *This means / Some Muslims believe This influences,*	**Why** is it important? *This signifies / highlights, This supports / challenges,*

Greater Jihad	A faith struggle, striving to do your best – uphold 5 pillars, social justice	Lesser Jihad	A holy war fought to protect Islam, the innocent, if peaceful talks fail
Khatib	Imam who delivers Jumma sermons	Hadith	Written sayings of the prophet
Wudhu	Washing body parts before prayer	Sunnah	Written practices of the prophet
Tawhid	Belief in the oneness of God	Ummah	The worldwide Muslim community
Ramadan	Holy month of fasting	Khums	20% of Shia profits given to charity

Contrasting – How are practices done differently between Christians?
Similar – Are there any practices, teachings & quotes that are similar?   **1 & 2**

3 & 4. 5 Pillars

5 Pillars	The **Quran** teaches,	Some,
1. Shahadah; Declare faith; 'There is only 1 God & Muhammad is the final messenger' (Tawhid)	• *'Obey God & His Messenger'*	• Shias say the Shahadah but add: 'Ali is the successor of the prophet / Sunni don't
2. Salah; prayer performed x5 a day as prescribed by the prophet A duty showing ummah	• *'Prostrate & draw near to God'*	• Shias place their forehead on a rock from Karbala when in sajdah / couple certain prayers
3. Sawm; helps understand the struggle of poverty, builds ummah. Quran revealed in the final 10 days of Ramadan Night of Power (better than 1000 months)	• *'Fasting has been prescribed for you'* • *'Learn self-restraint'*	• Pregnant women can't fast - not everyone is included • Sunnis break fast straight after maghrib – Shia break it if it is completely dark outside
4. Zakat; 2.5% of income given to poor, cleanses the money you have & makes society fair/equal	• *'Establish prayer & give zakat'*	• Shia give Zakat & Khums; part of the 10 Obligatory Acts • Children don't have to give Zakat but some still do • Financial issues limits this
5. Hajj; Pilgrimage to Makkah, cleans sins. Pilgrims wear ihram (equality), go to Mount Arafat (place of the prophet's last sermon), collect pebbles in Muzdalifah, throw pebbles at the devil in Mina, Tawaf around The Great Mosque x7	• *'Hold the rope of God together & do not become divided'* • *'Pilgrimage to the House is a duty'*	• Strengthens the ummah – diversity • Not everyone can afford this due to financial issues • Practice the Prophet's actions

5. Jumma / Friday Prayers

Jumma / Friday Prayers	The **Quran** teaches,	Some argue,
• Obligatory prayer at the mosque replaces Zohar only on a Friday • Duas /private prayers are said	• *'You have an excellent model in the messenger'*	• Muslims can't always pray in a Mosque – health & time • Lecture delivered online tech

10.

Tip: Unpack quotes	Where is it from? *The Quran teaches,*	What does it mean? *This means / Shias / Sunnis,*	Why is it important? *This supports / challenges,*

6.

Greater Jihad	Lesser Jihad	Some argue,
• Think 'Great' spirit; you do your best to develop good character & actions through the 5 pillars	• Holy war to protect Islam; fight injustices like slavery or if peace talks fail (diplomacy)	• Lesser Jihad kills innocent • Prayer is key
• *'God will not burden you beyond that which you cannot bear'*	• *'Fight in the way of God'* – **Q**	• *'To kill one is to kill all of mankind'* - **Q**

7. 10 Shia Obligatory Acts

10 Shia Obligatory Acts	The **Quran** teaches,	Some argue,
1. Jihad, 2. Salah, 3. Sawm, 4. Zakat, 5. Hajj	• *'Call upon Me, I will answer you'*	• Links to Tawalla; love God
6. Khums – 20% profits to charity	• *'Whatever you spend, God will replace'*	• Not all have profits to give
7. Amr Bil Ma<u>roo</u>f – Direct <u>good</u>	• *'Satan misled them'*- **Q**	• Influenced by Shariah laws
8. Nahi An<u>il</u> Munkar – Forbid ev<u>il</u>	• *'Enjoin good & forbid evil'*	• Duty to stop sinful acts
9. Tawalla – Love God & imams	• *'We made the imams & guided them'*	• Danger worshipping imams
10. Tabarra – ignore disbelievers	• *'It is the hearts that are blind not the eyes'*	• Stand up to injustices

8.

Sunni Ashura	Shia Ashura	The Quran teaches,	Some argue,
• Sunnis remember God saving Moses & the Jewish slaves in Egypt from slavery enforced by Pharoah • Read & learn about Exodus • Fast, read salah & Quran	• Honour Imam Hussayn's death in Karbala • Retell & re-enact Hussayn's stance against Yazid, an evil ruler who killed for power • Wear black to mourn loss	• *'Fight the oppressors'* • *'To kill one is to kill all of mankind'*	• Some Shias beat themselves during Ashura to feel pain • Some Shias donate blood as an act of sacrifice & saving

9.

Id-ul Fitr	Id-ul Adha	The Quran teaches,	Some argue,
• Celebrate Ramadan's end • Time of reflection • Uphold the good habits outside of Ramadan too • Celebrated for 1 day	• Celebrate Ibrahim's willingness to sacrifice • Pilgrims sacrifice time, energy & money for Hajj • Celebrated over 3-4 days	• *'Every atom's weight shall be rewarded or punished'* • *'You aren't pious until you give that which you love'*	• Both reflect sacrifice; give up love/time • Vegan Muslims – donate £

1

Actualmente (Currently)	estoy (I am)	jugando al rugby (playing rugby)
		pescando (fishing)
		practicando deportes (playing sports)
		hablando con amigos (speaking with friends)
	está (he/she/it is)	visitando a los primos (visiting cousins)
		pensando (thinking)
		nadando en el mar (swimming in the sea)
		descansando (resting)
	estamos (we are)	entrenando en el gimnasio (training in the gym)
		subiendo una montaña (climing a mountain)
En la foto (In the photo)		haciendo kayak / parkour / submarinismo (kayaking / doing parkour / scuba-diving)
	están (they are)	viendo la tele (watching the telly)
		comiendo (eating)
		leyendo libros (reading books)
		yendo a mis clases (going to my classes)
		siguiendo a nuevos influencers (following new influencers)
		durmiendo (sleeping)

1

*Diría que… (I would say that…)	es (it is)	entretenido (entertaining)
		relajante (relaxing)
Pienso que… (I think that…)		sano (healthy)
		sociable (sociable)
Creo que… (I believe that…)		activo (active)
	*me ayuda a (it helps me to)	relajarme (relax)
A mi modo de ver (To my way of thinking)		olvidar mis problemas (forget my problems)
		hacer amigos (make friends)
	*me hace reír (it makes me laugh)	

2

Antes, era muy aficionado/a (Before, I used to be a huge fan)	a la tele (of the telly)
	a los videojuegos (of videogames)
	a la moda (of fashion)
	al cine (of the cinema)
	al ejercicio físico (of working out)

2

Me apasionaba (I used to be passionate about)	bailar (to dance)	porque / ya que era (because it was)	demasiado (too)	bueno (good)
	cantar (to sing)			económico (cheap)
Me encantaba (I used to love)	cocinar (to cook)		muy (very)	emocionante (exciting)
Me gustaba (mucho) (I (really) used to like)	hacer deberes (to do homework)		súper (very, very)	fácil (easy)
				genial (great)
Me interesaba (I used to be interested in)	jugar a los videojuegos (to play videogames)		bastante (quite)	guay (cool)
				increíble (incredible)
Prefería (I used to prefer)	pasear al aire libre (to walk in the open air)		tan (so)	interesante (interesting)
*Solía (I usually used to)	practicar deportes (to play sports)		un poco (a bit)	maravilloso (marvellous)
	ver videos en línea (to watch videos online)			útil (useful)

2

Me gustaría (I would like)	escuchar canciones (to listen to songs)	dado que puesto que visto que (because)	*me relaja (it relaxes me)
			*me fascina (it fascinates me)
Pienso en (I think about)	entrenar en el gimnasio (to train at the gym)		*me ayuda a descansar (it helps me to relax)
*Sueño con (I dream of)			*me interesa (it interests me)
Voy a aprender a (I am going to learn to)	leer revistas (to read magazines)		
Voy a empezar / comenzar a (I am going to start to)	pintar (to paint)		
	tocar en una banda (to play in a band)		

3

Soy (I am)	teleadicto / teleadicta (a TV addict)	
Me gusta ver (I like to watch)	los concursos (gameshows) los programas de deporte (sports programmes) los documentales (documentaries) los programas de realidad (reality shows)	aburridos (boring) adictivos (addictive) entretenidos (entertaining) divertidos (fun)
No aguanto ver (I can't stand watching) / *Suelo ver (I usually watch)	las comedias (comedies) las telenovelas (soap operas) las noticias (the news) las series policíacas (police series) las películas de amor (love films) las películas de terror (horror films) las películas de acción (action films) las películas de animación (animated films) las películas de ciencia ficción (sci-fi films) las películas extranjeras (foreign films)	porque son (because they are) informativas (informative) tontas (silly) emocionantes (exciting) sosas (dull) graciosas (funny)

4

Prefiero ir al cine… (I prefer going to the cinema…)	porque (because)	el ambiente es mejor (the atmosphere is better) la imagen es mejor en la gran pantalla (the image is better on the big screen) ponen tráilers para las nuevas pelis (they show trailers for new films) las palomitas están ricas (the popcorn is tasty)
No me gusta ir al cine… (I don't like going to the cinema…)		hay demasiadas personas (there are too many people) los asientos no son cómodos (the seats aren't comfy) si vas al baño te pierdes una parte (if you go to the loo, you miss a part of it) tienes que hacer cola (you have to queue) las entradas son caras (the tickets are expensive) los otros espectadores me molestan (the other spectators annoy me) tengo una televisión enorme en casa (I have a huge TV at home)

5

Anoche (Last night) Ayer (Yesterday) La semana pasada (Last week)	vi (I watched) vimos (we watched)	un documental sobre mi equipo preferido (a documentary about my favourite team) una serie de aventuras (an adventure series) un programa de cocina (a cooking programme) una película en otro idioma (a film in another language)
El fin de semana pasado (Last weekend)	fui (I went) fuimos (we went)	al cine (to the cinema) al teatro (to the theatre)

28

Soy muy aficionado/a a *(I am) a big fan of)*

No me interesa para nada *(I am not interested at all) [Not me it interests for nothing]*

la moda *(fashion)*

ir de compras *(to go shopping)*

comprar ropa *(to buy clothes)*

Me gusta (mucho) *(I (really) like)*	ir al centro comercial *(to go to the shopping centre)*	porque *(because)*	(no) me importa estar de moda *(It is (not) important to me to be fashionable)*
	ir a una tienda de ropa *(to go to a clothes shop)*		hay más opciones *(there are more options)*
No aguanto *(I can't stand)*	comprar ropa en línea *(to buy clothes online)*		quiero ahorrar dinero *(I want to save money)*
*Suelo (I usually)	comprar ropa de marca/de diseño *(to buy branded clothes/designer clothes)*		la calidad es mejor *(the quality is better)*
	comprar en tiendas más económicas *(to buy in more affordable shops)*		odio los vestuarios *(I hate the changing rooms)*
	ir a los grandes almacenes *(to go to department stores)*		odio hacer cola *(I hate queueing)*

6

Necesito comprar *(I need to buy)*	un regalo *(a present)*	así que voy a ir a *(so I am going to go to)*	la carnicería *(the butcher's)*
	medicina *(medicine)*		la farmacia *(the chemist/pharmacy)*
	comida *(food)*		la juguetería *(the toy shop)*
	pan *(bread)*		la tienda de belleza *(the beauty shop)*
	maquillaje *(make up)*		la librería *(the bookshop)*
			la panadería *(the bakery)*
			la pastelería *(the cake shop)*
			la tienda de comestibles *(the grocery shop)*
			la pescadería *(the fishmonger's)*
			el mercado *(the market)*
			el supermercado *(the supermarket)*

Mi tienda preferida es *(My favourite shop is)*

*Diría que… (I would say that…)	mi fiesta favorita es *(my favourite festival is)*	La Nochebuena. *(Christmas Eve)*	Soy *(I am)*	cristiano/a *(Christian)*
		La Navidad. *(Christmas)*	Mi familia es *(My family is)*	católico/a *(Catholic)*
Pienso que… *(I think that…)*		La Nochevieja. *(New Year's Eve)*		musulmán/a *(Muslim)*
		Los Reyes Magos. *(The Three Wise Men)*		religioso/a *(religious)*
Creo que… *(I believe that…)*		La Janucá. *(Hanukkah)*		judío/a *(Jewish)*
		La Pascua. *(Easter)*		hindú *(Hindu)*
A mi modo de ver *(To my way of thinking)*		El Eid. *(Eid)*		sij *(Sikh)*
		El Diwali. *(Diwali)*		ateo/a *(atheist)*
		El Vaisakhi. *(Vaisakhi)*	No soy religioso/a *(I am not religious)*	
		El Año Nuevo Chino. *(Chinese New Year)*		

7

Para celebrar… *(In order to celebrate…)*	visitamos a la familia *(we visit family)*
	cocinamos platos tradicionales *(we cook traditional dishes)*
	tenemos una gran fiesta *(we have a big party)*
	vemos fuegos artificiales *(we watch fireworks)*
	rezamos *(we pray)*
	llevamos ropa especial *(we wear special clothes)*
	ayunamos *(we fast)*
	participamos en un desfile *(we take part in a parade)*
	vamos a la iglesia / la mezquita / el templo / la sinagoga *(we go to church / mosque / temple / synagogue)*
	bailamos y cantamos *(we dance and sing)*
	recibimos y ofrecemos regalos *(we receive and give presents)*
	encendemos velas *(we light candles)*

8

Me encanta porque es *(I love it because it is)*	muy *(very)*	divertido *(fun)*
	súper *(very very)*	sociable *(sociable)*
	bastante *(quite)*	emocionante *(exciting)*
	tan *(so)*	tranquilo *(calm)*
		emotivo *(emotive)*
		delicioso *(tasty)*

8

*Acabo de celebrar… *(I have just celebrated…)*	mi cumpleaños *(my birthday)*	con *(with)*	mi familia (my family)
	el cumpleaños de mi primo *(my cousin's birthday)*		mis amigos (my friends)
*Acabo de ir a… *(I have just been to…)*	una boda (a wedding)		mi madre (my mum)
	una fiesta (a party)		mi mejor amigo/a (my best friend)
Celebramos … *(We celebrated…)*	una quinceañera (a 15th birthday party)		

9

No celebro mi cumpleaños debido a mi religión. (don't celebrate my birthday due to my religion).

Cumplí quince / dieciséis años *(I turned 15 / 16 years)*	y *(and)*	fui a la bolera *(I went to the bowling alley)*
		fuimos al cine *(we went to the cinema)*
		fuimos al parque temático *(we went to the theme park)*
		tuvimos una fiesta en casa / en un restaurante *(we had a party at home / in a restaurant)*
Para celebrar / festejar… *(In order to celebrate…)*		comimos pizza / hamburguesas / pasta / mi plato preferido *(we ate pizza / burgers / pasta / my favourite dish)*
		tuve un pastel de cumpleaños con velas *(I had a birthday cake with candles)*
		llevamos ropa nueva *(we wore new clothes)*
		recibí unos regalos *(I received some presents)*
		saqué muchas fotos *(I took a lot of photos)*
		bailamos y cantamos *(we danced and sang)*
		fuimos a la iglesia / la mezquita / el templo / la sinagoga *(we went to church / mosque / temple / synagogue)*

9

*lo pasé muy bien (I had a great time)
me encantó *(I loved it) [me it enchanted]*
me gustó mucho *(I liked it a lot) [me it pleased a lot]*

Me gustaría visitar *(I would like to visit)*	el Día de los Muertos en México *(Day of the Dead – Mexico)*		enero *(Jan)*
	Los Sanfermines en Pamplona, España *(Running of the Bulls - Pamplona, Spain)*		febrero *(Feb)*
			marzo *(March)*
	La Tomatina en Buñol, España *(La Tomatina - Buñol, Spain)*		abril *(April)*
			mayo *(May)*
*Tengo ganas de visitar *(I fancy visiting)*	el Día de Reyes en España *(Epiphany - 6th January - Spain)*		junio *(June)*
			julio *(July)*
	La Semana Santa en España *(Holy Week - Spain)*	que tiene lugar en *(which takes place in)*	agosto *(August)*
			septiembre *(Sept)*
*Siempre he soñado con visitar *(I've always dreamed of visiting)*	Las Fallas en Valencia, España *(Las Fallas – Valencia, Spain)*		octubre *(Oct)*
			noviembre *(Nov)*
	Inti Raymi en Cusco, Perú *(Inti Raymi – Cusco, Peru)*		diciembre *(Dec)*
	Tapati Rapa Nui en la Isla de Pascua, Chile *(Tapati Rapa Nui – Easter Island, Chile)*		

Las principales características de esta fiesta son… *(The main features of this festival are…)*	la música, los bailes y las canciones *(the music, dances and songs)* la comida y los platos tradicionales *(the food and traditional dishes)* los regalos *(the presents)* el ambiente de alegría y vida *(the atmosphere of joy and life)*	además de *(as well as)*	las tradiciones religiosas *(the religious traditions)* los desfiles y los disfraces *(the parades and costumes)* los fuegos artificiales *(the fireworks)* los tomates y los toros *(the tomatoes and the bulls)* los trajes y los vestidos coloridos *(the colourful suits and dresses)*
Me gustaría visitar *(I would like to visit)*	para *(in order to)*	aprender sobre una nueva cultura *(to learn about a new culture)* disfrutar del ambiente *(to enjoy the atmosphere)* pensar en los miembros de mi familia fallecidos *(to think about family members who have passed away)* pasarlo bien *(to have a good time)* comer comida tipica *(to eat traditional food)* pasar un momento religioso importante *(to experience an important religious moment)*	

10

*Diría que *(I would say that)*	prefiero *(I prefer)* me fascina *(it fascinates me)* me interesa *(it interests me)* me chifla *(I am crazy about)*	el flamenco el tango la salsa	que viene *(which comes)*	del sur de Espana *(from the south of Spain)* de Argentina *(from Argentina)* del Caribe *(from the Caribbean)*
dado que puesto que porque visto que ya que *(because)*	la letra *(the lyrics)* la música *(the music)* la historia *(the history)* la melodía *(the tune)* el ritmo *(the rhythm)* el baile *(the dance)*	es *(is)*		bonito/a *(lovely)* emotive/a *(emotive)* entretenido/a *(entertaining)* interesante *(interesting)* fácil a seguir *(easy to follow)* fácil a aprender *(easy to learn)* pegadizo/a *(catchy)*
	los vestidos *(the dresses)* los trajes *(the suits)* los cantantes *(the singers)* los instrumentos *(the instruments)* las canciónes *(the songs)* los bailarines / las bailarinas *(the dancers)*	son *(are)*		hermosos/as *(beautiful)* increíbles *(incredible)* talentosos/as *(talented)* artistícos/as *(artistic)* creativos/as *(creative)* tristes *(sad)* alegres *(happy)*

11

Me gustaría *(I would like)* *Tengo ganas de *(I fancy)* *Siempre he sonado con *(I have always dreamed of)*	ir a un concierto de rock / R&B / pop / hiphop *(to go to a rock / R&B / pop / hiphop concert)* ir a un espectáculo *(to go to a show / event)* tocar un instrumento *(to play an instrument)* aprender a cantar *(to learn to sing)* aprender a bailar salsa / tango / flamenco *(to learn to dance salsa / tango / flamenco)*	*¡Qué guay! *(How cool!)* *¡Qué divertido! *(How fun!)* *¡Qué suerte! *(How lucky!)*

30

*Diría que (I would say that)	prefiero *(I prefer)* me fascina *(it fascinates me)* me interesa *(it interests me)* me chifla *(I am crazy about)*	el flamenco el tango la salsa	que viene *(which comes)*	del sur de Espana *(from the south of Spain)* de Argentina *(from Argentina)* del Caribe *(from the Caribbean)*

dado que puesto que porque visto que ya que *(because)*	la letra *(the lyrics)* la música *(the music)* la historia *(the history)* la melodía *(the tune)* el ritmo *(the rhythm)* el baile *(the dance)*	es *(is)*	bonito/a *(lovely)* emotive/a *(emotive)* entretenido/a *(entertaining)* interesante *(interesting)* fácil a seguir *(easy to follow)* fácil a aprender *(easy to learn)* pegadizo/a *(catchy)*
	los vestidos *(the dresses)* los trajes *(the suits)* los cantantes *(the singers)* los instrumentos *(the instruments)* las canciónes *(the songs)* los bailarines / las bailarinas *(the dancers)*	son (*are*)	hermosos/as *(beautiful)* increíbles (incredible) talentosos/as *(talented)* artistícos/as *(artistic)* creativos/as *(creative)* tristes *(sad)* alegres *(happy)*

12

Me gustaría (I would like) *Tengo ganas de (I fancy) *Siempre he sonado con (I have always dreamed of)	ir a un concierto de rock / R&B / pop / hiphop *(to go to a rock / R&B / pop / hiphop concert)* ir a un espectáculo *(to go to a show / event)* tocar un instrumento *(to play an instrument)* aprender a cantar *(to learn to sing)* aprender a bailar salsa / tango / flamenco *(to learn to dance salsa / tango / flamenco)*	*¡Qué guay! *(How cool!)* *¡Qué divertido! *(How fun!)* *¡Qué suerte! *(How lucky!)*

13

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Year 10 Urdu: Cycle 2

10.1 – Free time

مشغلہ	hobby	mashgala
لطف اٹھانا	to have fun, to enjoy oneself	lutf uTaanaa
موسیقی	music	moseeqee
اخبار	news paper	akhbaar
شکایت کرنا	to complain	shkaayat karnaa
باغبانی کرنا/ باغبانی	gardening	baaghbaanee karnaa
رسالہ	magazine	rsaalaa
مقابلہ	competition	muqaablaa
دفتر	office	daftar

10.2 – Sport

مچھلی پکڑنا	to fish	machhle pakRnaa
تیرنے کالباس	swimming costume/suit	tairnay kaa libaas
تیرنے کا حوض / تالاب	swimming pool	tairnay kaa hauz / taalaab
تاش کھیلنا	to play cards	taash khaylnaa
تجویز کرنا	to recommend /suggest	tajweez karnaa
دلچسپی لینا	to be interested in	dillchaspee laynaa
اکٹھا کرنا	to collect	akaTaa karnaa
شطرنج	chess	shatranj
کھلاڑی	player/athlete	khilaaRee
ناپسند کرنا	to dislike	naapasand karnaa

10.3 – Healthy And Unhealthy food

میٹھا	sweet	meeTaa
ہلکا پھلکا کھانا	snack	halkaa phulkaa khaanaa
سالن	curry	saalan
دودھ	milk	doodh
چائے، کافی	tea, coffee	chaa-ay. Kaafee
آلو	potato	aaloo
پنیر	cheese	pneer
سیب	apple	sayb
بسکٹ	biscuits	biscuit
مچھلی	fish	machhlee
بطخ	duck	batkh
کھانا پکانا	cooking	khaanaa pkaanaa
صحت بخش	Healthy	Sihat bakhsh
نقصان دہ	Harmful	Nuqsaan Deh

10.4 – Travel

روانہ ہونا	to leave, to depart	Rawana howna
دیہات	Countryside / village	Dayhaat
زمین کا منظر / نقشہ	Landscape	Zmeen kaa manzar / naqsha
شہر	City	Shehr
مینار	Tower	meenaar
زمین کے نیچے چلنے والی گاڑی / ٹیوب	Underground train / tube	zameen kay neechay chalnay waali gaaRee / tube
باہر کا ملک	foreign country	Bahr ka mulk
نظارہ	view	Nazaarah

10.5 – Destinations

ایشیا	Asia	Asia
پہاڑی	Hill	pahaaRee
قلعہ	castle	Qillaa
سعودی عرب	Saudi Arabia	Saudi Arab
روم	Rome	Rum
دبئی	Dubai	Dubai
انگلستان	England	Inglistaan

10.6 – Holiday Time

پُر لطف	Entertaining	Pur lutf
تفریحی سرگرمیاں	Leisure activities	Tafreehi sargarmiyaa
مجھے ۔۔۔ کھیلنا پسند ہے۔	I enjoy playing _____	Mujhay __ khailna pasand hai
میں نے کل ۔۔۔ کھیلا	Yesterday I played _____	Mai nay kal__ khaila
کھلنے کے اوقات	opening times	Khulnay kay awqaat
مقامی	local	Maqaami
دریا	river	Darya
مسافر	passenger	Musaafir
سفر / ٹرپ	journey, trip	Safr / TriP
سیاحوں کی توجہ کا مرکز	tourist attraction, sight	Siyaaho ki tawajjoo ka markaz
ساحل سمندر	beach	Saahil Samandar

10.7 – School

استاد / استانی	teacher (male/female)	ustaad / ustaanee
مضمون	subject	mazmoon
دوسرے ملک کی زبان	foreign language	doosray mulk ki zbaan
ٹھیک، مناسب	fair, just	Teek, munaasib
ہوشیار / ذہین	clever, intelligent	ho-shyaar, zaheen
پڑھانا / سکھانا	to teach	paRhaanaa / sikhaanaa
سرگرمی	activity	sargharmee

10.8 – Opinions

مجھے بہت پسند ہے	Mujhay bohot pasand hai	I like... (very much)
مجھے بالکل پسند نہیں	Mujhay bilkul pasand nahi	I can't stand .../I don't like...
یہ ٹھیک نہیں	Yay theek nahi	that's (not) right/correct
مجھے یہ اچھا لگا	Mujhay yay acha laga	I like it (it pleases me)
کافی نہیں	Kaafee nahi	not much
کم سے کم	Kum say kum	at least
کیونکہ	Kyoonkay	Because
برا / بد، بدتر، بدترین	Buraa / bud / Badtar /Badtareen	Bad / Worse / Worst

10.9 – Connectives

ملتا جلتا	Milta Julta	similar
مختلف	Mukhtalif	different
الٹا / مخالف	Ulta / Makhalif	opposite
جب تک	Jab tak	Until
اس کے علاوہ	Is kay ilawa	Besides / apart from
بجائے اس کے	bajaa-ay is kay	Instead of
اس کے باوجود	Is kay ba wajood	Despite this
بدقسمتی	Bud qismati	Unfortunately
اتفاقاً / اتفاق سے	Ittifaqan / ittifaq say	By chance

10.10 – Tenses

میں نے کھیلا	Mai nay khaylaa	I played
میں کھیلتا ہوں۔ میں کھیلتی ہوں	Mai khayltaa hoo / Mai khayltee hoo	I play
میں کھیلوں گا / میں کھیلوں گی	Mai khayloongaa / Mai khayloongee	I will play
مجھے کھیلنا چاہیے تھا	mujhay khaylna chahiyay thaa	I should have played
میں کرنے والا ہوں۔ میں کرنے والی ہوں	Mai karnay walaa / Mai karnay walee hoo	I am about to ____
میں کھیلتا تھا۔ میں کھیلتی تھی	Mai khaylta tha / khayltee tee	I used to play
میں کھیل چکا ہوں۔ میں کھیل چکی ہوں	Mai khayl chukka / chukee hoo	I have already played

10.11 – Tenses

میں نے دیکھا	Mai nay daykha	I saw
میں فٹ بال دیکھتا ہوں / میں فٹ بال دیکھتی ہوں	Mai football daykhta hoo / Mai football daykhtee hoo	I watch football
میں سینما جاؤں گا۔ میں سینما جاؤں گی	Mai seenima jaoon ga / Mai seenima jaaoon gee	I will go to the cinema
ہم کو مدد کرنی چاہیے۔	Hum ko madad karni chahyay	We should help
میں نے کمرہ صاف کیا	Mai nay kmra saaf kiya	I have cleaned my room
میں تلاش کر رہا ہوں۔ میں تلاش کر رہی ہوں	Mai talash karraha hoo / mai talash karrahee hoo	I am searching
میں مکان خریدوں گا۔ میں مکان خریدوں گی	Mai makaan khareedoonga / Mai makaan khareedoongee	I will buy a house

10.12 – 40 Word Model Answer

ایسٹر کی چھٹیوں میں میں نے اپنی سالگرہ منائی۔ میری بڑی بہن نے اس سالگرہ کا انتظام ایک ریسٹورنٹ میں کیا تھا۔ میرے بہت سے دوست اور رشتہ دار اس پارٹی میں آئے۔ ریسٹورنٹ کا کھانا بہت اچھا تھا اور انھوں نے کھانے پینے کی چیزیں دیں۔ اس موقع پر مجھے طرح طرح کے تحفے ملے جو مجھے بہت پسند آئے۔

I celebrated my birthday in the Easter holidays. My sister organised this birthday in a restaurant. Many friends and relatives came to this party. The restaurant food was very nice and they provided lots of food and drink. On this occasion I received many gifts which I really liked.

10.13 – 90 Word Model Answer

میرے اسکول کا نام ڈکسنز آلرٹن اکیڈمی ہے۔ مجھے اپنا اسکول بہت پسند ہے۔ ہمارے اسکول میں کھیل کا ایک بڑا میدان ہے جہاں ہم فٹ بال اور کرکٹ کھیلتے ہیں۔ اسکول کے اندر بھی کھیلنے اور ورزش کرنے کا انتظام ہے۔ میں روزانہ کھیلوں میں حصہ لیتا ہوں اور ورزش بھی کرتا ہوں۔ پچھلے سال ہمارے اسکول میں کھیلوں کا ایک شاندار دن منایا گیا۔ دن بھر مختلف کھیلوں کے مقابلے ہوئے بہت مزہ آیا۔ اگلے سال میں اسی اسکول میں اے لیول کرنا چاہتا ہوں۔

My school is called Dixons Allerton Academy. I really like my school. In our school. We have a large playing field where we play Football and Cricket. There are exercise and playing facilities inside school as well. I take part in games daily and exercise too. Last year we celebrated a splendid sports day. Throughout the day there were many sport competitions, it was so much fun. Next year I want to do A-Levels in this school.

Assessment Objectives — Section 1

AO1	**Research** **Using artist styles and writing about them. Using images/text from the internet, magazines , books and galleries. Independently finding further techniques to try from places such as Instagram and you tube.**
A02	**Experiment to develop** **Using different materials in the project. Choosing the most successful ones to develop further work.**
A03	**Record** **Ability to draw, photograph, write down ideas and show how you think**
A04	**Final piece** **Ability to make a final idea that shows all of the research you have done.**

Homework Opportunities

Research artists, find imagery and annotate your thoughts using content, form, process, mood method.

Using Phone apps / photoshop / other digital media to edit chosen animal, from a photograph or your own artwork. This could be in the style of an artist.

Drawing of a variety of animals or features of an animal such as wings, head, eyes, pattern using tone / pen mark making / colour
Tonal drawing of your chosen animal from different angles / crop / zoom /enlarge

Draw ideas for how you might want your piece to look. These can be quick sketches.

Further worked up idea that includes annotation of thoughts / colour use / artist style use and meaning your piece is communicating to the viewer.

Chuck Close

Chuck Close believes his work is driven by his learning difficulties.

He has dyslexia (*problems with reading, writing and spelling*) and also prosopagnosia (unable to remember faces) He believes by creating portraits it is helping him to try and remember faces.

Chuck uses the grid method to break down an image into smaller parts. This is so he can work on a small piece at a time and not get overwhelmed by the full picture.
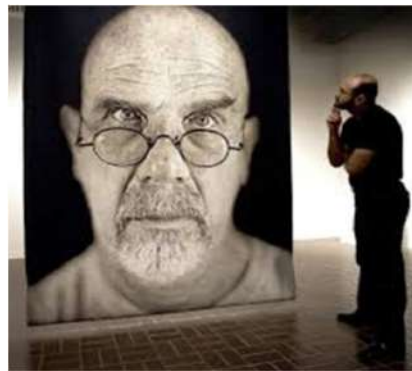
Section 2

Key Vocabulary: — Section 3

Scale (noun) SIZE. The size or level of something, especially when this is large.

Self Portrait (noun) a picture, photograph, or piece of writing that you make of or about yourself.

Line (noun) Type of mark that contains both a direction and a length. curved, bent, thick, wide, broken, vertical, horizontal, blurred or freehand.

Shape (noun) A 2D area that is enclosed by a line. E.g. square, circle, rectangle.

Tone (verb) The lightness or darkness of something – how dark or light a colour appears.

Form (Noun) objects that have three dimensions. 3-D shape E.g. sphere or Head

Proportion (plural) the size, shape, or level of something.

Composition (noun) the way that people or things are arranged in a painting or photograph.

Texture (noun) the feel, appearance, or consistency of a surface or a substance. "skin texture and tone"
(Verb) give (a surface) a rough or raised texture. "wallcoverings which create a textured finish"

Your teacher will start to guide you through the project—but then it is up to you to decide what animals you put in your portrait project and any further theme you wish to research within it (body issues, identity, equality, political issues).

How your final piece looks will be up to you with planning alongside your teacher. You will take ownership of your work and take responsibility for meeting deadlines.

Useful Websites

https://www.pinterest.co.uk/jflob/boards/

https://www.pinterest.co.uk/Dixonsaart/

http://www.drawfamousfaces.com/

Paint colours to use for Skin colour mixing that are in the art cupboard:

Red ⬤ Yellow ⬤ Light/dark Blue ⬤ ⬤

Yellow Ochre ⬤ Dark Brown ⬤
Black/White **Section 7**

Section 6

Stella Vine

Her work is portrait painting which comes from either her personal life of family, friends and school, or rock stars, royalty and celebrities.
Stella Vine paints the makeup, the mask which celebrities hide behind even as they are confident on stage/camera.
All the measurable details are wrong; eye colour, hair and complexion are all changed and yet we can still recognise who the celebrity is.
Stella Vine does this to show us they are acting and maybe not showing their real personality and lives.

Colour meanings Section 4

Skin tone mixing

Section 5

Section 8

Section 1,2,3 & 4

AO1
Research.
Using artist styles and writing about them. Using images/text from the internet, magazines , books and galleries. Independently finding further techniques to try from places such as Instagram and YouTube.

A02
Experiment to develop.
Using different materials, techniques and processes in the project. Choosing the most successful ones to develop further work.

A03
Record.
Ability to draw, photograph, write down ideas and show how you think

A04
Final piece.
Ability to make a final idea that shows all of the research you have done.

♦Research artists, find imagery and annotate your thoughts using content, form, process, mood method.

♦Using Phone apps/photoshop/ other digital media to edit photographs in the style of a certain artist or technique. Gather different subjects and ways to capture photographs of. Think creatively using hands on/physical photography e.g. Hand drawn textures.

♦Photographing a variety of subjects that link to the theme. This could include a range of portrait, building, landscape, object photography outside the classroom.
♦Photographs of your chosen subject/theme but in a variety of angles, styles, edits.

♦Draw ideas for how you might want your piece to look. These can be quick sketches.
♦Further worked up idea that includes annotation of thoughts/colour use/ artist style use and meaning your piece is communicating to the viewer.

Section 5 Graphic Design & Magazine Design

GRAPHIC DESIGN FUNDAMENTALS
WWW.ZEKAGRAPHIC.COM

01.LINE
02.COLOR
03.SHAPE
04.SIZE
05.TEXTURE
06.SPACE
07.TYPOGRAPHY Typography Typography

MASTHEAD
Tagline
Date   Issue Number
Pull Quote
Cover Line
Main Cover Line

Magazine Cover Template

MASTHEAD
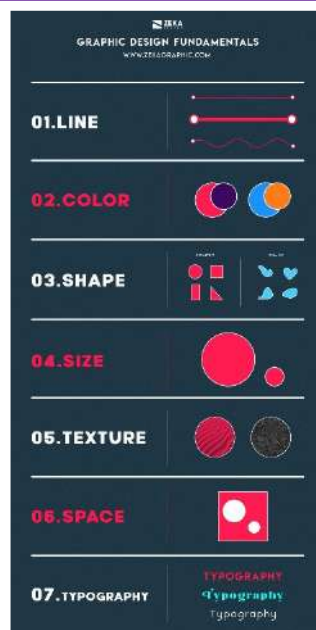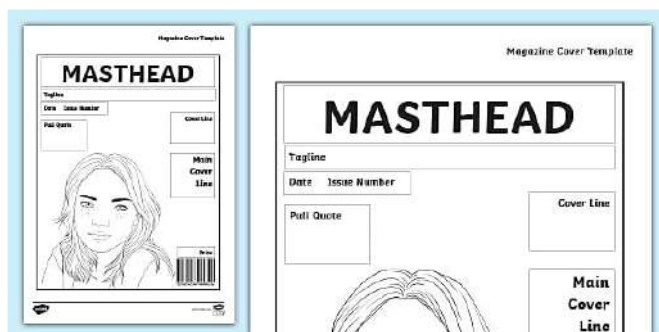
Section 6

Threshold Concept #8

The meanings of photographs are never fixed, are not contained solely within the photographs themselves and rely on a combination of the viewer's sensitivity, knowledge and understanding and the specific context in which the image is made and seen.

The ability to:
develop a sophisticated understanding of the ways in which the context in which a photographic image is created, produced, distributed and seen affects its meanings.

Challenging assumptions

Sticking with difficulty

Making connections

"It is because the photographs carry no certain meaning in themselves, because they are like images in the memory of a total stranger, that they lend themselves to any use."
— John Berger

"I think there are no meaningful images. Meanings are created outside of the image."
— Joachim Schmid

Your teacher will start to guide you through the project—but then it is up to you how you respond successfully. You must be independent with your photography, capturing photographs that link with the theme. You may want to include even more experimental photography looking at inspiration from other artist's, photographers and techniques you have explored from social media, internet and ideas.

How your outcomes will be up to you with planning alongside your teacher. You will take ownership of your work and take responsibility for meeting deadlines.

Section 7 Key Vocabulary

Ambient light/Natural light Is the light that is already present in the scene you are shooting.

Camera Angle Is the specific location at which the camera is located so it can take the shot.

Contact Sheet: Used primarily in film cameras, is a sheet of all the frames and is used as a proof print. However, it is now also used with digital images to showcase work to a client from the shoot.

Contrast (noun) Is the difference between the light and dark areas within your images. High contrast means the blacks are darker and whites are brighter, vice versa.

Composition (noun) the way that people or things are arranged in a painting or photograph.

Cropping (verb) When you make an image smaller by removing the outer parts is referred to as cropping.

Depth of Field (noun) is the distance between the closest and farthest subjects in a scene that look noticeably sharp in an image.

Exposure (noun) Is the amount of light entering the camera's sensor. Too much light and the image is overexposed and not enough light and it's underexposed.

Feathering: A digital editing technique, blurring and smoothing out edges within the image.

Focal Point (noun) Is the main part of the image or a point of interest within the image.

Midtone (noun) Or middle tone, describes the middle tones between two colours. For example, grey is the midtone of black and white.

Saturation (noun) Can provide a colour boost to your image by allowing you to change selective colours within the image. Monochrome images are 100% desaturated as there is no colour.

Texture (noun) the feel, appearance, or consistency of a surface or a substance.

Photomontage is the process and the result of making a photograph by cutting, gluing, rearranging and overlapping two or more photographs into a new image.

Section 8 Karl Blossfeldt

Karl Blossfeldt is best known for his precise photographs of plants; however, he began his career as a sculptor, completing apprenticeships at the ironworks and foundry in Mägdesprung and the Kunstgewerbeschule (Institute of the royal arts museum) in Berlin from 1884 to 1890. From 1890 to 1896 he traveled through Italy, Greece, and North Africa, working for Moritz Meurer, who theorized that natural forms were reproduced in art. From 1898 to 1930 Blossfeldt taught at the Kunstgewerbeschule in Berlin; during this time, he amassed an archive of thousands of photographs of plants that he used as models to teach his students.

The close up photographs are often central with a plain background. The tone and texture are visible due to the contrast of the background. The flowers are often dark on light but sometimes this is reversed. There is a small gap between all photographs in the composition. Symmetry and even rules are applied to most of his photographs.

Close Up Photography

Close up photography refers to a tightly cropped shot that shows a subject (or object) up close and with significantly more detail than the human eye usually perceives.

AC2.1.2 Impact of cooking methods on nutritional value of dishes

Why do we cook food?

Cooking food **improves digestion** and **increases the absorption of many nutrients.** Different cooking methods alter the nutritional composition of foods and can degrade some nutrients, while enhancing the availability of others. For example, the protein in cooked eggs is **180% more digestible** than that of raw eggs. This is also true of vegetables, as cooking **breaks down the thick cell walls of many plants**, releasing the nutrients stored in them. A great example of this is cooked tomatoes, which have a higher lycopene (an amino acid) content than raw tomatoes.

We also cook foods to make them safer to eat. For example, eating raw potatoes would give you stomach ache! Uncooked meat could give you food poisoning. Cooking food kills bacteria and can make food look and taste more appealing by altering the colour and texture of it.

INTERESTING FACT!

Virtually all **minerals** are unaffected by heat. Cooked or raw, food has the same amount of calcium, phosphorus, magnesium, iron, zinc, iodine, selenium, copper, manganese, chromium, and sodium.

The main foods affected by moist cooking methods are **fruit and vegetables which contain water soluble vitamins, B and C.** The **B Group** of vitamins, (B1, B2, B3, B5, B6, B7 and B8) and **vitamin C** are also sensitive to heat and can be destroyed by high cooking temperatures.

The **longer** fruit and vegetables cook, the **more nutrients are lost.**

The longer food is heated, and the higher the temperature, the greater the nutrient loss.
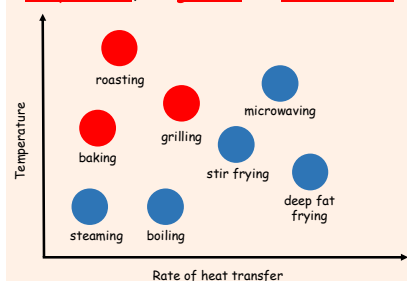
Fat soluble vitamins A, D, E and K are also **destroyed with heat.**
Cooking methods such as frying and roasting that use fat **increase** the **fat content and total calories** in food cooked this way.

Chopping and **slicing** up fruit and vegetables causes loss of nutrients, so cut up these foods just before you need them.

Nutrient Content Comparison by Cooking Method

Type of potato	Amount of fat per 100g
Potato, baked flesh only	7g
Potato, mashed with butter	4g
Potato wedges, baked	7.7g
Potato, roasted	4.5g
Chunky chips deep fat fried	5.2g

Vegetable	Amount of vitamin C per 100g
Raw spinach	26mg
Boiled spinach	8mg
Raw peas	24mg
Boiled peas	16mg
Canned peas	1mg

When animal sources of protein are cooked slowly, any connective tissues present in the meat are likely to **dissolve. Heat does not destroy the protein in food, but it may reduce the overall content.**

Protein that is exposed to **hot temperatures**, shrinks and loses moisture. This usually occurs at temperatures between **70°C - 85°C.**

AC2.1.2 Impact of cooking methods on nutritional value of dishes

Moist Cooking Methods

Boiling and Simmering

Boiling reduces vitamin C content more than any other cooking method. As vitamin C is water soluble and sensitive to heat it can leach out of vegetables when they are immersed in hot water, such as in boiling. Broccoli and spinach may lose up to 50% or more of their vitamin C when boiled! B vitamins are similarly heat sensitive. Up to 60% of thiamine, niacin, and other B vitamins may be lost when meat is simmered and its juices run off.

However, when the liquid containing these juices is used to make stocks and gravies, 100% of the minerals and 70–90% of B vitamins are retained. Interestingly, boiling fish can preserve omega-3 fatty acid content significantly more than frying or microwaving.

Boiling is most suitable for cooking dry, starchy ingredients such as pastas, rice and grains. The rapidly boiling liquid is needed to keep the ingredients moving so they do not stick together. Starch (carbohydrate) is gelatinised when cooked in liquid making it easier for the body to digest and therefore use for energy.

Boiling is also used for blanching many vegetables (to kill bacteria for food safety requirements). Prolonged boiling is never recommended because it can damage the flavour and ingredients.

Poaching

Poaching is a cooking technique that involves cooking by submerging food in a liquid, such as water, milk, stock or wine. Poaching is differentiated from the other "moist heat" cooking methods, such as simmering and boiling, in that it uses a relatively low temperature.

Delicate foods such as fish and eggs are often cooked this way as they are less likely to break apart during the cooking process and retain their shape.

As this cooking method involves submerging food in water, water soluble vitamins B and C are lost in the process.

When acidic liquid such as wine is used to poach foods, such as fruit, the acidity can also destroy vitamins and minerals.

Steaming

Steaming is one of the best cooking methods for preserving nutrients, including water-soluble vitamins, which are sensitive to heat and water.

Steaming broccoli, spinach and peas reduces their vitamin C content by only 9–15%. The downside is that steamed vegetables may taste bland. However, this is easy to remedy by adding some seasoning and oil or butter after cooking.

Microwaving

Microwaving is an easy, convenient, and safe method of cooking. Short cooking times and reduced exposure to heat preserve the nutrients in microwaved food.

Microwaving is the best method for retaining the antioxidant activity of garlic and mushrooms. Meanwhile, about 20–30% of the vitamin C in green vegetables is lost during microwaving, which is less than most cooking methods.

AC2.1.2 Impact of cooking methods on nutritional value of dishes

Dry Cooking Methods

Grilling
Grilling is a method of cooking with dry heat. Grilling is one of the most popular cooking methods because of the great flavour it gives food. Unfortunately, up to 40% of B vitamins and minerals may be lost during grilling or broiling when the nutrient-rich juice drips from the meat. There are also concerns about polycyclic aromatic hydrocarbons (PAHs), which are potentially cancer-causing substances that form when meat is grilled and fat drips onto a hot surface.

Roasting and Baking

Roasting and baking are both dry heat methods of cooking. Roasting is typically used for meat while baking is used for bread, muffins and cakes. Most vitamin losses are minimal with this cooking method, including vitamin C. However, due to long cooking times at high temperatures, the B vitamins in roasted meat may decline by as much as 40%. The meat juices could be used to make stocks and gravy after cooking to retain B vitamins and minerals lost.

SUMMARY
- Water-based cooking methods cause the greatest losses of water-soluble vitamins, they have very little effect on omega-3 fats.
- Grilling provides great flavour but also reduce levels of B vitamins. Grilling generates potentially cancer-causing substances (PAHs).
- Microwaving is a safe cooking method that preserves most nutrients due to short cooking times.
- Roasting or baking does not have a significant effect on most vitamins and minerals, except for B vitamins.
- Sautéing and stir-frying improve the absorption of fat-soluble vitamins and some plant compounds, but they decrease the amount of vitamin C in vegetables.
- Frying can provide some benefits when healthy oils are used. It's best to avoid frying fatty fish.
- Steaming is one of the best cooking methods for preserving nutrients, including water-soluble vitamins.

Stir frying

With sautéing and stir-frying, food is cooked in a saucepan over medium to high heat in a small amount of oil or butter. Cooking for a short time without water prevents the loss of vitamins B and C, and the addition of fat improves the absorption of plant compounds and antioxidants. In fact, beta carotene was 6.5 times greater in stir-fried carrots than in raw ones. On the other hand, stir-frying significantly reduces the amount of vitamin C in broccoli and red cabbage.

Shallow frying

Frying involves cooking food in a large amount of fat — usually oil — at a high temperature. Food is often coated with batter or bread crumbs, such as fish and chips or deep fried chicken. When the skin makes contact with the very hot oil it forms a seal, which ensures that the inside remains moist and cooks evenly. However, not all foods are appropriate for frying. Fatty fish (source of omega-3 fatty acids) is very delicate and prone to damage at high temperatures. For example, frying tuna has been shown to degrade its omega-3 content by up to 70–85%, while baking causes only minimal losses. In contrast, frying preserves vitamin C and B vitamins, and it may also increase the amount of fibre in potatoes by converting their starch into resistant starch.

HOW TO RETAIN NUTRIENTS WHEN PREPARING AND COOKING FOOD
- Use as little water as possible when poaching or boiling.
- Use the liquid left in the pan after cooking vegetables.
- Add back juices from meat that drip into the pan.
- Leave skin on vegetables to increase fibre content.
- Cook vegetables in smaller amounts of water to reduce the loss of vitamin C and B vitamins.
- Eat cooked vegetables within a day or two, as their vitamin C content may continue to decline when the cooked food is exposed to air.
- Cook vegetables for only a few minutes whenever possible.
- When cooking meat, poultry, and fish, use the shortest cooking time needed for safe consumption.
  - Some chefs use baking soda when cooking vegetables to help them retain their colour, however vitamin C will be lost in the alkaline environment produced by baking soda.

This cycle we will be learning how to create a garment and how to apply a pre designed pattern to create your own unique design.

Assessment Objectives

AO1

Research.

Using artist styles and writing about them. Using images/text from the internet, magazines, books and galleries. Independently finding further techniques to try from places such as Instagram and you tube.

A02

Experiment to develop.

Using different materials in the project. Choosing the most successful ones to develop further work.

A03

Record.

Ability to draw, photograph, write down ideas and show how you think

A04

Final piece.

Ability to make a final idea that shows all of the research you have done.

Homework Opportunities

♦ Research artists, find imagery and annotate your thoughts using content, form, process, mood method.

♦ Using Phone apps/photoshop/ other digital media to edit photographs or your own artwork. This could be in the style of an artist.

♦ Drawing of a variety of different garment designs using tone/pen mark making/ colour
♦ Tonal drawing of your final garment design including close ups.

♦ Draw ideas for how you might want your piece to look. These can be quick sketches.
♦ Further worked up idea that includes annotation of thoughts/colour use/ artist style use and meaning your piece is communicating to the viewer.
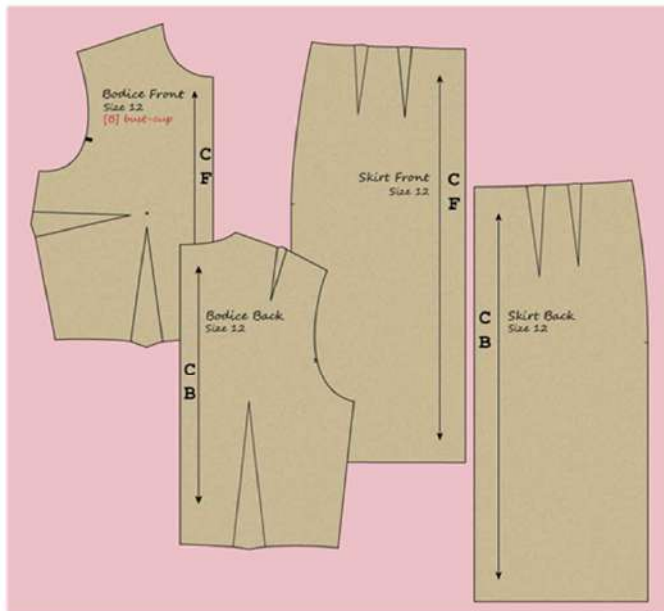
DRESS MAKING BLOCKS

Key Vocabulary:

FLAT:- A digital final drawing of a garment design.

BIAS:- Angle to the gain line, or diagonal direction of the fabric.

SEAM ALLOWANCE:- Seam allowance is the area between the fabric edge and the stitching line on two pieces of material being sewn together. Seam allowances can range from 1/4 inch wide to as much as several inches.

DART:- A common technique used for shaping garments. They normally appear around the waist and bust.

EMBROIDERY:- A variety of decorative needlework. Designs and images are created by stitching strands of one material onto another.

GATHER:- A way of gathering the fabric to create fullness in the fabric, such as ruffles. It is a technique for shortening the length of a strip of fabric, so that the longer piece can be attached to the shorter piece.

HEM:- The finished bottom edge of a garment. The hem indicates the edge which is usually folded up and sewn, thus creating a neat and even finish.

LINING:- A piece of material used to finish the inside of a garment. Linings can hide the seam and make the garments easier and more comfortable to wear.

Speaker project – Design, model and make a prototype speaker for a client.

AO1
Research.
Using artist styles and writing about them. Using images/text from the internet, magazines , books and galleries. Independently finding further techniques to try from places such as Instagram and YouTube.

A02
Experiment to develop.
Using different materials, techniques and processes in the project. Choosing the most successful ones to develop further work.

A03
Record.
Ability to draw, photograph, write down ideas and show how you think

A04
Final piece.
Ability to make a final idea that shows all of the research you have done.

♦ Research artists/designers, find imagery and annotate your thoughts using content, form, process, mood method.

♦ Model and prototype your ideas to develop them into finalised products. You could use card, foam, wood, metal, plastics etc… development can also be shown through design ideas and idea development drawings.

♦ Drawing of a variety of different speaker designs using tone, shape, colour, texture, pattern and colour.

♦ Draw ideas for how you might want product to look. These can be quick sketches.
♦ Further worked up idea that includes annotation of thoughts/colour use/ artist style use and meaning your piece is communicating to the viewer.

Soldering Diagram

Tip of soldering iron

Solder wire

Circuit board

Copper pad on board

Lead from component
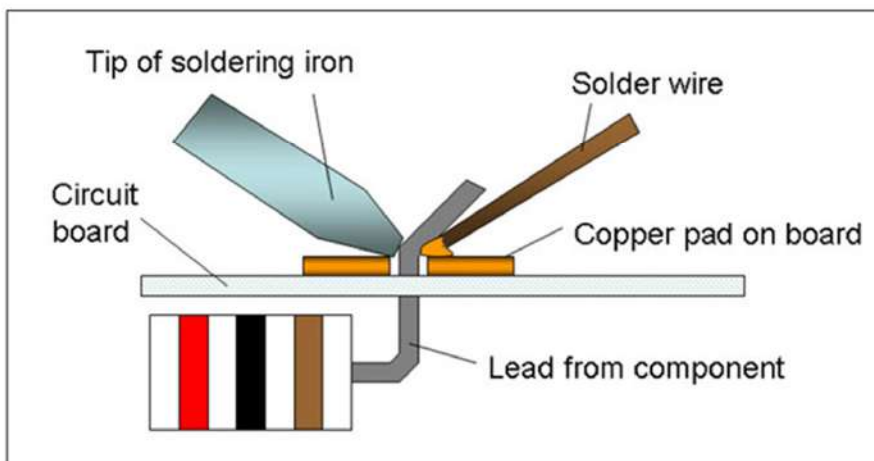
Key Vocabulary:

Design (noun) a plan or drawing produced to show the look and function or workings of a building, garment, or other object before it is made.
Evaluation (noun) the making of a judgement about the amount, number, or value of something; assessment.
Sculpture (noun) the art of making two- or three-dimensional representative or abstract forms, especially by carving stone or wood or by casting metal or plaster.
Architecture (noun) the art or practice of designing and constructing buildings.
Homeless (noun) a person without a home, and therefore typically living on the streets.
Refugee (noun) a person who has been forced to leave their country in order to escape war, persecution, or natural disaster.
Board (noun) a long, thin, flat piece of wood or other hard material, used for floors or other building purposes.
Model (noun) a three-dimensional representation of a person or thing or of a proposed structure, typically on a smaller scale than the original.

Assessment Objectives — Section 1

AO1	**Research** Using artist styles and writing about them. Using images/text from the internet, magazines , books and galleries. Independently finding further techniques to try from places such as Instagram and youtube.
A02	**Experiment to develop** Using different materials in the project. Choosing the most successful ones to develop further work.
A03	**Record** Ability to draw, photograph, write down ideas and show how you think
A04	**Final piece** Ability to make a final idea that shows all of the research you have done.

Homework Opportunities

Research artists, find imagery and annotate your thoughts using content, form, process, mood method.

Using different materials when designing, making and creating. Producing 3D outcomes to support Speaker Project

Drawing of a variety of Speakers or features of a speaker such as amplifiers, switches, body of speaker, pattern and deign using tone / pen mark making / colour
Tonal drawing's / Paintings / Rendering and designs and sketches

Draw ideas for how you might want your piece to look. These can be quick sketches.
Further worked up idea that includes annotation of thoughts / colour use / artist style use and meaning your piece is communicating to the viewer.

Coursework Portfolio Task's

- Task Analysis Mind-map
- Design brief analysis
- Existing product analysis.
- Artist research page
- Recording of Artists work (colour pencil)
- Recording of Artists work (tonal)
- Recording of Artists work (watercolour/marker pen/other colour method)
- 10-point design specification
- Initial ideas

- Initial ideas
- Development of ideas
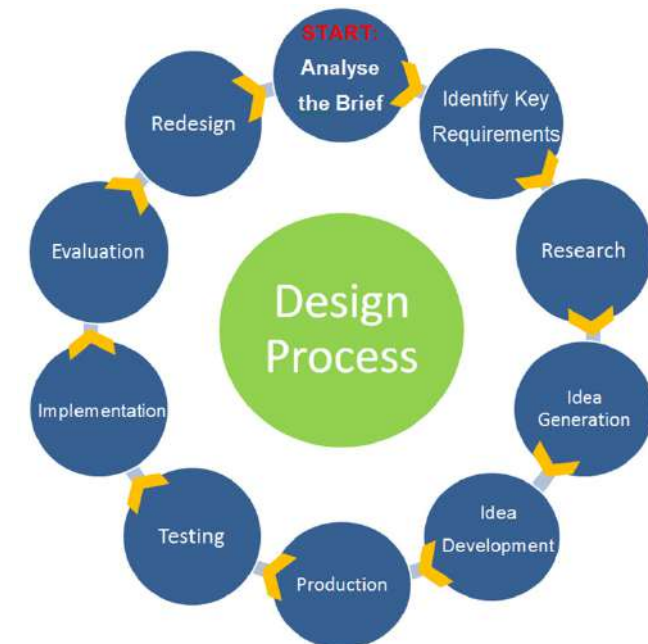- Foam modeling
- Evaluation of foam model
- Idea development
- Final design
- Technical drawing
- Final product making
- Product testing
- Final product evaluation

Design Process: START: Analyse the Brief → Identify Key Requirements → Research → Idea Generation → Idea Development → Production → Testing → Implementation → Evaluation → Redesign

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Cadences
The two chords at the end of a phrase

Perfect	V-I	Strong ending – sounds 'finished'; a musical full stop.
Plagal	IV-I	Sounds finished but 'softer'; Amen.
Imperfect	I-V, ii-V, vi-V	Sounds unfinished.
Interrupted	V-vi	Moves to an unexpected chord; 'surprise'.

F A C E

E G B D F

A C E G

G B D F A

D♭ / C♯   E♭ / D♯   G♭ / F♯   A♭ / G♯   B♭ / A♯

C D E F G A B

Key	Sharps (up 5)		Key	Flats (down 4)
C	No sharps or flats		C	No sharps or flats
G	F#		F	Bb
D	F#, C#		Bb	Bb, Eb
A	F#, C#, G#		Eb	Bb, Eb, Ab
E	F#, C#. G#, D#		Ab	Bb, Eb, Ab, Db

Scales and chords

A CHORD is a group of two or more notes played at the same time. A TRIAD has three notes. A CHORD SEQUENCE/ PATTERN is a series of chords. DIATONIC HARMONY is based on the chords of major/minor scales.

Primary chords I, IV, V
Secondary chords ii, iii, vi, vii

C Major Scale

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| TONIC | SUPERTONIC | MEDIANT | SUBDOMINANT | DOMINANT | SUBMEDIANT | LEADING NOTE | TONIC |

C Major Triads

| I | ii | iii | IV | V | vi | vii | I |
| C | Dm | Em | F | G | Am | B° | C |

C Major Scales

Blues Scale in C

A Minor (Harmonic) Scale

Major pentatonic   Minor pentatonic

G A B D E   G Bb C D F

Chromatic Scale on C

MAJOR sounds are happy / bright

MINOR sounds are sad and mysterious

TONALITY = is the piece in a major or minor key
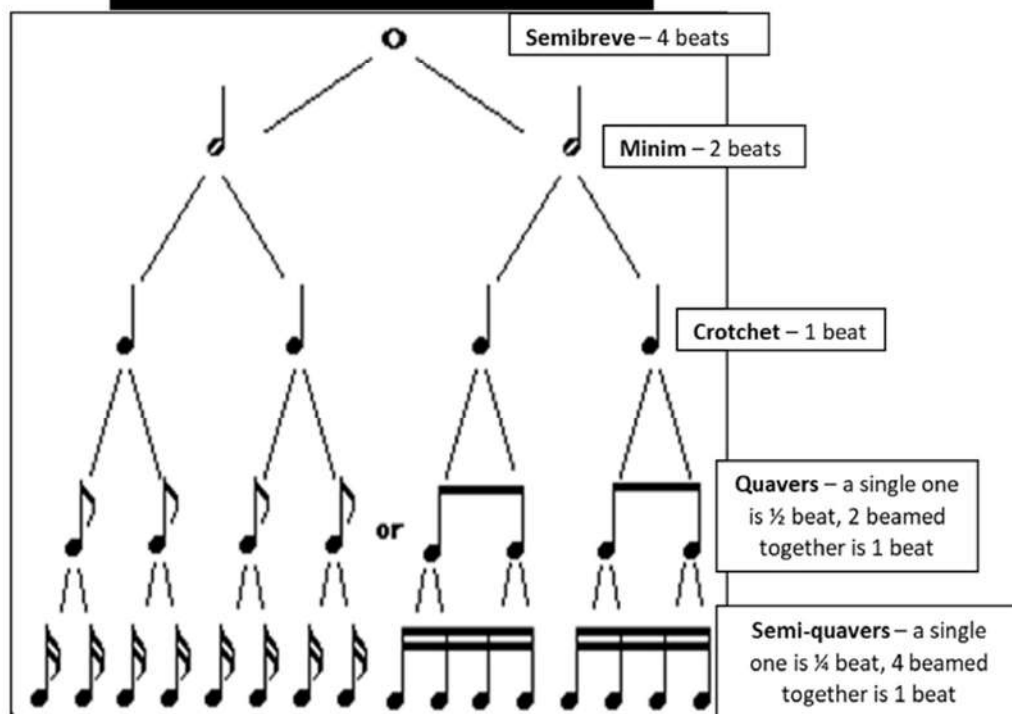
MODULATION = change of key

What makes a great melody?
- Starts on the tonic, or a note from the tonic chord / triad
- Ends on the tonic note
- Rhythmic ideas – stay simple initially then develop
- Repetition – initially then develop
- Imitation
- Passing notes
- Sequence
- Question and answer
- Stepwise (conjunct) movement
- Arpeggiated / triadic movement
- **Needs to fit with chords**
- Balanced phrases – 4, 8, 12, 16
- Shape of melody – higher towards climax of phrase
- It flows (not usually leaping about unpredictably)
- **It is MEMORABLE (is it 'singable' or 'catchy'?)**

The Elements of Music

Tempo	The speed of the music – fast/slow.
Pitch	How high or low the notes in the music sound.
Texture	How many different layers of sound can be heard in the music.
Dynamics	How loud or quiet the music is.
Timbre	The sound the different instruments make – e.g. shrill, mellow, brassy for a trumpet.
Duration	The length of the notes – e.g. long and held on, short and bouncy.

Tempo

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

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

Dynamics

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

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

Note names and durations

Semibreve – 4 beats
Minim – 2 beats
Crotchet – 1 beat
Quavers – a single one is ½ beat, 2 beamed together is 1 beat
Semi-quavers – a single one is ¼ beat, 4 beamed together is 1 beat

Terms and signs

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

Devices

Repetition	A musical idea is repeated exactly.
Imitation	An idea is copied in another part.
Sequence	Repetition of an idea in the same part at a higher/lower pitch.
Ostinato	A short, repeated pattern or phrase.
Drone	A long held or constantly repeated note(s).
Arpeggio/ broken chord	The notes of a chord played individually.
Alberti bass	A broken chord accompaniment (I,V,iii,V) common in the Classical era.
Anacrusis	An 'up-beat' or pick-up before the first strong beat.
Dotted rhythms	A rhythm using dotted notes (gives a 'jagged' or 'bouncy' type of effect).
Syncopation	Off beat accents.
Conjunct	Notes that move in steps.
Disjunct	Notes that move in leaps/ intervals.
Regular phrasing	Balanced parts of a melody (like the phrases in a sentence) e.g. four bar phrases.

SCALES

A group of notes which are played in pitch order from lowest to highest (ascending) or highest to lowest (descending).

- Use a variety of movement in your melodies
- Try experimenting with pitch and rhythm
- Use repetition to give your melodies a clear sense structure

DISJUNCT

A melody where the notes move mainly by leap

CONJUNCT

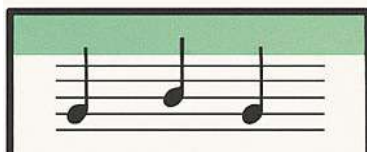A melody where the notes move mainly by step

KEY SIGNATURE
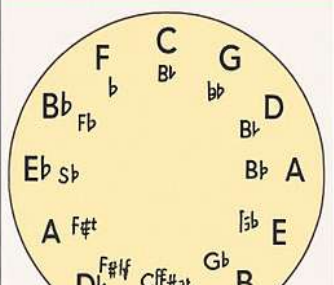
Sharps (#) or flats (b) shown next to the clef

ARPEGGIOS

A broken chord, e,g. C–E–G–C

CIRCLE OF FIFTHS

TIME SIGNATURE
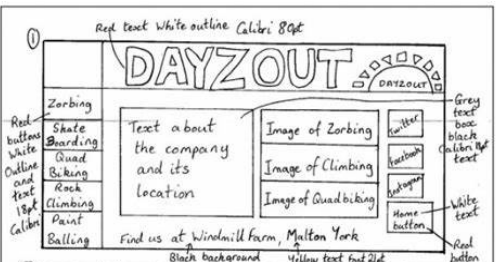
Numbers which show how many beats are in each bar

What Makes a Good Composition

Use a clear structure (e.g., ABA form)
Develop motifs and themes
Use dynamics and articulation effectively
Create contrast and variety
Ensure smooth transitions between sections
Consider instrumentation and texture
Use harmony and counterpoint creatively

Tips for Composing

Start with a simple idea or motif
Experiment with different rhythms and harmonies
Use repetition and variation
Listen to a wide range of music for inspiration
Record and revise your work
Collaborate with other musicians
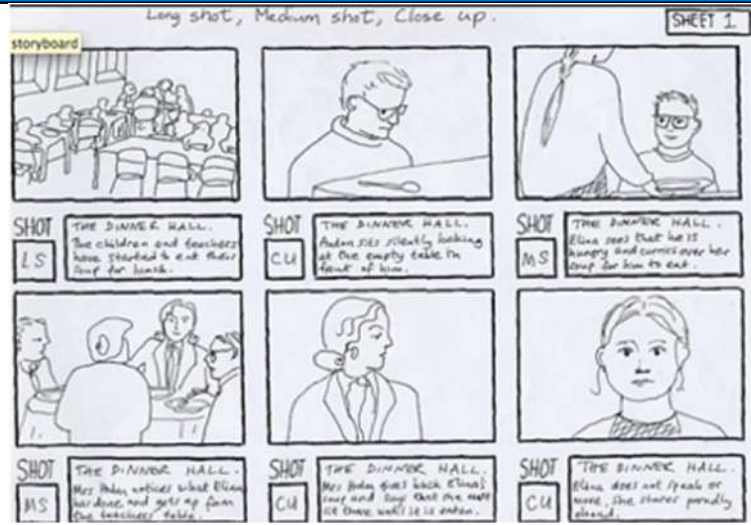
Examples of Good Composition Techniques

Beethoven's use of motif development in Symphony No. 5
Mozart's clarity and balance in piano sonatas
Debussy's use of tone color and texture
Stravinsky's rhythmic innovation in The Rite of Spring

Pre-Production	Documents	Client brief	Purpose	Audience
Audience requirements	Client requirements	Success criteria	House style	Mind map
Mood board	Visualisations	Storyboards	Layout	Timing
Annotation	Script	Plan	Design	Hardware
Software	Legislation	Work plan	File types	Evaluate

Section 1			
Mood board	A mood board is a collection of sample materials and products. Generate ideas by collecting a range of material. To show creativity.	Mood boards can be digital or physical. Images, colours, typography (text) **Digital:** sound, video and animation **Physical:** fabrics, materials, objects	
Mind Map	A way of organising thoughts and ideas. To develop and show links between different parts of the project.	Central node Sub nodes Connectors Text Images	
Visualisation	This is rough drawing or sketch of what the final product is intended to look like. Usually, hand drawn. To plan the layout in a visual manner.	Image (description, size, type) Text (style, size, colour) Background colour Dimensions Annotations	

Pre-Production	Documents	Client brief	Purpose	Audience
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Section 2

Storyboard	A storyboard is used to illustrate a sequence of moving images and has a flow of scenes that follow a timeline.	Storyboards may include: Number of scenes Camera Shots Camera Movement Timings Lighting Sounds SFX Locations **Camera Shots** **LS:** Long Shot **MS:** Medium Shot **CU:** Close Up **Camera movements** Zoom, pan, tilt, dolly, truck **Camera angles** High, low, wide	
Scripts	A script is a piece of written work that can be for a movie, audio, audio- visual or screenplay. It provides the dialogue.	Dialogue Set or location Scene direction Camera shot Camera movement Character names

EXT. IN THE FOREST

SHREK
Face it, Donkey! We're lost.

DONKEY
We can't be lost. We followed the King's instructions exactly. "Head to the darkest part of the woods...""Past the sinister trees with scary-looking branches." The bush shaped like Shirley Bassey! |

Section 3	
Brand	A type of product manufactured by a particular company under a particular name.
Brand Identity	Is what other people think about you, your company, your product or service. Communicates values and core principles to the user or customer.
Examples of Brands	Nike, Adidas, Starbucks, IKEA.
Purpose	The reasons a product exists e.g. to entertain, promote, inform, educate, persuade, guide, warn.
Logo	To represent a business.
Examples of logos	
Visual Identity	What the brand looks like, a preview of your brand e.g. text, slogan, colour scheme, logo etc

Visual Identity Example	

Section 4	
Client Brief	A written document given to the client to explain the client requirements and ideas for a new product/project.
Content of a Client Brief	Purpose Audience Audience requirements Client requirements Success criteria Initial ideas Planning and design

Mind Map	Mood Board	Script	Wireframes	Storyboard
Media Sector	Media Products	Multimedia and Interactivity	Negotiated or Commissioned	Client Requirements
Audience Segmentation	Primary Research	Secondary Research	Virtual Reality	Formal and Informal
Client Brief	Traditional Media	New Media	VFX and SFX	Augmented Reality

Section 5

Media Products	Purpose	Types of Media Products	Examples of Products
A media product is a platform used to communicate information to a specific audience. There are different formats that can be used for this purpose.	Inform Persuade Advertise Promote Educate Warn Guide Entertain	Digital imaging and graphics Video Audio/Music Animation Digital Games Visual Effects VFX Sound Effects SFX	Websites Apps Social media platforms Multimedia eBooks VR Virtual Reality AR Augmented Reality Comics

Section 6

Traditional Media	Traditional media refers to non-digital methods of communication. These methods have been long used to create awareness of a product and existed before the internet.	Sectors: • TV (Television) • Radio • Film • Print publishing
New Media	On-demand content accessed via the internet through digital devices, such as personal computers and smartphones. New media can involve interactive elements such as audience engagement and feedback.	Sectors: • Interactive Media • Video games • Internet • Digital publishing

Section 7

Audience Segmentation	Target audience is made up of different characteristics known as demographics which are split into segments to help clearly define who the target audience is.	Location, religion, ethnicity, age, gender, income, education, lifestyle and interests.

Key outcomes	Definition
Budget	An estimated spending path over s specific period of time with a specific amount of money
Projected revenue	A projected amount of money coming into a business over a period of time based on sales forecasts
Projected expenditure	A prediction as to how much a project will cost over a period of time
Income	The amount of money coming into and event based on ticket sales and also selling of a product or service.
Variance	The different between predicted and actual. This can be positive or negative
Costs	Expense that a company will incur throughout the duration of a project
Expenses	Expense that a company will incur throughout the duration of a project
Registration	The action or process of registering or of being registered. This will be done through a central data base.

Key outcomes	Definition
Tickets	sale of the right to gain admission
Communication	the imparting or exchanging of information by speaking, writing, or using some other medium.
Notices	Integral pieces of information that are thread through to employees and customers throughout the duration of a project/event.
Invoices	Document that states the cost of a product or service that must be paid for by the recipient of said good or service
SMART Objectives	Specific, Measurable Achievable Realistic Time bound
Report	Structure of information, presentation, tone and style of language
Plan	Sequence activities Resources required Timing Monitoring Evaluation
Planning tools	Gannt chart Electronic diaries Project planners

Physical Components M M B S F C – My Mum Bakes Sweet Fairy Cakes.

Box No 1 : Physical components: Muscular Endurance

Definition	Sporting examples	Links to learning aim B + C
The ability of the muscular system to work efficiently, where a muscle can continue contracting over a period of time against a light to moderate fixed resistance load.	● Marathon runner ● Rower ● Boxer ● Cyclist	**Methods of training:** Strength, muscular endurance and power training – Circuit, Free weight and plyometric. **Fitness Testing:** One-minute sit up and one-minute press up test.

Box No 2 : Physical components: Muscular Strength

Definition	Sporting examples	Links to learning aim B + C
The maximum force (in KG or N) that can be generated by a muscle of muscle group.	● Weight Lifter ● Boxer ● Rugby player ● Gymnast	**Methods of training:** Strength, muscular endurance and power training – Circuit, Free weight and plyometric. **Fitness Testing:** Hand grip dynamometer tests usually measured In KGW.

Box No 3 : Physical components: Body Composition

Definition	Sporting examples	Links to learning aim B + C
The relative ratio of fat mass to Fat free mass (Vital organs, muscle, bone) In the body.	● Sumo Wrestler – needs large physique ● Darts player – Body comp doesn't matter ● Ballet Dancer – Slim physique ● Rugby player – Muscly Physique	**Methods of training:** Any method of training relevant to maintaining correct body composition for the selected sport to ensure best performance. **Fitness Testing:** BMI Test – Sum of skinfold test – BIA test.

Box No 4 : Physical components: Speed

Definition	Sporting examples	Links to learning aim B + C
Speed = Distance divided by time taken. Three Types of Speed:	● Speed skater ● Sprinter ● Gymnast – Running up to a vault. ● Long Jump – Take off phase ● Hockey player – speed endurance used throughout the game – elements of speed.	**Methods of training:** Speed training: Hollow Sprints – Acceleration Sprints – Interval training **Fitness Testing:** 35m Sprint test Measured in S.

Box No 5 : Physical components: Flexibility

Definition	Sporting examples	Links to learning aim B + C
Having an adequate range of movement in all joints of the body; the ability to move joints fluidly through its complete range of movement.	● Gymnast in a split jump. ● High jumper – back flexibility ● Diving ● Figure skating	**Methods of training:** Flexibility training: Static (Active (Alone) and Passive (Partner) – Ballistic (Fast jerky movements) and Proprioceptive Neuromuscular Facilitation (PNF). **Fitness Testing:** Sit and reach test measured in Cm or Inches

Box No 6 : Physical components: Aerobic Endurance

Definition	Sporting examples	Links to learning aim B + C
The ability of the cardiorespiratory system to work efficiently, supplying oxygen and nutrients to working muscles during sustained physical activity. **Alternative names: Cardiorespiratory fitness – Cardiorespiratory endurance – Aerobic Fitness.** The cardiorespiratory system consists of heart blood and blood vessels – Lungs and airways. It Is responsible for the uptake of O2, transporting nutrients and oxygen and removal of waste products such as co2.	● Marathon Runner ● Netball player ● Long distance swimmer ● Cross country Skier	**Methods of training:** Aerobic endurance training: Circuit – Interval – Fartlek and continuous. **Fitness Testing:** Multi stage fitness test (MSFT) and Forestry step test.

Human Development – PIES

Physical growth and development

Growth patterns
Puberty
Aging & Menopause
Mobility and movement
Lifestyle and fitness
muscle tone/strength
Skin elasticity

Gross = large (arms, legs)
Fine = small (hands & finger)

Emotional development

Feelings
Identity
Confidence
Self esteem and self image
Adapting to trauma
Bonding and attachment
Independence
Security
Contentment
Decisions and control

Intellectual development

Thinking
Memory
Learning
Language and communication
Creativity
Problem solving and logic
Expression

Social development

Relationships
Friends
Socialisation
Interaction
Communication

Stay safe,

tell someone…

All the staff are here to help and support you

DIXONS ALLERTON ACADEMY

Safeguarding Team:

Mr Bibby (Designated Safeguarding Lead)

Ms McDonald (SENDCO)

Safety and well-being…

If you are worried about your welfare or safety, or that of a friend you could access the NSPCC services. **www.childline.org.uk 0800 1111**

Free anonymous NHS online counselling for young people can be accessed via a platform called Kooth. **www.Kooth.com**

For support with your mental health and staying happy and healthy visit the Mental Health Foundation. **www.mentalhealth.org.uk**

For non-emergency advice you can email **DAA_safeguarding@dixonsaa.com.** Give your full name and Year group.

Physical activity...

It is recommended that young people should be physically active for at least 1 hour a day. This can be anything from organised sport to going on a bike ride with your friends. For more ideas visit;

www.nhs.uk/change4life/activities
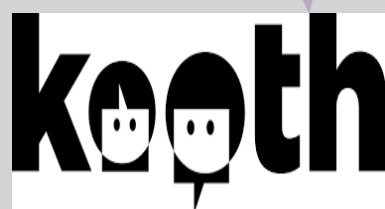
Happiness   Industry   Responsibility

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Eatwell Guide

Use the Eatwell Guide to help you get a balance of healthier and more sustainable food.
It shows how much of what you eat overall should come from each food group.

Check the label on packaged foods

Each serving (150g) contains

Energy 1046kJ 250kcal	Fat 3.0g	Saturates 1.3g	Sugars 34g	Salt 0.9g
	LOW	LOW	HIGH	MED
13%	4%	7%	38%	15%

of an adult's reference intake
Typical values (as sold) per 100g: 697kJ/ 167kcal

Choose foods lower in fat, salt and sugars

6-8 a day

Water, lower fat milk, sugar-free drinks including tea and coffee all count.

Limit fruit juice and/or smoothies to a total of 150ml a day.

Eat at least 5 portions of a variety of fruit and vegetables every day

Fruit and vegetables

Raisins

Chopped tomatoes

Frozen peas

Choose wholegrain or higher fibre versions with less added fat, salt and sugar

Potatoes, bread, rice, pasta and other starchy carbohydrates

Potatoes

Whole grain cereal

Cous Cous

Porridge

Whole wheat pasta

Bagels

Rice

Spaghetti

Lentils

Beans lower salt and sugar

Tuna

Lean mince

Plain nuts

Chick peas

Low fat soft cheese

Semi skimmed milk

Soya drink

Plain Low fat Yoghurt

Beans, pulses, fish, eggs, meat and other proteins

Eat more beans and pulses, 2 portions of sustainably sourced fish per week, one of which is oily. Eat less red and processed meat

Dairy and alternatives

Choose lower fat and lower sugar options

Veg Oil

Lower fat spread

Oil & spreads

Choose unsaturated oils and use in small amounts

Sauce

Crisps

Eat less often and in small amounts

Per day 👩 2000kcal 👨 2500kcal = ALL FOOD + ALL DRINKS

BRITISH **Nutrition** FOUNDATION

HEALTHY HYDRATION

for adults and teenagers

We should drink about 6-8 glasses of fluid each day. This can be from a variety of drinks

Water
Water is a good choice throughout the day because it hydrates you without providing extra calories or harming teeth.

Drink plenty

Tea, coffee and other hot drinks
Provide some nutrients (if milk or fortified plant-based alternatives are added) and some contain caffeine*. To limit calories, drink without sugar or sugary syrups and with lower fat milks.

Drink to suit (can contain caffeine; limit if pregnant*)

Milk
Is a useful source of nutrients including calcium, iodine, B vitamins and protein. Adults and older children should choose lower-fat varieties.

Have regularly, but choose lower fat.

Sugar-free drinks
Provide fluid without extra calories. Drinks like squashes and fizzy drinks are acidic, which can harm teeth.

Drink in moderation

Fruit and vegetable juices and smoothies
Provide some vitamins and minerals. One small glass (150ml) counts as a maximum of one portion of your 5 A DAY. However, they also contain sugars and can be acidic, which can harm teeth so it's best to drink them with a meal.

Can have once a day

Sugary drinks
Provide fluid but contain calories from sugars, usually without other nutrients, and can be acidic. Sugars and acidity can both be harmful to teeth. Some of these drinks also contain caffeine*.

Limit

Sports drinks
Are generally only needed if training at high intensity for over an hour. Can be high in sugars.

Only if needed

Energy drinks
Can be high in sugars and may contain high levels of caffeine* and other stimulants. These drinks are not good choices for those under 18 years.

Energy

Limit

*If pregnant, limit caffeine to no more than 200mg per day. Visit NHS Choices page on caffeine in pregnancy for more information.

Note: alcoholic drinks don't count towards your fluid intake.

The Information Standard ✓ Certified Member

DIXONS
ALLERTON
ACADEMY

Dixons Allerton Academy, Rhodesway, Bradford , BD8 0DH

Telephone: 01274 089 890   Email: admin@dixonsaa.com