SMITHILLS SCHOOL
SUCCESS FOR ALL

HOMEWORK BOOKLET

Year 10
Spring Term 2

www.smithillsschool.net

CONTENTS PAGE

Subject Knowledge Organisers and Tasks:

Core Subjects:

Options Subjects:

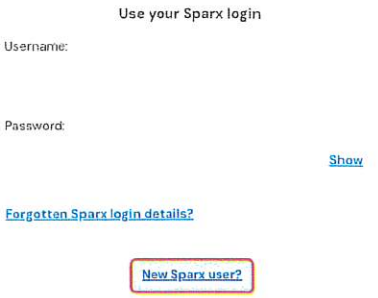
Homework Timetable:

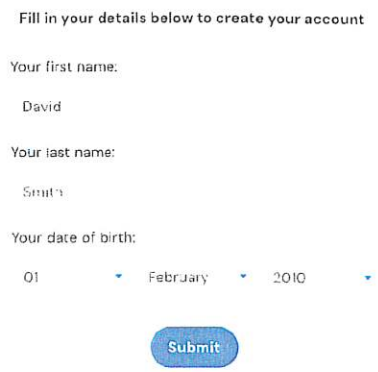
	Monday	Tuesday	Wednesday	Thursday	Friday
Green	Maths	Science	English	Maths	Science
	Option W/X	Humanities	Science	Option Y/Z	
	Sparx Reader	Sparx Reader	Sparx Reader	Sparx Reader	Sparx Reader
Orange	English	Maths	Science	English	Maths
	Science	Option Y/Z	Humanities	Option W/X	
	Sparx Reader	Sparx Reader	Sparx Reader	Sparx Reader	Sparx Reader

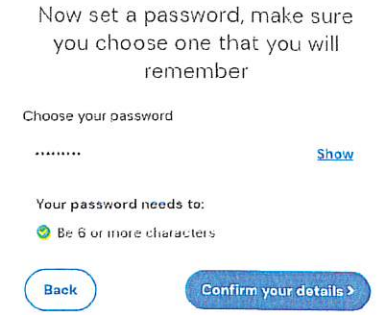
Student Guide to Logging In

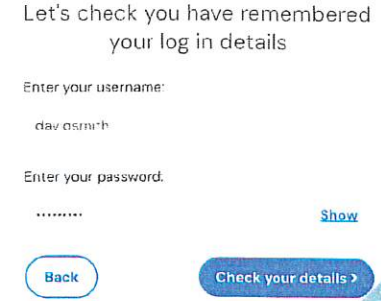
Sparx Maths

1. Go to **sparxmaths.com**
2. Select **Student Login**
3. Carefully select your school from the list
4. Select **New Sparx user**
5. Enter your:
   - First Name
   - Last Name
   - Date of Birth
6. Click **Submit**
7. You will be prompted to set your own password. The password must be at least 6 characters long and you will need to remember it
8. Confirm your username and password, then click **Check your details**
9. You can now log in to Sparx using your username and password
10. If a password is lost, you can select the option to request a new password from your teacher









Instructions on how to complete your homework:

1. Write the subject and date in your homework exercise book

2. If you have been given tasks to complete, please do this in your exercise book. If you have been asked to recall information from a knowledge organiser, please use the steps below.

- Look at box/es that your teacher has assigned to you. Repeatedly read the information until you are confident you can remember it. You might find saying them out loud helps you.

- Cover each box so that you cannot see the text.

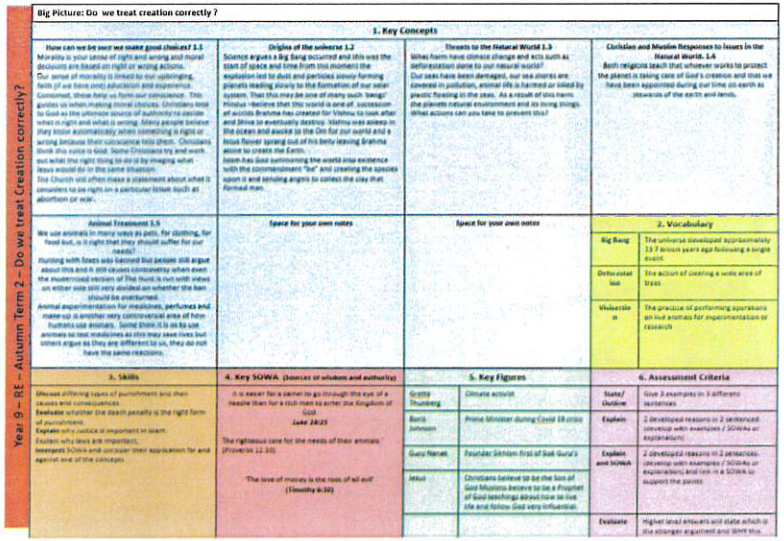
- Next, in your homework exercise book, write down everything you can remember from each box

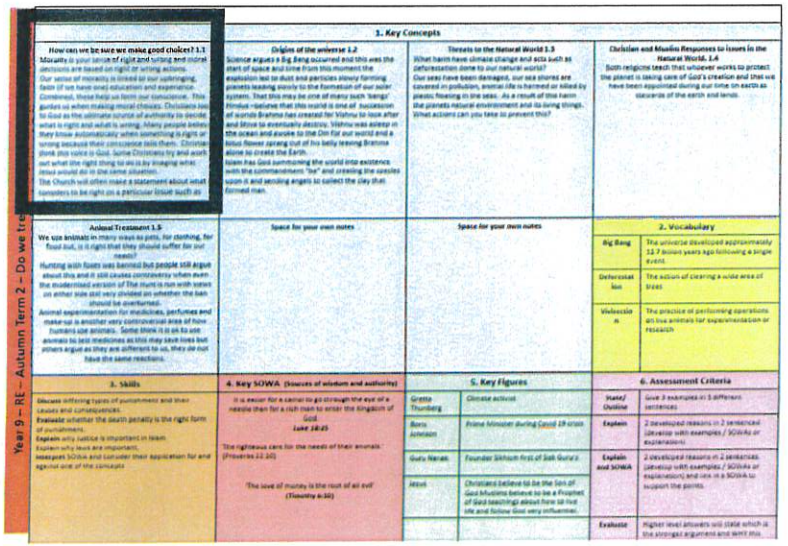
- Uncover the box and check your answers, correct any you got wrong or missed
- Repeat this one more time as you should be able to remember more from each box on the second round.

3. Rule a line under the homework you have completed.

4. Repeat the process for your next subject/s.

5. Use the QR link below if you would prefer a visual reminder of how to complete this.





New homework strategy: The Gist

Look at your knowledge organiser and read through the content of one box.

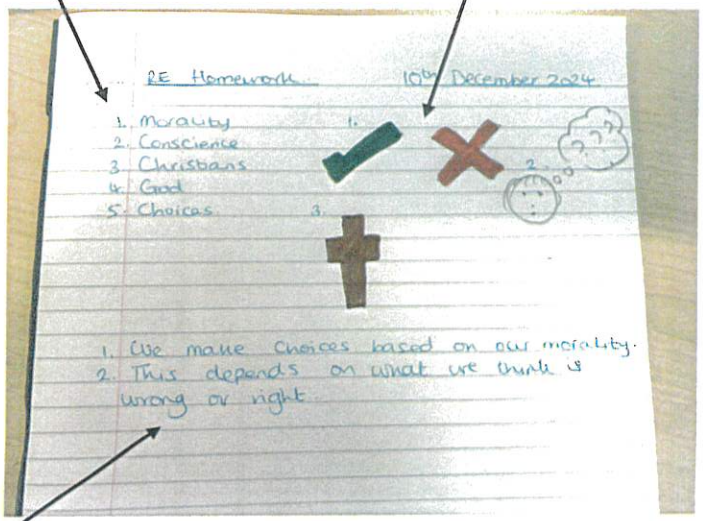
Once you feel confident that you know the content, in your pink homework exercise books, summarise the text into the following:

1. 5 keywords.
2. 3 images.
3. 2 sentences.

Example:

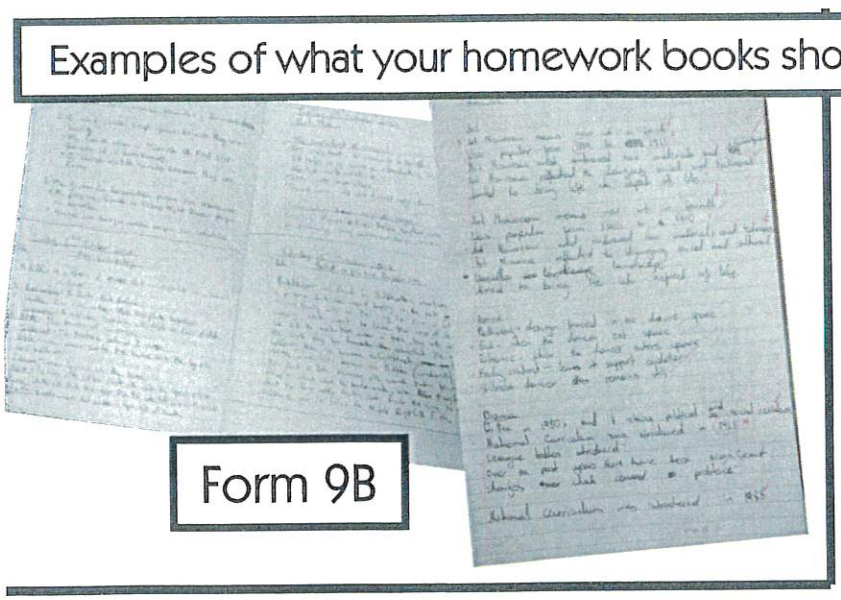
5 key words

3 images

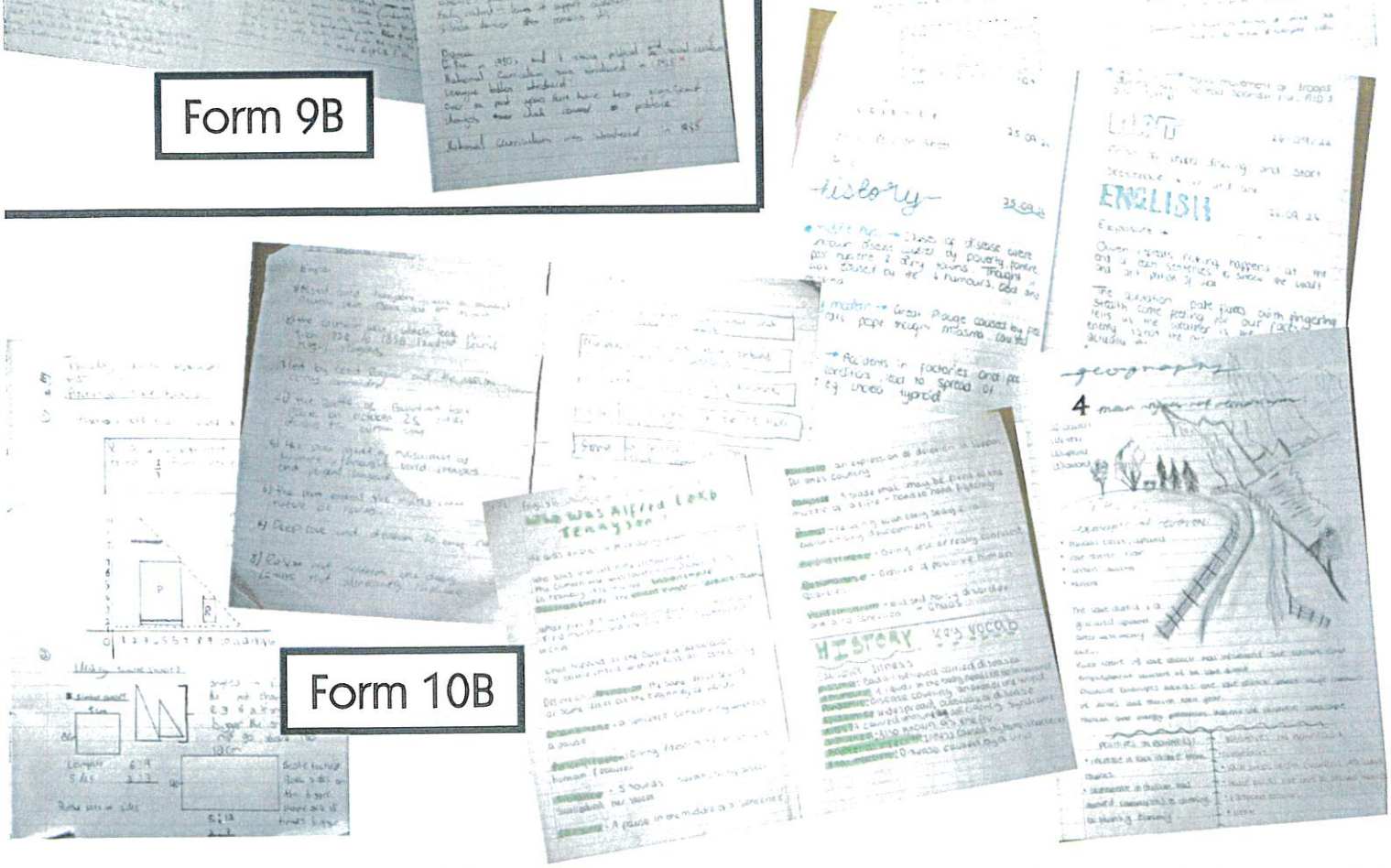


2 sentences

Examples of what your homework books should look like…

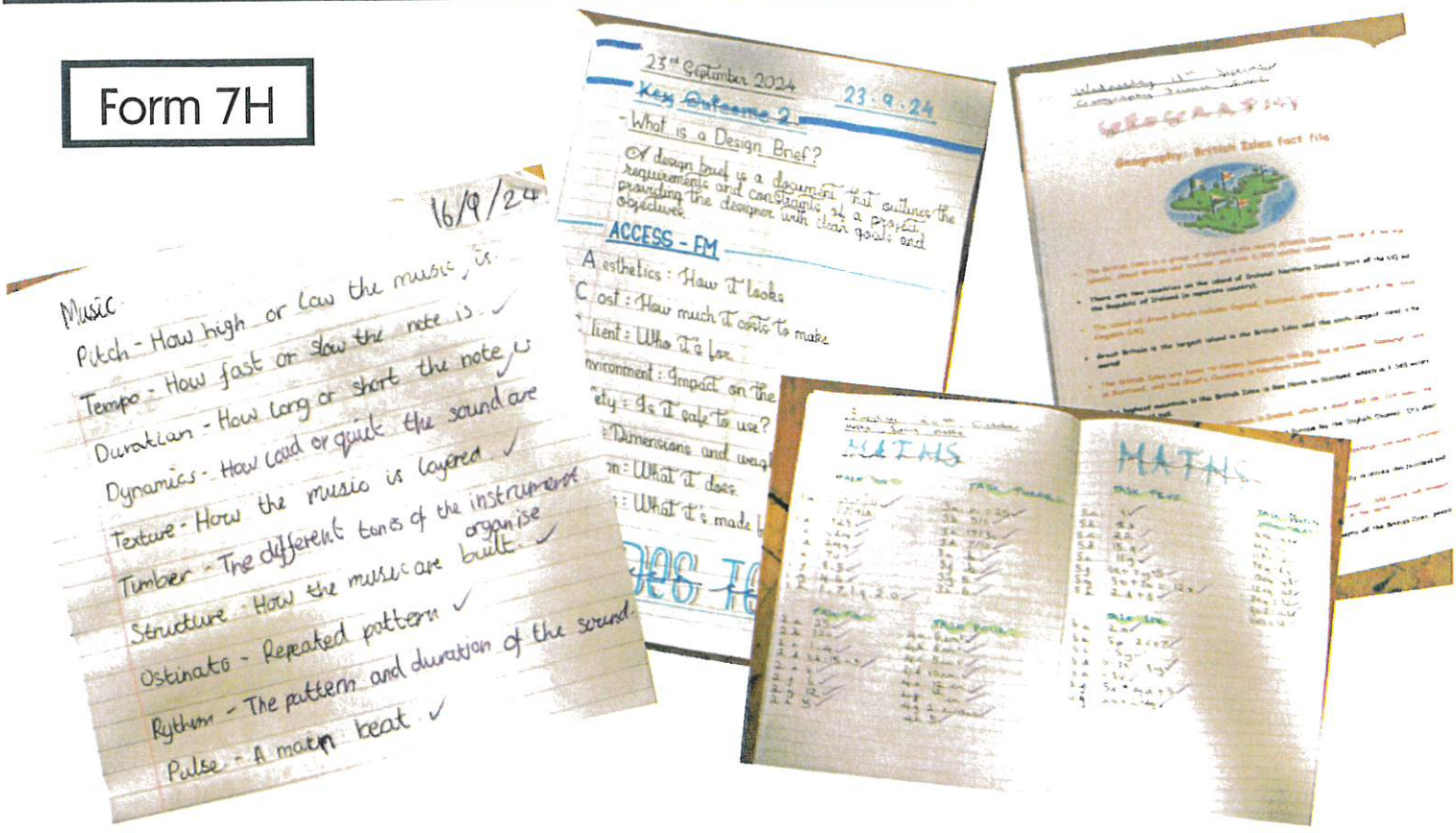


Form 9B



Form 10B

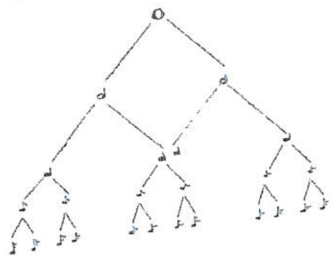
Form 7H



Thursday 10th October 2024
Muslims view death as a ~~tadica~~ transition from one state of being to another. They believe they follow to you in the afterlife. So, If you follow the law in the Quran and live a good life you will be rewarded in the after life. In ~~tyre~~ death you will be seprated from the uglyness in this world

Friday 11th October 2024
Shakespeare's work collected and printed in variouse edition in the Century following his death, and by the Uearly eiteenth Century his reputation as a the greatest Poet ever to write in English was well estblashied. The unpreecteded admiriation garned by his work led to a fierce curiosity about Shakespears life, but the dreath of biographical information has left many details of Shakespears life, but the death of biographical information left many detail of Shakespear Persnol history Shrouded in history. Some Scholars have concluded from this lack and from Shakespear Personal history has concluded from this lack and from Shakespear modest education that his Plays were actually written by Someone else. Francis and the Earl of Oxford and the two most Porular of candidates. T

...day 20 September 2024
...usic - Key concept - Basic note values
...mibreve = 4 beats
...inim = 2 beats
...rotchet = 1 beat
...uaver = 1/2 beat
Semiquaver: 1/4 beat



Melody
Articulation
Dynamics
Texture
Structure
Harmony
Instruments
...m
...o

27th September 2024

Sunday 06th October 2024 - Maths

SPARX MATHS :

1A) $\frac{1}{2} + \frac{1}{5} = \frac{7}{10}$

$\frac{5}{10} + \frac{2}{10} = \frac{7}{10}$

1B) $\frac{9}{11} - \frac{9}{14} = \frac{27}{154}$

1C) $\frac{1}{7} + \frac{1}{5} + \frac{1}{2} = \frac{59}{70}$

2A) 4 (c + 2) = 28

What does c equal? 5

2B) 3 (2m + − 5 = 9

What does m equal? 4

2C) 2 (5 + 3x) = 28

What does x equal? 3

~~2D) 29 = 5 (2w − 3)~~

~~What does w equal~~

2D) 28 = 5 (2w − 5)

what does w equal?

WA = 5.3.

2E) 6 = 2 (3 + 2p)

what does f equal

F = −5

3A) 22 out of 40 plants, equals to 55%.

3B) Number of matches won = 7

Number of matches drawn = 6

Number of matches lost = 7

Matches won = 35%

Form 8F

(3) Drawing on the writings of authors and poets, scholars and spiritual leaders. These things can help us find meaning and purpose in our lives.

Philosophy - the study of life and existence and a set of theories, ideas and beliefs

WE ALL NEED inspiration AND guidance

→ This phrase from paragraph 1, tells us how we need 'inspiration and guidance'.

→ We need inspiration to recieve motivation, release our creativity and to achieve a great well-being.

→ However, we also need guidance to choose the appropriate decisions, how to tackle issues in life and improve ourselves.

Maraira Van Der Wesh...
Mrs Goldie
61 - 8a/re1

$\frac{1}{4}$ is represented in all images

mixed fractions

$\frac{7}{5}$ improper fraction

Add / Subtract unit fraction

1/12 + 1/12 − 1/12 =

2/12

Add and Subtract fractions

$\frac{2}{7} + \frac{3}{7}$ = 5/7

Add and Subtract from integers

$1 - \frac{2}{6}$ = 4/6

$3\frac{1}{6}$ = $3\frac{1}{6}$

Form 11G

- Symbol equations - Uses symbols to show reaction (reactants → products)
$2Mg + O_2 \rightarrow 2MgO$
Shows the number of atoms / molecules in the reaction, these need to be balanced

Monday 21st October 2024

English

- King James 1
- Macbeth written between 1603 − 1606 → assassination of James VI of Scotland / James I of England
- Survived an assassination attempt.
- Compliments him by making Banquo a hero in the play.

Science

Yr	Diagram	Arrangement	Description
1803		Tiny solid spheres that could not be divided	Before discovery of electron John Dalton said solid spheres made up different elements
1897 Plum pudding		A ball of positive charge with negative electrons embedded in it	JJ Thompson's experiments showed an atom must contain negative charges
1909 nuclear model		Positively charge nucleus at centre, surrounded electrons	Ernest Rutherford alpha particle scattering experiment showed that the mass was concentrated at the centre of the atom.
1913 Bohr model		Electrons orbit the nucleus at specific distances	Niels Bohr proposed that electrons orbited in fixed shells; supported by experimental observation

Cells! → ... nucleus, chloroplast, vacuole, cell ...

Specialised cells:

Keywords:

DNA

gene

11/10/2024

CORE SUBJECTS

Extract from 'The Prelude' by William Wordsworth

One summer evening (led by her) I found
A little boat tied to a willow tree
Within a rocky cove, its usual home.
Straight I unloosed her chain, and stepping in

Pushed from the shore. It was **an act of stealth**
And troubled pleasure, nor without the voice
Of mountain-echoes did my boat move on;
Leaving behind her still, on either side,
Small circles glittering idly in the moon,
Until they melted all into one track
Of sparkling light. But now, like one who rows,
Proud of his skill, to reach a chosen point
With an unswerving line, I fixed my view
Upon the summit of a craggy ridge,
The horizon's utmost boundary; far above
Was nothing but the stars and the grey sky.
She was an elfin pinnace; lustily
I dipped my oars into the silent lake,
And, as I rose upon the stroke, my boat
Went heaving through the water like a swan;

When, from behind that craggy steep till then
The horizon's bound, **a huge peak, black and huge,**
As if with voluntary power instinct,
Upreared its head. I struck and struck again,
And growing still in stature the grim shape
Towered up between me and the stars, and still,
For so it seemed, with purpose of its own
And measured motion like a living thing,
Strode after me. With trembling oars I turned,
And through the silent water stole my way
Back to the covert of the willow tree;
There in her mooring-place I left my bark,
-And through the meadows homeward went, in grave
And serious mood; but after I had seen
That spectacle, for many days, my brain
Worked with a dim and undetermined sense
Of unknown modes of being; o'er my thoughts
There hung a darkness, call it solitude
Or blank desertion. No familiar shapes
Remained, no pleasant images of trees,
Of sea or sky, no colours of green fields;
But huge and mighty forms, that do not live
Like living men, moved slowly through the mind
By day, and were a trouble to my dreams.
William Wordsworth, written 1799, revised 1850.

What is happening? 1-10

What is happening? 11-18

What is happening? 19-25

What is happening? 25-38

SUMMARY	SEMANTIC FIELDS	
	Beauty	**Fear**
	glittering	grave
	melted	
	sparkling	
	Power	**Nature**
	towered	

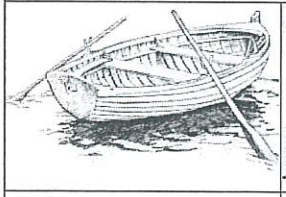
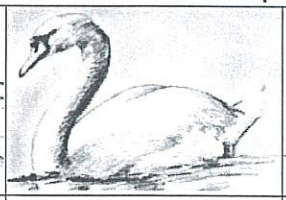
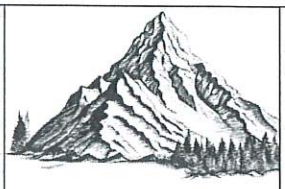
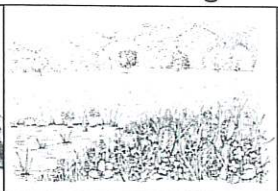
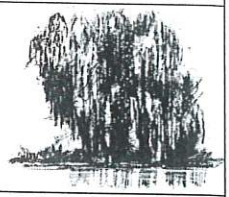
"One summer evening (led by her)"

"an act of stealth/ and troubled pleasure"

"a huge peak, black and huge [...] upreared its head"

'The Prelude' : Consolidation Tasks

TASK 1: Find a quotation from the poem to describe each of the images

TASK 2: Explain Wordsworth's message about power and conflict in the space below. *Consider what Wordsworth might be showing about nature's power.*

Conflict:

Power:

TASK 3: Explore how Wordsworth presents the power of nature in 'The Prelude'. *This requires a **What, How, Why** paragraph to explain your ideas in detail.*

'Storm on the Island' by Seamus Heaney

We are prepared: we build our houses squat,
Sink walls in rock and roof them with good slate.
This wizened earth has never troubled us
With hay, so, as you see, there are no stacks
Or stooks that can be lost. Nor are there trees
Which might prove company when it blows full
Blast: you know what I mean - leaves and branches
Can raise a tragic chorus in a gale
So that you listen to the thing you fear
Forgetting that it pummels your house too.
But there are no trees, no natural shelter.
You might think that the sea is company,
Exploding comfortably down on the cliffs
But no: when it begins, the flung spray hits

The very windows, **spits like a tame cat**
Turned savage. We just sit tight while wind dives
And strafes invisibly. Space is a salvo,

We are bombarded with the empty air.
Strange, **it is a huge nothing that we fear.**

- *Seamus Heaney, published in 1966*

What is happening? 1-5

What is happening? 6-10

What is happening? 11-16

What is happening? 17-19

Link one	Link two	Link three
Poem:	Poem:	Poem:

SUMMARY	SEMANTIC FIELDS	
	Comfort	**Place**
	comfortably	cliffs
	company	
	shelter	
	Nature	**War**
	trees	

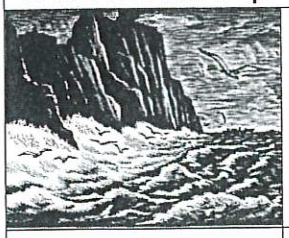
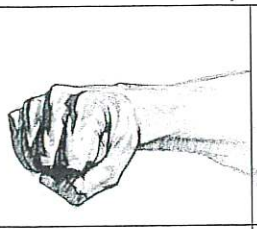
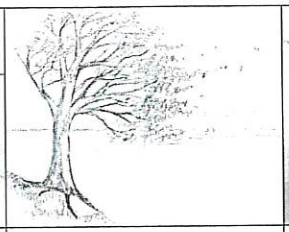
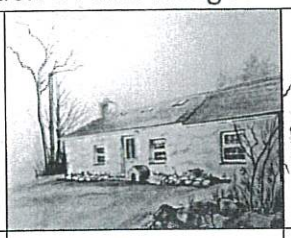
"We are prepared."

"spits like a tame cat/ turned savage"

"it is a huge nothing that we fear"

'Storm on the Island' : Consolidation Tasks

TASK 1: Find a quotation from the poem to describe each of the images


TASK 2: Explain Heaney's message about power and conflict in the space below. *Consider what Heaney is showing about nature's power over humanity.*

Conflict:

Power:

TASK 3: Explore how Heaney presents the conflict between nature and humanity in 'Storm on the Island'. *This requires a **What, How, Why** paragraph.*

Ozymandias' by Percy Bysshe Shelley

I met a traveller from an antique land
Who said: "Two vast and trunkless legs of stone
Stand in the desert. Near them on the sand,

Half sunk, a **shattered** visage lies, whose frown
And wrinkled lip and sneer of cold command
Tell that its sculptor well those passions read
Which yet survive, stamped on these lifeless things,
The hand that mocked them and the heart that fed.
And on the pedestal these words appear:
`My name is Ozymandias, **King of Kings:**

Look on my works, ye mighty, and despair!'
Nothing beside remains. Round the **decay**

Of that **colossal wreck**, boundless and bare,
The lone and level sands stretch far away".

- Percy Shelley, published in 1818

What is happening? 1-6

What is happening? 7-11

What is happening? 12-14

Link one	Link two	Link three
Poem:	Poem:	Poem:

SUMMARY	SEMANTIC FIELDS	
	Setting	**Cruelty**
	sands	frown
	desert	
	antique	
	Emptiness	**Damage**
	lifeless	

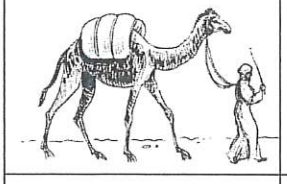
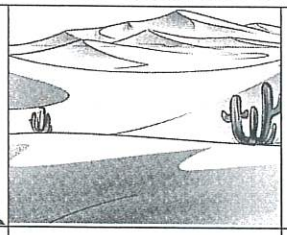
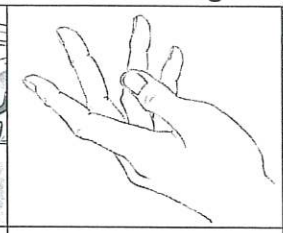
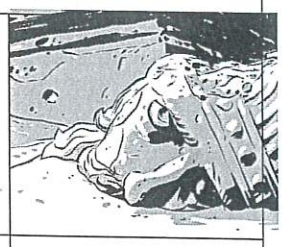
"King of kings:
Look on my works"

"shattered"
"decay"
"colossal wreck"

"lone and level
sands stretch
far away"

'Ozymandias' : Consolidation Tasks

TASK 1: Find a quotation from the poem to describe each of the images

TASK 2: Explain Shelley's message about power and conflict in the space below. *Consider what Shelley is saying about what and who ultimately has power.*

Conflict:

Power:

TASK 3: **Explore** OR **Compare** how Shelley presents ideas about human power in 'Ozymandias'. *This requires a **What, How, Why** paragraph (two poems if you compare)*

'My Last Duchess' by Robert Browning

That's my last Duchess painted on the wall,
Looking as if she were alive. I call
That piece a wonder, now: Fr Pandolf's hands
Worked busily a day, and there she stands.
Will't please you sit and look at her? I said
"Fra Pandolf" by design, for never read
Strangers like you that pictured countenance,
The depth and passion of its earnest glance,
But to myself they turned **(since none puts by**
The curtain I have drawn for you, but I)
And seemed as they would ask me, if they durst,
How such a glance came there; so, not the first
Are you to turn and ask thus. Sir, 'twas not
Her husband's presence only, called that spot
Of joy into the Duchess' cheek: perhaps
Fra Pandolf chanced to say "Her mantle laps
Over my lady's wrist too much," or "Paint
Must never hope to reproduce the faint
Half-flush that dies along her throat:" such stuff
Was courtesy, she thought, and cause enough
For calling up that spot of joy. She had
A heart---how shall I say?---too soon made glad,
Too easily impressed; she liked whate'er
She looked on, and her looks went everywhere.
Sir, 'twas all one! My favour at her breast,
The dropping of the daylight in the West,
The bough of cherries some officious fool
Broke in the orchard for her, the white mule
She rode with round the terrace---all and each
Would draw from her alike the approving speech,
Or blush, at least. She thanked men,---good! but thanked
Somehow---I know not how---as if she ranked
My gift of a nine-hundred-years-old name
With anybody's gift. Who'd stoop to blame
This sort of trifling? Even had you skill
In speech---(which I have not)---to make your will
Quite clear to such an one, and say, "Just this
Or that in you disgusts me; here you miss,
Or there exceed the mark"---and if she let
Herself be lessoned so, nor plainly set
Her wits to yours, forsooth, and made excuse,
---E'en then would be some stooping; and I choose
Never to stoop. Oh sir, she smiled, no doubt,
Whene'er I passed her; but who passed without
Much the same smile? This grew; I gave commands;
Then all smiles stopped together. There she stands
As if alive. Will't please you rise? We'll meet
The company below, then. I repeat,
The Count your master's known munificence
Is ample warrant that no just pretence
Of mine for dowry will be disallowed;
Though his fair daughter's self, as I avowed
At starting, is my object. Nay, we'll go
Together down, sir. **Notice Neptune, though,**
Taming a sea-horse, thought a rarity,
Which Claus of Innsbruck cast in bronze for me!

What is happening? 1-10

What is happening? 11-20

What is happening? 21-32

What is happening? 33-44

What is happening? 45-54

SUMMARY	SEMANTIC FIELDS	
	Disappointment	Happiness
	stoop	glad
	blame	
	disgusts	
	Body	Art
	home	

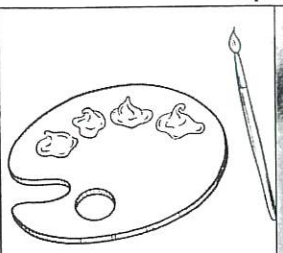
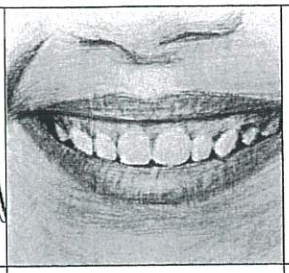
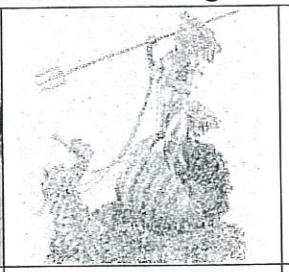
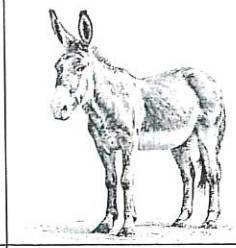
"(since none puts by the curtain I have drawn for you, but I)

"My gift of a nine-hundred-years-old name"

"Notice Neptune, though, Taming a sea-horse"

'My Last Duchess': Consolidation Tasks

TASK 1: Find a quotation from the poem to describe each of the images

TASK 2: Explain Browning's message about power and conflict in the space below. *Consider what Browning is saying about how humans in power behave.*

Conflict:

Power:

TASK 3: **Explore** OR **Compare** how Browning presents ideas about power in 'My Last Duchess'. *This requires a **What, How, Why** paragraph on one poem OR two.*

'London' by William Blake

I wander through each chartered street,
Near where the chartered Thames does flow,
And mark in every face I meet
Marks of weakness, marks of woe.

In every cry of every man,
In every infant's cry of fear
In every voice, in every ban,
The mind-forged manacles I hear:

How the chimney-sweeper's cry
Every blackening church appalls,
And the hapless soldier's sigh
Runs in blood down palace walls.

But most through midnight streets I hear
How the youthful harlot's curse
Blasts the new-born infant's tear,
And blights with plagues the marriage hearse.

- *William Blake, published 1794*

What is happening? 1

What is happening? 2

What is happening? 3

What is happening? 4

Link one
Poem:

Link two
Poem:

Link three
Poem:

SUMMARY	SEMANTIC FIELDS	
	Damage	**Londoners' jobs**
	marks	harlot
	plagues	
	blood	
	Sadness	**Sounds**
	hapless	

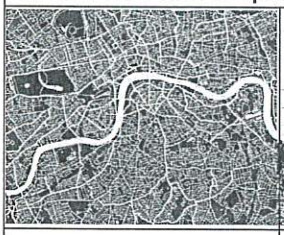
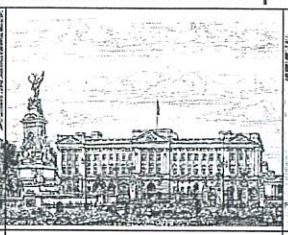
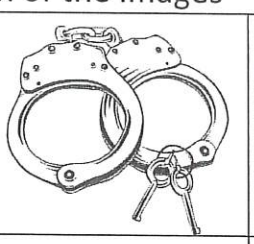
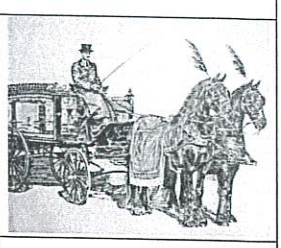

"The mind-forged manacles I hear"

"Every black'ning church appalls" 


"And blights with plagues the marriage hearse"

'London' : Consolidation Tasks

TASK 1: Find a quotation from the poem to describe each of the images

TASK 2: Explain Blake's message about power and conflict in the space below. *Consider what Blake is saying about the people in power and the conflict created.*

Conflict:

Power:

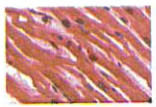
TASK 3: **Explore** OR **compare** how Blake presents ideas about a place in 'London'. *This requires a **What, How, Why** paragraph either on one poem, or two if you **compare**.*

Year 10 Science Organisation

Big Picture: why are we studying this now building on Year 8 organ systems and building on Plant organisation (year 7 and Year 9) Organisms are organised on a cellular level

1. Principles of organisation

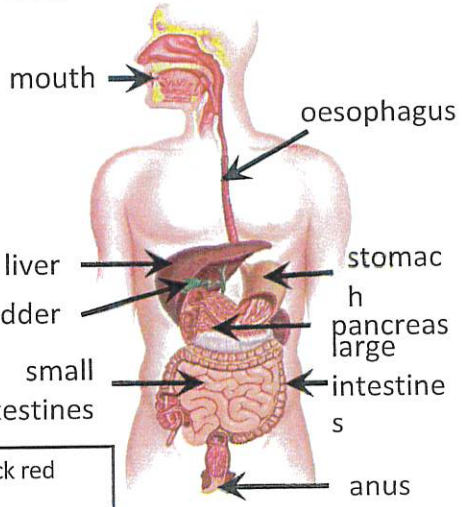
Cells, tissues, organs and systems

Cells		***e.g. muscle cells***	The basic building blocks of all living organisms.
Tissues		***e.g. muscle tissue***	A group of cells with a similar structure and function.
Organs		***e.g. the heart***	Aggregations (working together) of tissues performing a specific function.
Organ systems		***e.g. the circulatory system***	Organs working together to form organ systems, which work together to form an organism.

2. Digestive System

An organ system in which organs work together to digest and absorb food.

The products of digestion are used to build new carbohydrates, lipids and proteins. Some glucose is used for respiration.

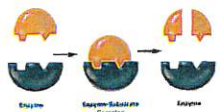


Sugars (glucose)	***Benedicts' test***	Orange to brick red precipitate.
Starch	***Iodine test***	Turns black.
Protein	***Biuret reagent***	Mauve or purple solution.

Food Tests (Skills)

3. Enzymes (Skills)

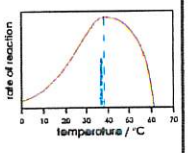
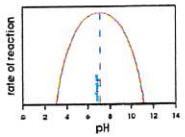
The 'lock and key theory' is a simplified model to explain enzyme action



Enzymes catalyse specific reactions in living organisms due to the shape of their active site

Enzymes catalyse (increase the rate of) specific reactions in living organisms

The activity of enzymes is affected by changes in temperature and pH

Enzymes activity has an optimum temperature	***Enzyme activity has an optimum pH***
	

Large changes in temperature or pH can stop the enzyme from working (denature)

Temperature too high	***pH too high or too low***

Enzyme changes shape (denatures) the substrate no longer fits the active site.

Digestive enzymes speed up the conversion of large insoluble molecules (food) into small soluble molecules that can be absorbed into the bloodstream

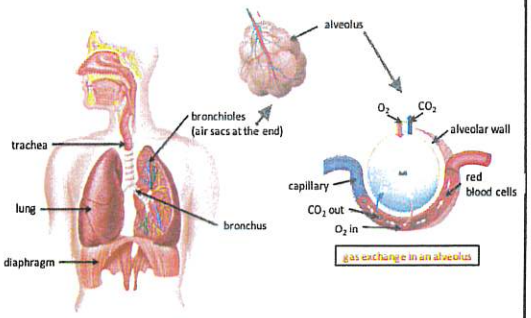
Carbohydrases (e.g. amylase)	***Made in salivary glands, pancreas, small intestine***	Break down carbohydrates to simple sugar (e.g. amylase breaks down starch to glucose).
Proteases	***Made in stomach, pancreas***	Break down protein to amino acids.
Lipases	***Made in pancreas (works in small intestine)***	Break down lipids (fats) to glycerol and fatty acids).
Bile (not an enzyme)	***Made in liver, stored in gall bladder.***	Emulsifies lipids to increase surface area to increase the rate of lipid break down by lipase. Changes pH to neutral for lipase to work

Year 10 Science Organisation

Big Picture: why are we studying this now building on Year 8 organ systems and building on plant organisation (year 7 and Year 9) Organisms are organised on a cellular level

4. Lungs

Trachea	***Carries air to/from the lungs***	Rings of cartilage protect the airway.
Bronchioles	***Carries air to/from the air sacs (alveoli)***	Splits into multiple pathways to reach all the air sacs.
Alveoli	***Site of gas exchange in the lungs***	Maximises surface area for efficient gas exchange.
Capillaries	***Allows gas exchange between into/out of blood***	Oxygen diffuses into the blood and carbon dioxide diffuses out.

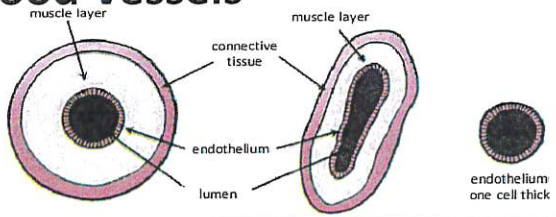


6. Blood

Blood is a tissue consisting of plasma, in which blood cells, white blood cells and platelets are suspended

Plasma (55%)	***Pale yellow fluid***	Transports CO_2, hormones and waste.
Red blood cells (45%)	***Carries oxygen***	Large surface area, no nucleus, full of haemoglobin.
White blood cells (<1%)	***Part of the immune system***	Some produce antibodies, others surround and engulf pathogens.
Platelets (<1%)	***Fragments of cells***	Clump together to form blood clots.

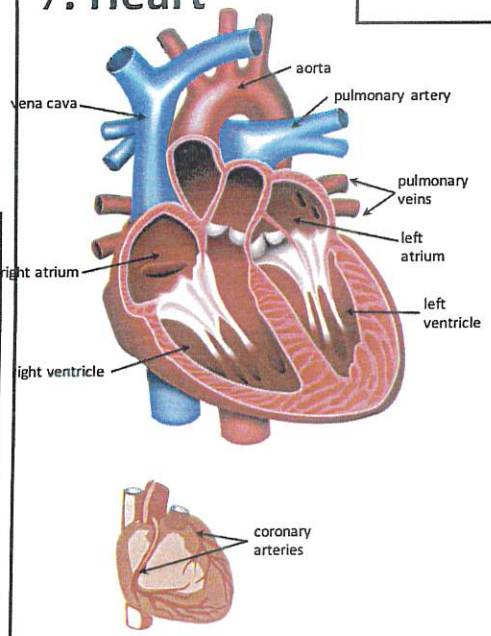
5. Blood Vessels



Artery	Vein	Capillary
Carry blood away from the heart	***Carry blood to the heart***	***Connects arteries and veins***
Thick muscular walls, small lumen, carry blood under high pressure, carry oxygenated blood (except for the pulmonary artery).	Thin walls, large lumen, carry blood under low pressure, have valves to stop flow in the wrong direction, carry deoxygenated blood (except for the pulmonary vein).	One cell thick to allow diffusion, Carry blood under very low pressure.

7. Heart

The heart is an organ that pumps blood around the body in a double circulatory system



Different structure in the heart have different functions

Right ventricle	Pumps blood to the lungs where gas exchange takes place.
Left ventricle	Pumps blood around the rest of the body.
Pacemaker (in the right atrium)	Controls the natural resting heart rate. Artificial electrical pacemakers can be fitted to correct irregularities.
Coronary arteries	Carry oxygenated blood to the cardiac muscle.
Heart valves	Prevent blood in the heart from flowing in the wrong direction.

Year 10 Science Organisation

Big Picture: why are we studying this now building on Year 8 organ systems organisation .
Organisms are organised on a cellular level.

8. Non Communicable Diseases

Disease	*Cause*	Effect	Treatment
Coronary heart disease (CHD)	*A build up for fatty substances in the coronary arteries (atherosclerosis)*	Oxygen-ated blood cannot get to the cardiac muscle.	Stents: inserted into the blocked artery to open it up. Statins: lower harmful cholesterol.
Faulty heart valves	*Valves don't open or close properly*	Blood can leak or flow in the wrong direction	Biological valve transplant or a mechanical valve can be inserted

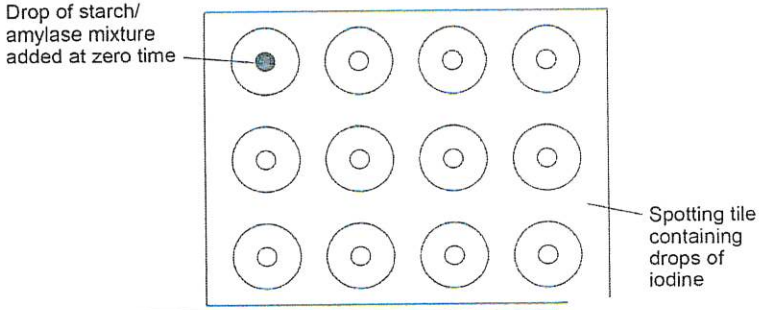
Heart failure can be treated with a transplant or artificial heart

10. Metabolism

Metabolism	The sum of all the reactions in a cell or the body
Includes:	• Conversion of glucose to starch, glycogen and cellulose • Formation of lipids from glycerol and 3 fatty acids • Use of glucose and nitrates to make proteins (PLANTS) • Respiration • Breakdown of protein to from urea.

9. Enzyme Required Practical

Investigate the effect of pH on the rate of reaction of amylase enzyme

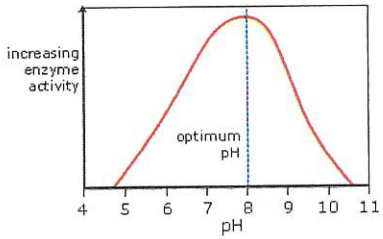


Method

1. Place 1 drop of iodine into a well on the spotting tile
2. Place labelled test tubes containing the buffered pH solutions, amylase solution and starch solutions in to the water bath. Allow them to reach 30°C
3. Add 2cm3 of one of the buffered solutions to a test tube
4. Add 2cm3 of amylase
5. Start the stop clock
6. Mix using a glass rod
7. After 10 seconds, remove a drop of the mixture and add to the first well of the spotting tile.
8. Repeat, adding a drop of the mixture every 10 seconds
9. Continue until the iodine solution and the amylase/buffer/starch mixture stays orange
10. Repeat with solutions of different pH (2,4,6,8)

Optimum pH for amylase is pH6

Alternative investigations may look at the effect of temperature.



- A water bath is needed *to maintain the correct temperature, because temperature affects reaction rate*

Year 10 Science Chemical Change

Big Picture: why are we studying this now building on Year 7 and Year 8 Matter and chemical reaction topics, acids and Bases, reactivity series, electrolysis

1. Reactions of metals

	Reactions with water	Reactions with acid
Group 1 metals	*Reactions get more vigorous as you go down the group*	*Reactions get more vigorous as you go down the group*
Group 2 metals	*Do not react with water*	*Observable reactions include fizzing and temperature increases*
Zinc, iron and copper	*Do not react with water*	*Zinc and iron react slowly with acid. Copper does not react with acid.*

2. Reactivity Series

Metals form positive ions when they react	*The reactivity of a metal is related to its tendency to form positive ions*	The reactivity series arranges metals in order of their reactivity (their tendency to form positive ions).
Carbon and hydrogen	*Carbon and hydrogen are non-metals but are included in the reactivity series*	These two non-metals are included in the reactivity series as they can be used to extract some metals from their ores, depending on their reactivity.
Displacement	*A more reactive metal can displace a less reactive metal from a compound.*	Silver nitrate + Sodium chloride → Sodium nitrate + Silver chloride

potassium	K
sodium	Na
calcium	Ca
magnesium	Mg
aluminium	Al
carbon	C
zinc	Zn
iron	Fe
tin	Sn
lead	Pb
hydrogen	H
copper	Cu
silver	Ag
gold	Au
platinum	Pt

most reactive ↑ least reactive ↓

Unreactive metals, such as gold, are found in the Earth as the metal itself. They can be mined from the ground.

Extraction using carbon	
Metals less reactive than carbon can be extracted from their oxides by reduction.	For example: **zinc oxide + carbon → zinc + carbon dioxide**

3. More Reactions of metals

Reactions with acids	*metal + acid → metal salt + hydrogen*	**magnesium + hydrochloric acid → magnesium chloride + hydrogen** **zinc + sulfuric acid → zinc sulfate + hydrogen**

Acids react with some metals to produce salts and hydrogen.

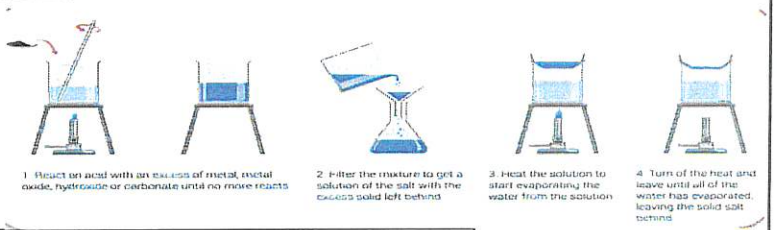
HT ONLY: Reactions between metals and acids are redox reactions as the metal donates electrons to the hydrogen ions. This displaces hydrogen as a gas while the metal ions are left in the solution.

Acid name	Salt name
Hydrochloric acid	Chloride
Sulfuric acid	Sulfate
Nitric acid	Nitrate

Neutralisation	*Acids can be neutralised by alkalis and bases*	An **alkali** is a soluble base e.g. metal hydroxide. A **base** is a substance that neutralises an acid e.g. a soluble metal hydroxide or a metal oxide.

Making soluble salts Required Practical

- Heat acid gently to speed up reaction
- Add excess metal oxide (until solid remains) and filter
- Evaporate gently



sodium hydroxide + hydrochloric acid → sodium chloride + water

calcium carbonate + sulfuric acid → calcium sulfate, + carbon dioxide + water

Metals and oxygen	*Metals react with oxygen to form metal oxides*	**magnesium + oxygen → magnesium oxide** $2Mg + O_2 \rightarrow 2MgO$
Reduction	*This is when oxygen is removed from a compound during a reaction*	e.g. metal oxides reacting with hydrogen, extracting low reactivity metals
Oxidation	*This is when oxygen is gained by a compound during a reaction*	e.g. metals reacting with oxygen, rusting of iron

Year 10 Science Chemical Change

Big Picture: why are we studying this now building on Year 7 and Year 8 Matter and chemical reaction topics, acids and Bases, reactivity series, electrolysis

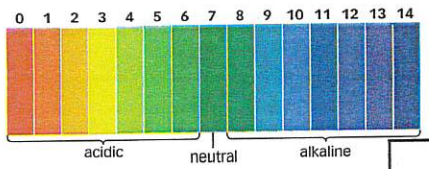
4. Displacement (HT)

Ionic half equations (HT only)		
For displacement reactions	*Ionic half equations show what happens to each of the reactants during reactions*	For example: The ionic equation for the reaction between iron and copper (II) ions is: $Fe + Cu^{2+} \rightarrow Fe^{2+} + Cu$ The half-equation for iron (II) is: $Fe \rightarrow Fe^{2+} + 2e^-$ The half-equation for copper (II) ions is: $Cu^{2+} + 2e^- \rightarrow Cu$

Oxidation Is Loss (of electrons) Reduction Is Gain (of electrons)

5. Acid and Alkali

Soluble salts	*Soluble salts can be made from reacting acids with solid insoluble substances (e.g. metals, metal oxides, hydroxides and carbonates).*
Production of soluble salts	*Add the solid to the acid until no more dissolves. Filter off excess solid and then crystallise to produce solid salts.*



You can use universal indicator or a pH probe to measure the acidity or alkalinity of a solution against the pH scale.

In neutralisation reactions, hydrogen ions react with hydroxide ions to produce water:

$H^+ + OH^- \rightarrow H_2O$

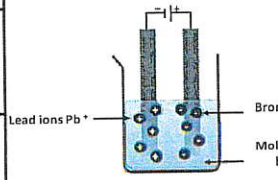
Acids	*Acids produce hydrogen ions (H^+) in aqueous solutions.*
Alkalis	*Aqueous solutions of alkalis contain hydroxide ions (OH^-).*

Strong acids	*Completely ionised in aqueous solutions e.g. hydrochloric, nitric and sulfuric acids.*
Weak acids	*Only partially ionised in aqueous solutions e.g. ethanoic acid, citric acid.*
Hydrogen ion concentration	*As the pH decreases by one unit (becoming a stronger acid), the hydrogen ion concentration increases by a factor of 10.*

6. Electrolysis RQA Skills

Process of electrolysis	*Splitting up using electricity*	When an ionic compound is melted or dissolved in water, the ions are free to move. These are then able to conduct electricity and are called electrolytes. Passing an electric current though electrolytes causes the ions to move to the electrodes.
Electrode	*Anode* *Cathode*	The positive electrode is called the anode. The negative electrode is called the cathode.
Where do the ions go?	*Cations* *Anions*	Cations are positive ions and they move to the negative cathode. Anions are negative ions and they move to the positive anode.

Extracting metals using electrolysis	*Metals can be extracted from molten compounds using electrolysis.*
	This process is used when the metal is too reactive to be extracted by reduction with carbon.
	The process is expensive due to large amounts of energy needed to produce the electrical current. *Example: aluminium is extracted in this way.*



Higher tier: You can display what is happening at each electrode using half-equations:
At the cathode: $Pb^{2+} + 2e^- \rightarrow Pb$
At the anode: $2Br^- \rightarrow Br_2 + 2e^-$

At the negative electrode	Metal will be produced on the electrode if it is less reactive than hydrogen. Hydrogen will be produced if the metal is more reactive than hydrogen.
At the positive electrode	Oxygen is formed at positive electrode. If you have a halide ion (Cl^-, I^-, Br^-) then you will get chlorine, bromine or iodine formed at that electrode.

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

Year 10 Science Particle Model of Matter

Big Picture: why are we studying this now

1.States of matter

State	*Particle arrangement*	Properties
Solid	***Packed in a regular structure. Strong forces hold in place so cannot move.***	Difficult to change shape.
Liquid	***Close together, forces keep contact but can move about.***	Can change shape but difficult to compress.
Gas	***Separated by large distances. Weak forces so constantly randomly moving.***	Can expand to fill a space, easy to compress.

Freezing	Liquid turns to a solid. Internal energy decreases.
Melting	Solid turns to a liquid. Internal energy increases.
Boiling / Evaporating	Liquid turns to a gas. Internal energy increases.
Condensation	Gas turns to a liquid. Internal energy decreases.
Sublimation	Solid turns directly into a gas. Internal energy increases.
Conservation of mass	When substances change state, mass is conserved.
Physical change	No new substance is made, process can be reversed.

Pressure of a fixed volume of gas increases as temperature increases (temperature increases, speed increases, collisions occur more frequently and with more force so pressure increases).

Temperature of gas is linked to the average kinetic energy of the particles.

If kinetic energy increases so does the temperature of gas.

No kinetic energy is lost when gas particles collide with each other or the container.

Gas particles are in a constant state of random motion.

2, Density RPA (skills)

Density	***Mass of a substance in a given volume***

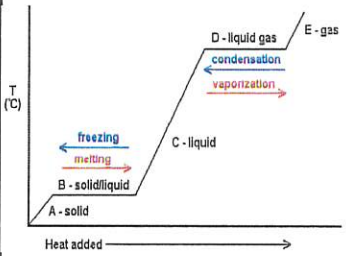
Density = mass ÷ volume.

P = m ÷ V

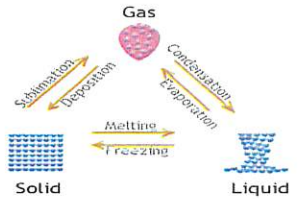
Measure the density of regular and irregular objects:1. Measure mass with balance 2. Regular measure volume with ruler (Lx W x H), irregular work out volume using water displacement 3. Use above equation to calculate denisty

3. Internal energy and energy changes

Specific Latent Heat	***Energy needed to change 1kg of a substance's state***
Specific Latent Heat of Fusion	***Energy needed to change 1kg of solid into 1 kg of liquid at the same temperature***
Specific Latent Heat of Vaporisation	***Energy needed to change 1kg of liquid into 1 kg of gas at the same temperature***



Internal energy	***Energy stored inside a system by particles***	Internal energy is the total kinetic and potential energy of all the particles (atoms and molecules) in a system.
	Heating changes the energy stored within a system	Heating causes a change in state. As particles separate, potential energy stored increases. Heating increases the temperature of a system. Particles move faster so kinetic energy of particles increases.



Energy needed = mass **X** specific latent heat.

$\Delta E = m \times L$

	Units
Density	***Kilograms per metre cubed (kg/m^3)***
Mass	***Kilograms (kg)***
Volume	***Metres cubed (m^3)***
Energy needed	***Joules (J)***
Specific latent heat	***Joule per kilogram (J/kg)***
Change in thermal energy	***Joules (J)***
Specific heat capacity	***Joule per kilogram degrees Celsius (J/kg°C)***
Temperature change	***Degrees Celsius (°C)***
Pressure	***Pascals (Pa)***

Specific Heat Capacity	***Energy needed to raise 1kg of substance by 1°C***	Depends on: • Mass of substance • What the substance is • Energy put into the system.

Change in thermal energy = mass **X** specific heat capacity **X** temperature change.

$\Delta E = m \mathbf{X} c \mathbf{X} \Delta\theta$

Geography spring term homework revision knowledge organiser - Urban Issues in Contrasting global cities

The size of urban areas across the world is growing in terms of its physical size and the number of people in them (urbanisation). Cities in Newly industrialised Countries (NICs) are growing at a particularly fast rate. Most of the worlds largest mega-cities are in Asia.

As a result of globalisation, places around the world are now more connected than ever before. Global cities have become key areas.

Although global cities are distributed widely across the world it is not an even distribution. For example;

- North America, Western Europe and South Asia have clusters of global cities
- Africa has very few
- India has 8
- China has 14

The rate or urbanisation varies across the world. In many HICs the period of rapid urbanisation occurred back in the 1800s, whereas many LICs are experiencing it at the moment.

Example of a city in an NIC: Mumbai

Location: northern India on a low lying island on the Arabian Sea. India's largest city with a population of 21million.

Reasons for growth;

- Natural population change – in 1974 the fertility rate was 4, although this has now reduced to 1.8. Natural change was therefore a big factor in the 1970's and 1980s but less so now.
- Migration – the pull factors for Mumbai are cheap rail travel, jobs and better education. The push factors from the surrounding countryside are poor standards of housing, healthcare and sanitation.
- Connections – Mumbai is the financial capital of India and home to the stock exchange. It is also home to large MNCs.

Issues of working in the informal sector;

1. Wages are low = families unable to save and cannot afford to send children to school = children fail to get an education and forced to work in informal sector
2. Informal workers don't par tax = government does not raise income and cannot afford to invest in schools or hospitals = children fail to gain a good education and forced to work in the informal sector

Way of Life;

Mumbai is a city of contrasts. One obvious one is the difference between rich and poor. Many well education people live in expensive properties while the majority of the city live in slums and work in the informal economy (in roles such as street vendors and rubbish collectors)

The slums and housing problems;

Mumbai has the largest slum population of any city in the world, with more than half of its 12 million people living in informal settlements. A lack of sanitation, toilets, adequate housing, paved streets and open sewers are just some of the issues that face people living in these areas. Disease often spreads quickly due to the conditions and lack of health care facilities. Areas are overcrowded and there is a lack of green space.

Current Urban Challenges

- Reducing poverty and deprivation – with such a large proportion of people living in slums, Mumbai has millions stuck in a cycle of deprivation. Education opportunities for these people are being increased, in addition to improved healthcare and sanitation.
- Housing – the majority of people live in slums, are pavement dwellers or live in crawls (four or five story tenement buildings with shared facilities). These areas suffer from overcrowding and the risk of fire, flooding or collapse.
- Bhendi Bazaar is an example of an area which has been redeveloped;

1. Sewer and sanitation facilities installed
2. Solar panels used to generate electricity
3. Improved lighting of communal areas
4. Wide tree lined pedestrian areas
5. CCTV to improve safety
6. Improved public transport connections

Example of a city in a HIC; Manchester

Location; North-west England

- Large city in North West England, 50 km west of Liverpool and 260km north west of London.
- Grew as an industrial city, especially after the opening of Manchester Ship Canal made it a trading port with the rest of the world.
- Became the centre of the UK's cotton industry
- Many factories & docks closed by 1970, city became run-down, riots in the early 1980's.
- Now reinvented as a modern city, with finance, restaurants, leisure and shops replacing the run-down warehouses and docks.

Salford Quays – An area of affluence

- High standard of living (wages) and quality of life (clean, safe, vibrant living experience)
- Low levels of unemployment, most are professionals earning huge salaries, highly educated and skilled, children have aspiration
- More educated therefore less likely to smoke or drink to excess. Houses well heated and modern.
- Health is good meaning life expectancy is 3 years above NA, people have balanced diets, have gym memberships & drink less.
- Crime is combatted by widespread CCTV and high tech security systems and staff

Hulme – Is an area of Manchester which suffers from deprivation. 99% of children live in poverty. Salford is an area that did experience poverty but through a series of regeneration projects now is largely more affluent.

How can we measure it?

- Standard of living is how wealthy you are, quality of life is how healthy and happy u r.
- Child poverty and fuel poverty are also used
- Hulme has very high unemployment, low wages, low skill levels and poor performing schools. Youths lack aspiration, crime is v. high
- Health is poor meaning life expectancy is extremely low. Few can afford 5 fruit & veg a day, alcohol/drug addiction high, including smoking. Houses are sub-standard and damp.
- Life expectancy 5 years below NA, gun crime is rife, few job opportunities for migrants.

How can we reduce it?

- Comprehensive redevelopment of old housing with modern, sustainable homes (see below)
- Use of Pupil Premium to help less well off to do better at school and gin more qualifications
- Language classes, adult employment skills courses offered for free, free transport to work / interviews
- Improve health by stop smoking classes, drug & alcohol education and cheaper fruit and veg.
- Reduce racial discrimination in the

Migration into Hulme

- People from the West Indies, India & Pakistan came to fill labour shortages in the 1960's
- People from Ireland fled famine in 1840's, Somali's came to escape civil war & famine in the 1980's & 90's.
- They cluster close to people with a similar language & culture, for religious reasons (mosques, halal butchers) & for safety.
- They have few qualifications or skills, struggle with language, living in sub-standard housing and racial discrimination.

Urban renewal in Salford Quays

- Salford Quays was originally Manchester Docks, linked to the Irish Sea by the Manchester Ship Canal, built in 1894.
- Became run down by the 1970's and closed. Area of decay and high unemployment.
- Salford Quays includes new-build executive housing and renovated warehouses (apartments)
- Over 300 homes, 5-star hotel, shops, restaurants, offices. Advantages of brownfield sites include
  - ✓ Electricity, water and road structure already there
  - ✓ Dangerous, run-down buildings made safe
  - ✓ Protects ru-urban fringe – encouraging building here means edge of town developments can be refused

Improving Housing in Manchester – Sustainable solutions

- All new housing in Salford Quays is built as sustainable living to reduce C02 emissions.
- New housing is designed to have a south facing aspect to reduce the need for heating and lighting
- Walls are insulated to at least 30cm thickness
- Use of cars is discouraged, Metrolink has been built through the Quays, the Millennium Walkway allows traffic free cycling and walking into nearby city centre.
- Excellent internet access allows for working from home.
- Use of renewable energy such as wind and solar

Solving Manchesters Traffic Issues

Solving Manchester's traffic issues

200,000 homes are projected to be needed around Manchester before 2040. TfGM 2040 promises:

- Electrification of all major railways
- Further expansion of Metrolink
- Integrated ticketing system with use of mobile phones and swipecards to cut down on queues.
- More cycle lanes, bus lanes and safe walkways.
- Developing 'Park and Ride' schemes close to railway stations such as Horwich Parkway.
- Encouraging 'water transport' on the Manchester Ship Canal into Salford.
- Northern Hub – series of improvements to railway system in and around Manchester.

Year 10 History The Religious Settlement

1. Key content

There had been decades of conflict between Protestants and Catholics before Elizabeth became queen. When she first became queen, she wanted to find a solution which would try to please all of the religions in England and end the fighting and conflict.

She introduced two acts, the Law of Uniformity and the Law of Supremacy. These are known as her 'Religious Settlement', or 'Middle Way'. They included things to make both religions happy so that they could exist together happily.

While most people agreed with the Religious Settlement, she later faced threats from Catholics and Puritans.

2. Vocab

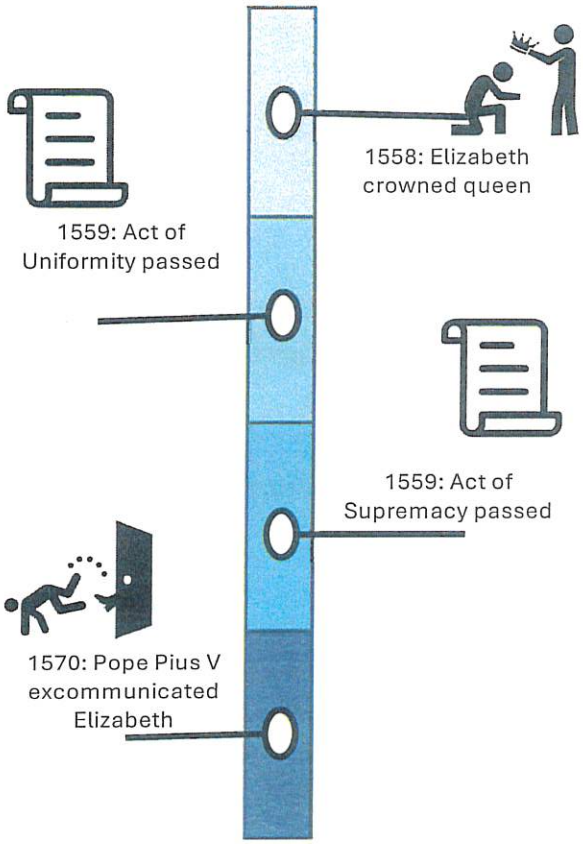
Catholic	A traditional form of Christianity which worshipped in a very grand and highly decorated way
Protestant	A church which separated from the Catholic church and worshipped in a plain and simple way
Puritan	An extremely strict type of Protestant
Religious Settlement	Elizabeth I's religious policy to try and make all religions happy and to prevent conflict between them,

3. People

'Bloody' Mary I – The very strict Catholic queen before Elizabeth. She burned 300 Protestants to death during her reign.

Matthew Parker – The Archbishop of Canterbury (head of the church in England) when Elizabeth introduced her Religious Settlement

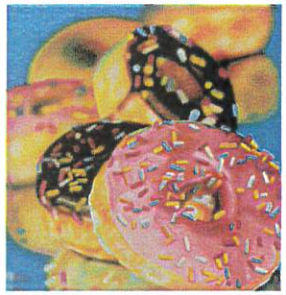
Pope Pius V – The Pope when Elizabeth introduced her Religious Settlement. He excommunicated her (kicked her out) of the church in response.

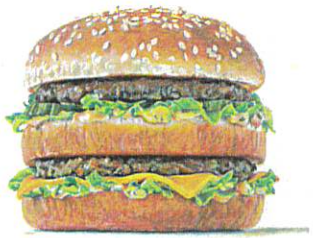


OPTIONS SUBJECTS

Food, Glorious Food

- **This term we have been looking at still life by various artists: Georgina Luck, Sarah Graham and we have mentioned Joel Penkman.**
- **Which has been your favourite and why?**
- **What would you like to draw/paint next?**
- **Have you/could you take photos of what you want to draw next?**
- **Have you googled them and tried to find out interesting facts about them? If not – please do this and include this on your artist research pages.**
- **Artist Research** – Which artists have we looked at this year in art? Have you written about and analysed each one? Have you explained which ones are your favourites and why? Please include wrappers for the Georgina Luck work and then try and include photographs for the Sarah Graham work.





Which one of these do you prefer? Can you name all three artists?

Still life

Still life is a collection of **objects** arranged in a specific composition.

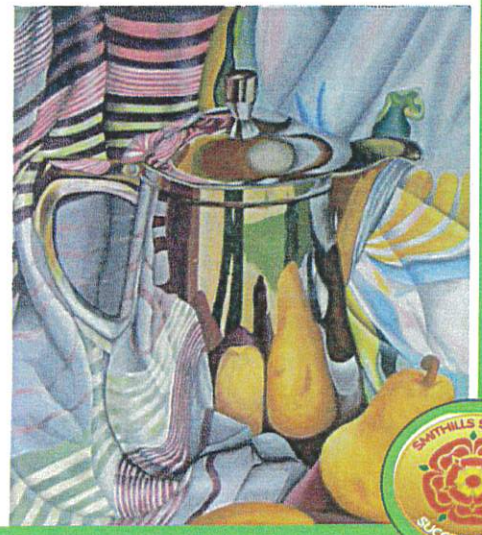
The collection could be based on:

- personal items
- objects found in a particular environment
- objects linked to a theme
- objects of the same material

Consider the **arrangement** carefully. Think about how the objects lead a viewer's eye round the painting and how different objects can create harmony and contrast

Think about:

- lighting
- colour palette (cool or warm colours)
- painting techniques
- media and surfaces



1. Linear Search	2. Binary Search	3. Bubble Sort
- **Key Concepts:** - **Definition:** A search algorithm that goes through a list item by item until it finds the target value. - **Time Complexity: O(n)** (slow for large lists). - **When to Use:** If the list is **unsorted** or small. - **Examples:** - Searching for a specific name in an **unordered** class register. - Looking for a book on a **randomly arranged** bookshelf.	- **Key Concepts:** - **Definition:** A search algorithm that repeatedly divides a **sorted** list in half to find a target value. - **Time Complexity: O(log n)** (fast for large lists). - **When to Use:** Only works if the list is **already sorted**. - **Examples:** - Looking up a word in a **dictionary** by checking the middle page and moving left or right. - Searching for a name in a **sorted** phonebook using the divide-and-conquer approach.	- **Key Concepts:** - **Definition:** A sorting algorithm that compares adjacent items and swaps them if they are in the wrong order. - **Time Complexity: O(n^2)** (inefficient for large lists). - **How It Works:** Repeatedly **bubbles up** the largest value to the end. - **Examples:** - Sorting a list of student scores by repeatedly swapping numbers until sorted. - Arranging playing cards in order by comparing adjacent cards multiple times.

4. Insertion Sort	5. Merge Sort
- **Key Concepts:** - **Definition:** A sorting algorithm that builds the sorted list one item at a time by inserting elements into their correct position. - **Time Complexity: O(n^2)** (inefficient for large datasets but works well for small lists). - **How It Works:** - Start with the second element and compare it to the first. - Insert it into the correct position. - Repeat for all elements. - **Examples:** - Sorting a hand of playing cards by picking up one card at a time and placing it in order. - Arranging a set of numbers in ascending order manually.	- **Key Concepts:** - **Definition:** A **fast and efficient** sorting algorithm that splits a list into smaller sublists, sorts them, and merges them back together. - **Time Complexity: O(n log n)** (much faster than Bubble and Insertion Sort for large lists). - **How It Works:** - Recursively divide the list into two halves until each half contains a single element. - Merge the halves back together in order. - **Examples:** - Sorting a long list of words by splitting them into small groups, sorting them, and combining them. - Used in **real-world applications** like sorting large databases.

A Linha Curva - by Rambert > Shadows - Christopher Bruce > Emancipation of Expressionism - by Boy Blue > Component 1 > Component 1 > Component 2

Year 10 - Dance - Spring Term 2 - Exploring professional dance works

Big Picture: Dancers in Year 10 are studying BTEC Tech Award in Performing Arts with a dance approach by studying three professional dance works. Pupils will be studying Component 1: Exploring the Performing Arts this term. In this component pupils will develop their understanding of the performing arts by examining the work of performing arts professionals and the processes used to create performance. The third professional dance work you will study and complete for your Pearson Set Assignment is Emancipation of Expressionism by Boy Blue.

1. Key features

Stimulus	The music – Til Enda by Olafur Arnalds. The importance of being free to express yourself as an individual and through hip-hop movement
Dance Style	Hip-hop (poppin' lockin' waackin' breakin' krumpin')
Themes	Order, chaos, unity, individuality
Music	Urban dubstep style music. Classical sections. Repetitive beats and sounds. Repeated vocal 'The One'.
Lighting	Blue wash, blue pools, white sidelight from off stage. Purple on cyclorama.

2. Choreographic intention and Choreographic approach

Choreographic intention	Emotional journey, A journey through life, Theme of order and chaos
Choreographic approach	Choreographer worked collaboratively with the dancers. Signature motifs of the company used throughout. (Ninja motifs) Developed using devices and formations Specific attention to the aural setting – direct correlation.

3. Costume Contributions

Costume – Expressing individuality – allowance of personal jewellery, hairstyles and tattoos reflects the stimulus of expressing yourself. All dancers wearing the same creates uniformity. The costumes are gender neutral which represents equality despite of gender.

4. Music and Lighting Contributions

Music – pre-recorded music is played. Order and Chaos – rapidly changing tempos and beats create a sense of chaos. Use of fluid sounding classical music complements the liquid style lighting creating a sense of being submersed in water. Each of the 4 sections has its own distinctive section of aural setting aiding the audiences following of the structure.

Lighting – Freedom of expression – spotlights highlight dancers to express themselves in their own moment in the 'limelight'. Blue colour complements blue costumes. Spotlights highlights dancers in their solos sculpts body – side light sculpts the bodies of the dancers as they scramble towards it.

Year 10 Graphics: Knowledge Organiser – Spring 2

Key Outcome 1

The Assessment Objectives (AO's) in art and design are the criteria used to evaluate pupils work in art and design. They cover 4 key areas: research, experimentation, ideas/record observations and present final outcome.

Why are the Assessment Objectives important?
These objectives are important because they provide a clear structure for developing your artistic abilities and helps your work be assessed fairly. Each objective builds upon the other, creating a complete approach to your project.

AO1

Develop ideas through investigations, demonstrating critical understanding of sources.

What this means to you:
Study artists and designers who inspire you. Analyse their techniques, materials, and meaning behind their work. Your research should be active - sketch parts you find interesting, try out their techniques, and write about what you've learned. Then use these insights to develop your own unique ideas. Show clear links between your research and how it sparked your creativity.

AO2

Refine work by exploring ideas, selecting and experimenting with appropriate media, materials, techniques and processes.

What this means to you:
This is about making your work better through experimentation. Try different materials - maybe combine paint with photography or mix digital with traditional techniques. When something works, develop it further. When it doesn't, learn from it and try a new approach. Keep samples of all your experiments, even the ones that didn't work out.

Keywords

Research	Looking at artists' work to get inspired
Experimentation	Trying out different ways to create art
Investigation	Finding out what works and why
Development	Making your ideas better step by step
Documentation	Photos/notes of your progress
Critical understanding	Explaining why you made your artistic choices
Visual language	How you use art to express your ideas

AO3

Record ideas, observations and insights relevant to intentions as work progresses.

What this means to you:
Think of this as creating a journey of your project. Take photos of your work in progress, make detailed sketches, write notes about your decisions. Include close-up shots of interesting textures or techniques. Show how each piece develops from rough idea to finished work. Your sketchbook should tell the complete story of your creative process.

AO4

Present a personal and meaningful response that realises intentions and demonstrates understanding of visual language.

What this means to you:
Your final piece should show everything you've learned. It needs to clearly connect to your research, show your best technical skills, and express your personal ideas about the theme. Think about presentation - how will you display it? What background information will help others understand your work? Make sure it's refined and well-executed.

1. Project Methodologies	2. Gantt Charts	3. Mood Boards
- **Key Concepts:** - **Definition:** A structured approach to planning and managing a project. - **Common Methodologies:** - **Waterfall:** Sequential, stage-by-stage approach (e.g., design → develop → test). - **Agile:** Iterative and flexible development with ongoing feedback. - **Scrum:** A subset of Agile that focuses on short development cycles called sprints. - **Importance:** Ensures projects are delivered on time and meet requirements. - **Examples:** - Using Agile for app development to adapt to changing user needs. - Applying Waterfall for a structured website design project.	- **Key Concepts:** - **Definition:** A visual tool used for project scheduling that displays tasks along a timeline. - **Key Features:** - Tasks represented as bars along a timeline. - Dependencies show which tasks must be completed before others can begin. - Milestones mark important deadlines or phases. - **Importance:** Helps track project progress and identify potential delays. - **Examples:** - A Gantt chart for a website project showing phases for research, design, and development. - Planning a marketing campaign timeline using a Gantt chart to manage deadlines.	- **Key Concepts:** - **Definition:** A collection of visual materials used to convey a project's style, theme, and concept. - **Purpose:** - Helps generate design ideas and inspiration. - Ensures a consistent aesthetic across a project. - Communicates design concepts to clients or stakeholders. - **Examples:** - A mood board for a mobile app featuring color schemes, fonts, and interface elements. - A fashion design mood board displaying textures, patterns, and theme ideas.
4. SMART Targets	**5. Project Constraints**	**6. Contingency Plans**
- **Key Concepts:** - **Definition:** Goals that are designed to be clear, achievable, and measurable. - **SMART Criteria:** - Specific: Clearly defined objectives. - Measurable: Can track progress. - Achievable: Realistic within resources. - Relevant: Aligns with overall project goals. - Time-bound: Has a deadline. - **Importance:** Helps ensure projects stay on track and meet objectives. - **Examples:** - "Increase website traffic by 20% within three months." - "Complete user testing for an app by April 30th."	- **Key Concepts:** - **Definition:** Factors that limit or affect a project's success. - **Common Constraints:** - **Time:** Project must be completed by a deadline. - **Budget:** Limited financial resources. - **Scope:** The project cannot expand beyond agreed goals. - **Resources:** Limited personnel, software, or equipment. - **Examples:** - A school IT project must be completed before the next academic year. - A marketing campaign has a strict £5,000 budget.	- **Key Concepts:** - **Definition:** Backup plans that address potential risks to keep a project on track. - **Purpose:** Helps minimize disruptions caused by unexpected problems. - **Common Contingency Measures:** - Extra budget for unforeseen costs. - Backup staff for key roles. - Alternative suppliers for critical resources. - **Examples:** - Having a second developer assigned to a project in case the lead developer falls ill. - Creating an emergency fund to cover unexpected hardware failures during system deployment.

Big Picture: *Blood Brothers*, a musical by Liverpudlian playwright Willy Russell, revolves around twin boys (Mickey and Edward) who are separated at birth and brought up in completely different environments in the city. The play, set in the 1960s, is divided into two acts, with songs throughout.
Mickey is brought up with his seven older siblings by his struggling single mother, Mrs Johnstone. His twin brother, Edward, however is brought up as the only child of the wealthy Lyons family, who live nearby, after Mrs Lyons persuaded Mrs Johnstone to hand over one of her twins at birth. Mickey and Edward don't meet each other until they're seven years old, but immediately become best friends and blood brothers. The bond continues when the boys are teenagers and both live in the countryside, despite them both being in love with Mickey's neighbour Linda. However, as they get older, the huge difference in their backgrounds pulls them apart and eventually leads to their tragic deaths.

1. Key concept - Themes

Chance is our main focus -
Chance that Mrs Johnstone says 'no'
Chance that the twins find out.
Chance that Linda chooses Eddie over Micky.
Chance that Micky doesn't do the job with Sammy.
Chance that Eddie and Micky don't fall out.
Other themes - love, relationships, family, superstition, social class, poverty.

2. Key concept - Stylistic Features - Brecht

Scenes are **episodic**, which means they stand alone and are constructed in small chunks, rather than creating a lengthy and slow build of tension.
Dramatic theatre has a **linear narrative** which means its events happen in chronological order. Epic theatre often has a **fractured narrative** that is non-linear and jumps about in time.
Epic theatre also shows an argument. It's a clear political statement. The audience remains objective and watches a **montage** or a series of scenes.
Standing outside the action emotionally, the audience can study the story objectively and should recognise social realities.
The V effect - Addressing the audience using narration, coming out of role, speaking the stage directions or using placards.
Muti-role - Playing multiple characters
Montage - Short self contained scenes one after another.
Tableaux - Freeze-frames

3. Key concept - Roles and Responsibilities

1. Playwright
2. Choreographer
3. Director
4. Set designer
5. Costume designer
6. Sound designer
7. Lighting designer

Smithills School Performing Arts

What was the process of creating Blood Brothers?

1. Writing the script
2. Creating storyline
3. Creating character
4. Auditions
5. Rehearsal
6. Technical rehearsal
7. Dress rehearsal
8. Reviews

Tone	The way an actor uses their voice to show emotion	**Gesture**	Communicating using hands or arms
Pitch	How high or low the voice is	**Posture**	The way an actor sits or stands
Pace	How fast or slow the voice is	**Gait**	The way an actor walks
Volume	How loud or quiet the voice is	**Facial Expression**	The actor using their face to show emotion
Accent	The way the voice is affected by where you come from	**Proxemics**	The distance between actors on stage
Emphasis	Putting stress on a particular word or section	**Orientation**	The direction an actor is facing
Pause	Leaving a short gap in-between words	**Mime**	Showing the audience an invisible object

Promotion

Promotion – any method of communication that encourages current and potential customers to buy. The promotional "mix" is the combination of different types of promotion used.

Method 1: Advertising.....	
Moving Image e.g. TV/Cinema	Can see moving parts in action
Print e.g. Newspapers (local or national), magazines, leaflets	Seen by lots of people and can be in a specific area e.g. local newspaper or national one
Ambient e.g. public places like bus stops	Catches the attention of passers by
Digital e.g. websites and social media	Both large and small business can connect directly with customers
Audio e.g. local and national radio	You can be heard

Method 2: Sales promotion

Why? Boost sales, clear old stock, get people to buy more expensive items at the same time, attract new customers.....

Coupons e.g. money off voucher	+ encourages sales - Impacts profits
Free sample	+ potential repeat sales - Impacts profit
Competitions 	+ builds up marketing -impacts on profits
Money off discount 	+ encourages purchases - Profit affected if sales are low
Loyalty incentive 	+ builds long term customer relationship - Impacts on profits if too few sales
BOGOF 	+ encourages additional purchases - Profits reduced if sales are too low

Method 3: Personal Selling

Is when a representative of an enterprise contacts customers directly.....

1) Face to face
2) Telephone
3) Email
4) Video/web-conferencing

Method 4: Public Relations (PR)

Creating a positive public image, make the brand look better or to get more publicity through the media.

e.g. though sponsorship of events, through an exhibition or through a press release.

Method 5: Direct Marketing

Communicating directly with a customer to try to sell them something. It can be through a phone call or written communication

e.g. Emails and text messaging
e.g. Direct (junk) mail
Telemarketing (phone calls)

Targeting and Segmenting the Market

Markets can be split into different sections (know as segments). Each segment of the market contains customers with different characteristics.

Enterprises decide which type of marketing to use based on if they are targeting a business to business (B2B) or business to consumer (B2C) market.

B2B – an enterprise sells goods to another enterprise e.g. raw materials or equipment.

B2C – sells directly to the customer for their own use

Market Segments...

Demographic – splits the population based on characteristics e.g. Age, Gender, Income, Education level, Ethnicity, Family Size etc.

Geographic – splits the customers based on where they live e.g. people living in colder areas of the world will need different types of clothing.....different areas have different cultures so will buy things differently.

Behavioural – splits the market based on how customer relate to products e.g. spending habits, usage, loyalty to a brand etc.

Psychographic – segmented by personality, likes and dislikes, lifestyles, interests and attitudes. E.g. products may be recyclable to attract customers who care about the environment.

Factors affecting the promotion choice...

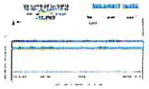
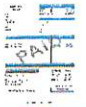
1) Size of enterprise – large enterprises tend to have larger budgets, use a wider range of promotional methods, have larger teams to promote products.

2) Budgets – budget size is based on the number of competitors and the potential revenue from selling the product.

3) Target markets – appealing to a specific group of people or location will influence the promotional mix. E.g. smaller local enterprises may wish to only promote themselves to a smaller group of people within a specific area.

Finance

Any enterprise will use a range of documents throughout the buying and selling process to record sales and purchases of goods and services

1) Purchase Order 	• Completed by the customer • A legal offer to buy goods from a supplier • Sent to the supplier requesting products
2) Delivery Note 	• Completed by the supplier • Sent to the customer when goods are delivered Shows goods that were delivered/not supplied
3) Invoice 	• Completed by the supplier • A request for payment • States the date the money needs to be paid by • Explain how to pay
4) Receipt 	• Completed by the supplier and sent to the customer • A record of how much they have paid
5) Credit Note 	• Lists any goods returned by customer • Confirms how much will be refunded to the customer
6) Statement of account	• A financial summary of goods ordered, purchased or returned

TASK 1

Une visite chez un ami

Lisez cet extrait du conte *Une Famille* de Guy de Maupassant.

Quelle est l'attitude de Georges au sujet des aspects suivants ?

Notez	**P**	pour une attitude **positive**
	N	pour une attitude **négative**.
	P + N	pour une attitude **positive** et **négative**.

Ecrivez les bonnes lettres dans les cases.

Georges rend visite à un vieil ami, Simon.

Dans la voiture, je traverse la ville qui me semble triste et laide. Il n'y a rien dans les rues, sauf quelques chiens. Enfin, la voiture s'arrête devant la maison de Simon. Il me conduit dans une grande chambre confortable avec une belle vue sur le jardin. Plus tard, je descends pour dîner dans la salle à manger. Les trois enfants n'aiment pas la soupe à l'oignon et refusent d'en manger. Ils ont raison. Je trouve les enfants mignons, animés mais trop bruyants. Le chien me regarde fixement. J'ai horreur des animaux.

1	La ville	

(1)

2	Sa chambre	

(1)

3	La soupe	

(1)

4	Les enfants	

(1)

5	Le chien	

(1)
(Total 5 marks)

TASK 2

Relations with parents

A Canadian magazine has published a survey about why young people argue with their parents.

Anna
Mes parents m'énervent. Ils s'inquiètent de mes résultats scolaires.

Emilie Je me dispute avec mes parents au sujet du temps que je passe devant un écran.
Hamza Mes parents n'aiment pas mes vêtements.
Lila Selon mes parents, je me couche très tard.
Maxime Pour mes parents, je n'aide pas assez à la maison.
Thomas Mes parents pensent que je sors trop souvent avec mes amis.

Write the name of the correct person for each statement.

1	According to my parents I go out too much.	

(1)

2	My parents think I should go to bed earlier.	

(1)

3	My parents pressure me to do well at school.	

(1)

4	My parents say I don't do enough housework.	

(1)
(Total 4 marks)

TASK 3

A family

Read this extract from the novel *La maison du chat qui pelote* by Honoré de Balzac.
Answer the questions in **English**

Guillaume, le marchand de tissus, avait deux filles. L'aînée, mademoiselle Virginie, était tout le portrait de sa mère. Augustine, à peine âgée de dix-huit ans, ne ressemblait ni à son père ni à sa mère. Augustine et Virginie n'ont donné que du contentement à leur mère, qui était satisfaite de la perfection du caractère de ses deux filles. Elevées pour le commerce, ayant étudié la grammaire, un peu d'histoire, c'est-à-dire seulement les matières qui leur étaient permises par leur mère, leurs idées n'étaient pas très compliquées.

1 What do we know about Virginie's appearance?...

_____

(1)

2 What do we know about Augustine's appearance?...

_____

(1)

3 What does the girls' mother think of her daughters?...

_____

(1)

4 What are we told about the girls' education?...

_____

(1)
(Total 4 marks)

TASK 4

Family relationships

A French Canadian teen magazine has published an item about family relationships. Read what these girls from Quebec say about their families.

Write the name of the correct person for each statement.

1	Whose sister is helpful?	

(1)

2	Whose sister shares the same interests?	

(1)

3	Who does not see her mother often?	

(1)

4	Who shares her concerns with her mother?	

40

(1)

5	Whose relationship with her mother is difficult?	

(1)

6	Who is the youngest in her family?	

(1)
(Total 6 marks)

TASK 5

When friends fall out

Read these messages that young people write about their friends.

For each person choose the word which best describes **their friend**.

Please note: **I** and **J** are not used.

Write the correct letter in the box.

A	dishonest
B	greedy
C	untidy
D	jealous
E	unreliable
F	lazy
G	sarcastic

H	thoughtless
K	intolerant

Example

Alan m'énerve de plus en plus. Il n'accepte jamais ce que disent les autres, et il croit qu'il a toujours raison. Et si on n'est pas d'accord avec lui, il se met vite en colère.	

1

J'en ai marre d'avoir des amis sur lesquels je ne peux plus compter. Chloé devait venir chez moi après les cours pour m'aider avec mes devoirs, mais elle n'est toujours pas arrivée, et je vais bientôt me coucher. Ce n'est même pas étonnant – elle a fait la même chose la semaine dernière. Elle est gentille, mais mal organisée.	

(1)

2

Sarah m'a emprunté mon rouge à lèvres sans me demander. Elle s'est servie dans ma chambre. Quand je lui en ai parlé, elle m'a promis qu'elle ne l'avait pas pris. Cependant, je l'ai vu dans son sac à main.	

(1)

3

Nayana a effacé mon numéro de son portable, simplement parce que je me suis assise à côté de son petit copain pour déjeuner ce midi, et on a bavardé un peu. Je trouve sa réaction étrange, car elle sait que je sors avec Willem depuis deux ans.	

(1)

4

Joël ne se rend pas compte de ce qu'il dit quelquefois. Il parle toujours de ce qu'il a acheté ou de ses vacances en Thaïlande. Il ne le fait pas exprès, mais c'est gênant pour ceux dont les parents ne sont pas aussi riches que les siens.	

(1)

(Total 4 marks)

TASK 6

Your sister has seen this problem page letter and asks you to translate it for her into **English**.

Je me dispute avec mes parents à cause de mes copains qui, selon mon père, ont une mauvaise influence sur moi. Samedi, il n'était pas content car j'ai participé à une manifestation contre la pollution. Je lui ai dit que je ferais de mon mieux pour protéger la planète, ce qui me semble plus important que mes études.

Legislation part 3

Hair beauty Smithills school

Scabies – crusted scabies are very contagious and the infestation can spread easily both by direct skin-to-skin contact and by contamination of items such as clothing, bedding, and furniture.

Pediculosis – Head lice (pediculosis capitis) is a common, highly contagious infection. It is caused by infestation with the human head louse, Pediculus humanus capitis, and it is usually very itchy.

Salon Sterilisation methods

Autoclave – For metal tools used for hair, nails or beauty therapy services, for example; scissors, tweezers, cuticle knife/cuticle nippers

Ultra-violet cabinet – suitable for all tools

Chemical sterilisers – Scissors, tweezers, combs, brushes, sectioning clips:

- Mostly used in chemical jars, a solution is prepared following manufacturers' instructions
- Tools are submerged for 20 minutes to be fully sterilised

Sterilisation – the killing of organisms such as bacteria, fungi and parasites

Disinfecting – the elimination of the most harmful microorganisms (not including their spores) from surfaces or objects.
Disinfectants should not be used directly on the skin, nails or any part of the body. (Wear gloves when using disinfectants.)
All disinfectants must be mixed, used and disposed of according to the manufacturer's instructions.
Before items can be properly disinfected, they must first be cleaned

Accidental injury – a trip or fall resulting in a minor injury, for example, sprain or cut to skin

- Accidents using products and equipment – shock, burn or scald from electrical items, inhalation of products, trip or fall resulting from hazard
- Medical conditions, for example, angina, heart attack, asthma attack, epilepsy
- Fire – building, electrical equipment, flammable products

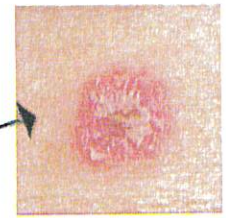
Personal appearance should include:

- Clean hair
- Clean nails and hands
- Good personal hygiene
- Accepted uniform/clothes
- Any cuts or abrasions should be covered

A **risk** is the likelihood that the hazard will cause harm
A **hazard** is something with the potential to cause harm:

Bacterial

Impetigo – exposure to the bacteria that causes impetigo can be from contact with the sores of someone who is infected or with items they have touched – such as clothing, bed linen, towels. Very contagious.



Folliculitis – can be spread through unclean tools such as razors.

Boils – can spread if they are infected, not covered and direct contact is made with another person

Legislation and working practices influencing businesses(Code of practice)

Hair beauty Smithills school

What might be included in a code of practice?

- Insurance and licences
- Qualifications and training information
- Health and safety requirements
- Age restrictions
- Vulnerable client support
- Allergy alert testing and skin sensitivity testing
- Consultation guidance
- Professional salon standards
- Advertising, promotion and pricing
- Sale of products guidance
- Contracts and credit information
- Record-keeping recommendations
- Complaints procedures

Codes of practice

- Codes of practice are recognised by the Health and Safety Executive
- (HSE) so have special legal status
- A person can be prosecuted if they do not follow an agreed industry
- code of practice even though it is not part of any law
- For example, if you perform an eyelash tint or hair colour without
- first performing a skin test and the client has a reaction, they can
- prosecute the salon and the individual therapist or stylist

Professional practices

- All personal information given to you by your client must be kept in confidence and should be stored following the Data Protection Act (GDPR)
- Respect other professions by referring clients appropriately, for example to a GP, chiropodist, dermatologist, trichologist
- Ensure client suitability for a service or treatment and only proceed on clients with a GP referral letter (where required)
- Keep up to date with theory knowledge and practical treatment and service knowledge
- Ensure the salon booking system is efficient – making sure you have sufficient time for each client

What is a code of practice?

- Codes of practice are written by Sector Skills Councils (SSC's) in the hair and beauty sector
- They set out industry recognised standards
- They are written to offer guidance on how to comply with the law by relating legislation and regulations to the hair and beauty industry

What is a code of ethics?

of ethics are rules of behaviour that aim to protect clients from improper practice.
New members of a professional body are usually required to sign an agreement that they will abide by their code of ethics.
These may include:

- upholding standard of treatments and services and not making false claims
- having loyalty to and respect other team members by not criticising their work or "poaching" their clients
- not gossiping or betraying the confidence of the clients

Hair and Beauty Industry Authority (HABIA)

- The Hair and Beauty Industry Authority (HABIA) is recognised by government as the Standard Setting Body (SSB) for the hair, beauty, nails, spa and aesthetic sectors
- Habia is a not-for-profit organisation, working with partners across the sector to develop and promote high professional standards to ensure client safety and business success

What are professional organisations and associations?

- Professional trade organisations and associations support businesses in the hair and beauty sector including self-employed stylists, barbers, therapists and nail technicians

Professional practices and behaviour

Salon standards, you must ensure:

- the salon environment is clean and tidy, bins are emptied, toilets and washbasins are clean and towels are washed after each use
- salon towels and other protective materials (for example, gowns, neck papers) are single use or washed after each client
- uniforms or clothing are clean
- clinical waste is disposed of appropriately
- there is a private area with secure storage (for example, lockers) for clients to use before beauty treatments if clothing or personal items need to be removed
- services and treatments are completed to a high standard
- salon staff provide a consistently high standard of customer service and always behave professionally

Learning Aim A: Understand human growth and development across life stages and the factors that affect it

Task 1 – PIES growth and development through the life stages

Produce a report on the physical, intellectual, emotional and social (PIES) growth and development that occurs in the life stages of **early childhood** and **middle adulthood.**

Your report must include:

- how an individual's PIES characteristics grow and develop through the life stages of **early childhood** and **middle adulthood.**
- how the PIES characteristics have changed from **early childhood** to **middle adulthood.**

Learning outcome covered

Outcome A: Understand human growth and development across life stages and the factors that affect it

Early Childhood

Physical growth and development

By age 3, children can run and jump, and by age 8, they might excel at skipping, riding a bike, or playing sports, a 6-year-old mastering a two-wheel bike shows how gross motor skills develop. Fine motor skills improved and movement more precise. By age 4, a child can hold a pencil well and can draw shapes, and by age 7, they can write legibly and use scissors accurately. Writing and cutting out are practiced at school bringing continual improvements with accuracy.
A 5-year-old might grow taller and slim down as baby fat reduces, visibly showing improved muscle tone and coordination

Intellectual growth and development

Alongside gross and fine motor skills is the further development of hand eye coordination. Children ask "why" questions and show an curiosity to explore the world around them, a 4-year-old asking why the sky is blue demonstrates their growing interest in understanding their environment.

Emotional growth and development

The increased in independence improves gradually with reassurance, a child will seek to do tasks on their own, such as dressing or solving problems without help. For example a 3-year-old insisting, "I can do it myself!" when tying their shoes. Encouragement and praise support their drive to become more independent and tackle things on their own.

Social development

Going to nursery and starting primary school widens contact with others and the child's social circle. A secure confident child enjoys meeting new interesting people but others are more reserved and find it more stressful meeting unfamiliar faces when before they start school.

Learning Aim A: Understand human growth and development across life stages and the factors that affect it

Task 2 – Impact of different factors on PIES growth and development through the life stages

Produce a report on how specific factors can affect the PIES growth and development of individuals in the life stages of **early childhood** and **middle adulthood.**

Your report must include:

- how the factors of **bereavement** and **experience of illness and disease** impact the PIES growth and development of individuals in **early childhood** and **middle adulthood**
- the reasons why there is a difference in the impact of the factors between the given life stages.

Learning outcome covered

Outcome A: Understand human growth and development across life stages and the factors that affect it

Early Childhood	
Physical – bereavement Significant difference between a 3 year-old and 8-year-old with this factor as a young child is unlikely to understand the loss of someone to have physical effects. However, if they are surrounded by adults who are upset there may be a similar impact as an 8 year-old but in a lesser extent. Grief may effect the child physically, as they often lack the vocabulary to express their emotions.	**Intellectual** – bereavement Significant difference between a 3 year-old and 8-year-old with this factor A child may have varying levels of concentrating, grieving may cause struggles to focus on tasks, impacting their learning and academic performance. A 7-year-old may seem distracted in school, unable to complete a spelling test or follow instructions.
Emotional – bereavement Significant difference between a 3 year-old and 8-year-old with this factor. A young children may feel sadness over the loss and fear for their own safety or the well-being of others. A 4-year-old might cling to a parent, fearing they will also "disappear." There will always be confusion about death and may not fully understand the permanence of death, leading to confusion or a belief that the deceased will return.	**Social** – bereavement The loss of someone will mean one less person they see and feel secure with, missing that contact and their responsiveness. Adults around them may not be as responsive as they usually are due to their own grief. Grief can affect how children interact with peers, leading to withdrawal or heightened dependency on adults for comfort and reassurance that they won't disappear.

Learning Aim B: Understand how individuals deal with life events.

Task 3a – Impact of life events on PIES growth and development

Read the case studies on **Huan** and **Nikola** provided in Appendix 1.

Produce a report that considers how each of their life events has impacted on their growth and development **physically, intellectually, emotionally** and **socially.**

Learning outcome covered

Outcome B: Understand how individuals deal with life events

Task 3b – How individuals adapt to life events

Produce a report on how **Huan** and **Nikola,** in the case studies provided in Appendix 1, have adapted to life events.

Your report must include:

- the different sources and types of support **Huan** and **Nikola** accessed to adapt to their life events
- the character traits that influenced how **Huan** and **Nikola** coped with their life events
- a comparison of the ways that **Huan** and **Nikola** adapted to their life events and the role that support played
- an additional source of support for each individual that is not already mentioned in the case studies and reasons why these sources might be appropriate to **Huan**'s and **Nikola**'s life events.

Learning outcome covered

Outcome B: Understand how individuals deal with life events

Appendix 1: Case studies for Tasks 3a and 3b

Case Study 1

Huan is 16 years old and is studying his GCSEs in Year 11. He arrived in the United Kingdom (UK) from China two years ago, with his mother and his grandmother. Huan's mother works as a healthcare assistant to support him and his grandmother. They live in a two-bedroom flat next to a busy main road.

When they moved to the UK, Huan spoke limited English, which has made his time in school challenging. Huan has struggled to make friends. The school counsellor has invited him to attend a group to reduce his social isolation. Huan sometimes suffers from low mood and low self-esteem and misses his family that still live in China.

Huan wants to study maths and sciences at college and become more integrated in the local community. His mother and grandmother aren't sure how to help him. Huan is looking for a community group to join.

Case Study 2

Nikola is 18 months old and lives with her parents and older brother. Her family is living in the UK because her Greek parents emigrated for higher-paying jobs. They are the only members of their family in the UK, having moved to the country six months ago.

Both of Nikola's parents work full time. While they are at work, her six-year-old brother attends primary school and Nikola goes to a day nursery, where she has met many children her own age. The nursery is in the same building that her father works in. Nikola cries most mornings when he drops her off, but then settles quickly. Nikola is spoken to in Greek at home and in English at nursery. When they lived in Greece, Nikola was cared for by both sets of grandparents who only speak Greek.

Since moving Nikola has not been eating well and her disposition is not as cheerful as it was. Nikola's parents are concerned that she is not coping well with the move to the UK so they are taking her to the GP.

Task 3a - Huan

Physical effects of moving schools

Huan is under a lot of pressure which will cause stress, he has missed studying for GCSEs and his peers would be working towards their summer exams. Teachers will talk about doing well as this will affect their future job prospects and chosen careers. He is expected to adapt to a new school Y11 environment, and the pressure is on. The stress may lead to physical symptoms such as disturbed sleep leading to tiredness, stress headaches, and a weakened immune system, meaning he may fall ill such as catching a cold more easily. Huan has poor self-esteem and may overthink and become anxious, struggling with sleep due to worry about his school performance or lack of friends. He may even cry or have panic attacks at the thought of the next day at school.

Add this to residing in a flat next to a busy main road may expose Huan to noise pollution and poor air quality, potentially impacting his physical health over time.

Huan may also have a reduced appetite and lose weight, have an unbalanced diet which won't help his stress levels or immunity

Intellectual effects of moving schools

Disturbed sleep means being tired and having poor concentration which makes learning and memory recall more challenging. Huan has no knowledge of topics being taught and can't access these due to a language barrier, he will be aware he is behind, sand must accept he will need support to catchup.

The main issue is the language barriers, he has limited English which has made school more challenging, potentially hindering his academic progress despite his interest in maths and sciences. Huan might excel in subjects like maths, which are less language-dependent, but struggle with subjects requiring advanced language skills, such as English literature.

He may be preoccupied with he thoughts and miss what is being said as he has to listen and translate each word in the process of understanding what is being said.

He will be expected to open up and express feelings to a counsellor but is unlikely to have the vocabulary to do this, further hindering the need to develop effective coping strategies with the help of a trained school counsellor. He could try a translating app and practice learning more vocabulary if he can motivate himself.

Emotional effects of moving schools

Huan has a low mood and poor self-esteem due to his social isolation and missing his friends and family members still back at home in China. He will have a big cultural adjustment and all this will contribute to feelings of sadness and low self-worth, his identity has changed and he may feel like the, Chinese kid rather than Huan. Huan might feel unmotivated or doubt his ability to succeed, particularly if he compares himself to peers who are more socially integrated and doing well at school and who are not talking to the school counsellor.

He could have feelings of homesickness, everything is very different and unfamiliar, exacerbating feelings of loneliness. He may feel depressed, when longing for his familiar home environment and stay wrapped up in his thoughts and sadness.

Social effects of moving schools

Huan has probably got some form of attachment to one or more male family members at home which is perhaps more relatable than only female family members. His isolation is a cause of low feelings which is compounded by his limited English, he is unlikely to get the support he needs from the counsellor due to misunderstandings in communication and misunderstanding about cultural differences. This has made it hard for Huan to form friendships, leaving him socially disconnected and vulnerable to further isolation. For example, Huan may avoid social interactions at school, feeling unsure about how to communicate or fit in with his peers.

There are opportunities for connections such as, attending the school counsellor's group or joining a community group could provide him with opportunities to build relationships and feel more integrated into his local community. If the school has an extra curriculum science club. Huan might also gain confidence and improve self-esteem making friends through a local youth group but his low mood and self-esteem will make this more of a challenge

Task 3a - Nikola	
Physical impact of moving nurseries Nikola's may have a reduced appetite which could be a response to the stress and difficulty adjusting to her new environment, potentially leading to slower growth or lower energy levels. She may not eat as much during the day because the food at the nursery is unfamiliar, or because she misses her home environment during mealtimes. The stress caused by the the new routine and environment might affect her ability to sleep soundly, which could impact her physical development and mood. Nikola may have trouble napping at nursery or sleeping through the night at home due to changes in her surroundings. Crying for a long time can cause dehydration and headaches but she will be unable to communicate this or why she is crying. At nursey there is greater exposure to Illnesses as she is with many other children may increase her exposure to common childhood illnesses, which could affect her overall health. She might not have had the vaccinations offered in the UK as she has come from Greece.	Intellectual impact of moving nurseries Language development could be delayed as she is now exposed to both Greek at home and English at the nursery temporarily slow her language acquisition as she adjusts to learning two languages simultaneously. However, this dual-language exposure will ultimately enhance her cognitive and language skills in the long term. Nikola may initially mix words from both languages but will gradually develop proficiency in each. Once Nikola is calm she will be learning through play interaction with peers and nursery activities can stimulate her intellectual growth through structured and unstructured play. However, if she remains distressed these opportunities will be missed causing a delay in expected milestones for an infant. Playing with building blocks or participating in group activities at the nursery will help her develop problem-solving and language skills but clinging a nursery worker or sitting away from play activities will mean she is not developing these skills as others are. Other children may not want to interact with her if she cries a lot and rejects them as they approach.
Emotional impact of moving nurseries Separation anxiety is when a young child is away from their primary carer(s) and will be displayed as crying when dropped off at nursery which although is not uncommon in that age group, for Nikola this may be heightened by the recent move and changes in routine. Although she settles quickly after her father leaves, the daily goodbye may create emotional distress. Nikola feels the loss of some familiar comforts she has at home in terms of comforters such as a dummy or favourite toy as these are not taken to nursery. Moving away from her grandparents and familiar caregivers in Greece may leave Nikola feeling insecure or unsettled, impacting her overall mood and confidence to explore. Nikola's less cheerful disposition may be a result of missing her grandparents' as a constant presence and long for their affection. However, at this young age she is likely to settle in better than an older child who has spent more time and had more experiences with them Over time, consistent care from nursery staff and rewards/praise from her parents will make nursery a more positive experiences, nursery staff can help her develop emotional resilience too by supporting her with widening her comfort zone and perhaps learning basic Greek words as a bridge between them.	**Social** impact of moving nurseries There is a time period where Nikola will need to adjusting and feel comfortable to interact with staff and peers. Being surrounded by children her own age at nursery can positively influence her social development, as she learns to share, take turns, and communicate in English. However, it may also be overwhelming initially if she isn't used to being in such a large group. Nikola may observe and imitate other children's behaviours, gradually learning social norms and eventually feel confident to play with toys and other children. There is also a need to culturally adjustment as the move from a the familiar home environment where only Greek is spoken to attending an English-speaking nursery, initially this may create confusion but will eventually help her adapt to her bilingual environment. Nikola might struggle to understand her peers at first but will learn to navigate the cultural and linguistic differences over time, young children are motivated to learn by nature. The nursery staff's will become familiar and offer consistent care and attention which can then help Nikola to form new secure attachments outside her family, but this will take time and encouragement.

Level 1/2 Hospitality and Catering Knowledge Organiser: Unit 1: 1.1.1 - Types of Hospitality and catering provisions

wjec eduqas cbac

Hospitality and catering providers

You must understand, be able to name, and explain the two different provisions in hospitality and catering.
Commercial: the business aims to **make profit** from the hospitality and catering provision that they provide.
Non-commercial: the service provider **doesn't aim** to make a profit from the service they provide.

Commercial (residential)

Commercial (residential): meaning the hospitality and catering provision aims to create a profit from the service they provide, but also offers accommodation.

For example:
- hotels, motels & hostels
- B&B, guest houses and Airbnb
- holiday parks, lodges, pods, and cabins
- campsites and caravan parks.

Non-commercial (residential)

Non-commercial (residential): the hospitality and catering provision offers accommodation but does not aim to make a profit from the service they provide.

For example:
- hospitals, hospices, and care homes
- armed forces
- prisons
- boarding schools, colleges, and university residences.

Commercial (non-residential)

Commercial (non-residential): catering establishments that aim to make a profit from their service, but no accommodation is provided.

For example:
- restaurants and bistros
- cafes, tea rooms and coffee shops
- takeaways
- fast food outlets
- public houses and bars
- airlines, cruise ships, long distance trains
- pop up restaurants
- food and drink provided by stadiums, concert halls and tourist attractions
- mobile food vans and street food trucks
- vending machines.

Non-commercial (non-residential)

Non-commercial (non-residential): catering establishments with no accommodation provided and don't aim to make a profit from their service.

For example:
- schools, colleges, and universities
- meals on wheels
- canteen in working establishments (subsidised)
- charity run food providers.

Level 1/2 Hospitality and Catering: Unit 1-1.1.1 - Types of service in commercial and non-commercial provisions

wjec eduqas cbac

Types of service in commercial and non-commercial provision

You need to be able to understand and know the different types of service within commercial and non-commercial provision.
They are split into two main categories of food service and residential service.

Food service

The different types of food services in the catering sector are listed below. You should know the meaning of each one and be able to provide examples. For instance;

Table service
- Plate: the food is put on plates in the kitchen and served by waiting staff. Good portion control and food presentation consistent.
- Silver: a waiter will transfer food from a serving dish to the customer's plate using a silver spoon and fork at their table.
- Banquet: a range of foods suitable for large catered events such as weddings, parties, or award ceremonies.
- Family style: the food is placed on serving bowls on the customer's table for customers to share between them.
- Gueridon: is served from a trolley to the customer's table, the food is then cooked and/or finished and presented in front of the customer. Creates an atmosphere of sophistication and entertainment.

Counter service
- Cafeteria: all types of food and drink are shown on a long counter for customers to move along with a tray for them to choose what they want to eat.
- Fast food: the food and drink is displayed on a menu behind the counter, often with pictures. Quick, simple, and usually served with disposable packaging.
- Buffet: a range of foods served on a big serving table where customers walk up to collect their plate and help themselves to food and drink. The food can be hot or cold, and some items could be served by waiting staff.

Personal service
- Tray or trolley: the meals are served on trays from a trolley and customers sometimes order items in advance.
- Home delivery: the customer's order is made over the phone or online, and is then delivered by the business to their address.
- Takeaway: food that's cooked by the business onsite and then eaten elsewhere.

Residential service

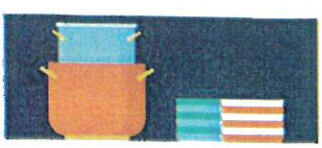
Listed below are the different types of residential types of service in the hospitality and catering sector. You should know the different types of service offered in various hospitality provisions.

Rooms:
- single/ double/ king/ family
- suite (en-suite bath/ shower room, shared facilities).

Refreshments:
- breakfast/ lunch/ evening meal
- 24-hour room service/ restaurant available.

Leisure facilities:
- spa
- gym
- swimming pool.

Conference and function facilities:
- large rooms
- overhead projector and computer
- pens and paper provided
- refreshments available.



Level 1/2 Hospitality and Catering: Unit 1-1.1.2 -
Types of employment roles and responsibilities within the industry

Types of employment roles and responsibilities within the industry
There are four main areas within the industry that you should know the roles and responsibilities within. They are listed below.

Front of house

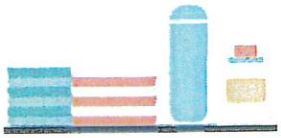
- Front of house manager: oversees all staff at the restaurant, provides training, hiring of staff, and ensures good customer service.
- Head waiter: oversees the waiting staff of the restaurant in high-end eating establishments.
- Waiting staff: greets customers, shows them their table, takes food and drink orders from customers, and serves them their order. Makes sure customers' needs are met, and that the food order is made correctly.
- Concierge: advises and helps customers with trips and tourist attractions. Books taxis for customers and parks customer cars.
- Receptionist: takes bookings, deals with questions and complaints from customers, checks-in customers, takes payment, and provides room keys.
- Maître d'hôte: oversees the service of food and drinks to customers. They greet customers, check bookings, reservations, and supervise waiting staff.

Kitchen brigade

- Executive chef: in charge or the whole kitchen, developing menus and overlooking the rest of the staff.
- Sous-Chef: the deputy in the kitchen and is in charge when the executive chef isn't available.
- Chef de partie: in charge of a specific area in the kitchen.
- Commis chef: learning different skills in all areas of the kitchen. Helps every chef in the kitchen.
- Pastry chef: prepares all desserts, pastry dishes and bakes.
- Kitchen assistant: helps with the peeling, chopping, washing, cutting of ingredients, and helps washing dishes and stored correctly.
- Apprentice: an individual in training in the kitchen and helps a chef prepare and cook dishes.
- Kitchen porter/ plongeur: washes the dishes and other cleaning duties.

Housekeeping

- Chambermaid: cleans guests' rooms when they leave, and restocks products that have been used, they also provide new bedding and towels.
- Cleaner: cleans hallways and the public areas of the establishment.
- Maintenance: repairs and maintains the establishment's machines and equipment, such as heating and air conditioning. These responsibilities could also include painting, flooring repair or electrical repair.
- Caretaker: carries out the day to day maintenance of the establishment.



Management

- Food and beverage: responsible for the provision of food and drink in the establishment which will include breakfast, lunch, dinner, and conferences.
- Housekeeping: ensuring laundering of bed linen & towels, ordering of cleaning products and overseeing housekeeping staff duties.
- Marketing: promotes events and offers to increase custom at the establishment, and is responsible for the revenue of the business.

Level 1/2 Hospitality and Catering - Unit 1-1.1.2:
Personal attributes, qualifications and experience

You need to be able to know and understand the different personal attributes, qualifications and experience that an employer would look for to fulfil different job roles in the hospitality and catering industry.

Personal attributes

The list below names the different personal attributes that employees could need to fulfil different jobs in the industry:

- Team player
- Organised
- Flexible
- Good communicator
- Friendly
- Calm under pressure
- Willingness to learn and develop
- Pleasant
- Hygienic
- Punctual
- Hardworking
- Reliable
- Approachable
- Good listener
- Leadership qualities
- Sense of humour
- Ability to be proactive
- Good attention to detail
- High standard of personal appearance.

Qualifications

Apprenticeships and experience in the role or sector are two ways to fulfil certain job roles. Named below are some of the qualifications that could be required to fulfil certain jobs within the hospitality and catering sector.

Hospitality sector

- Level 1 Certificate in Business and Administration (office administration).
- Level 2 Certificate in Front of House Reception (hospitality and catering).
- Level 2 Diploma in Reception Operation and Services (hospitality and catering).
- GCSE English / Maths / Hospitality and Catering / Business / IT.

Catering sector

- Diploma in Catering.
- NVQ Food preparation and cooking.
- Bachelor's degree/catering management.
- City & Guilds diplomas in professional cookery.
- BTEC HND in professional cookery.
- A foundation degree in culinary arts.
- Health and safety and food hygiene certificates/food hygiene.
- Level 1/2 hospitality and catering.
- GCSE Food and Nutrition.
- Level 3 Food Science and Nutrition.
- First aid.

Keyboard shortcuts to remember:

- **Undo**: Ctrl + Z to undo the last action
- **Redo**: Shift + Ctrl + Z to redo the last action
- **Select all**: Ctrl + A to select all
- **Deselect**: Ctrl + D to deselect
- **Free transform**: Ctrl + T to free transform
- **New layer**: Ctrl + J to create a new layer
- **Brush size**: [to increase brush size,] to decrease brush size
- **Brush hardness**: { to decrease brush hardness, } to increase brush hardness
- **Crop**: C to crop, slice, or slice select
- **Move tool**: V to use the move tool
- **Zoom**: Ctrl + + to zoom in, Ctrl + - to zoom out
- **Save**: Ctrl + S to save

Please write all of these down and remember them for the next lesson.

Which artists created these 5 images on the right hand side?

Knowledge Organiser

There's plenty to learn in this unit. Worry not — the vital information for **Topic Areas 3, 4 and 5** has been condensed into these two handy pages for you. They'll definitely help when you prepare for your exam.

3 Types of Major Sporting Event

Regular events:
- happen annually
- host city changes, but may repeat after a few years
- e.g. UEFA Champions League final

One-off events:
- not annual
- host city changes, won't repeat within a generation
- e.g. Olympic Games

Regular and recurring:
- happen annually
- same host city
- e.g. Wimbledon

Major sporting events are usually international — they involve participants/spectators from two or more countries.

Hosting — pre-event (bidding)

Countries/cities bid years before an event. They must prove they can make the event successful.

Positives of bidding
- Encourages financial/commercial investment
- Creates a long-term strategy for future development
- Creates new jobs
- Improved infrastructure, e.g. transport benefits local community
- Sports facilities can be used by the community

Negatives of bidding
- Very expensive, even if unsuccessful
- Local/national social objections — money could be spent on other needs, e.g. healthcare
- Only wealthy countries can afford to bid

Hosting — during event

Positives during event
- Improved infrastructure, e.g. cycle paths, new shops
- Improved national morale/social cohesion — people united in support of team
- Increased national interest in sport
- Increased international status
- Increased income from tourism
- Creates lots of short-term jobs
- Increased media coverage leads to increased participation

Negatives during event
- Increased traffic, crowded transport, litter and noise
- More crime/threat of terrorism
- Lack of investment in non-hosting regions
- Poor home performance damages national pride/morale
- Negative media coverage about any problems, e.g. unfinished infrastructure

Hosting — post-event

Positives after event
- Legacy of improved or new infrastructure, transport and sports facilities
- Increase in the profile of the sport and therefore participation rates
- Increase in international status
- Increase in future financial investment

Negatives after event
- Sports facilities may be unused
- Poor organisation, poor performance or scandals may damage reputation
- Hosting may have cost more than the revenue generated

Matters of Life and Death

Big Picture:

1. Key Concepts

1.1 The origins and value of the universe
What are the scientific attitudes about how the world began?

Today, the idea now known as the Big Bang theory is the most accepted scientific explanation for how the universe came into being.
Christianity teaches that the universe is important and is a reflection of God's great power and wisdom, known as general revelation.
Many Christians believe that you can learn about God by studying the universe. This is known as natural theology.
Christianity has been criticised in the past for encouraging a selfish and destructive attitude towards the environment. In response to this, the Christian Church has urged people to be better stewards of the earth and the environment.

1.2 The sanctity of life
Why is the sanctity of life important to Christians?

Christianity teaches that all life is special because it comes from God.
Human life is believed to be particularly precious and is regarded as sacred.
A belief in the sanctity of life can influence the way a Christian might try to live their life and the attitude towards bioethical issues associated with the beginning and end of life, such as abortion, embryo research, towards cloning, fertility treatments, genetic engineering and euthanasia.
While all Christians may believe in the sanctity of life they can have different views about matters of life and death.

1.3 The origins and value of human life
What are the scientific attitudes about how life began?

Scientific theories argue that human beings were not created when the universe began billions of years ago but came into being much later through a process known as evolution.
The theory of evolution was put forward by Charles Darwin in a book called *On the Origins of Species.*
Scientific ideas about the origins of human beings do not affect the Christian belief in the sanctity of human life.
Christians share a respect and regard for the value of human life with people from other religions and agnostics and atheists alike.
The value of human beings is recognised in the Universal Declaration of Human Rights.

1.4 Abortion
Why is abortion a controversial issue?

Abortion is the medical process that terminates or ends a human pregnancy so that it does not result in the birth of a baby.
Traditionally, the Christian Church has taught that abortion is wrong in all circumstances.
Today, denominations have different views and for many Christians it is a very complex issue.
Humanists believe that abortion is a serious moral issue. They support a woman's right to have an abortion, if that is the right choice for them, but believe that abortion should be the last resort.
Atheists have differing views about abortion. Some atheists are very pro-life and totally against abortion, whereas others believe that it can be a positive moral choice.
A Christian may or may not share the views of an atheist or Humanist about abortion, depending upon each of their personal beliefs. Most Christians would disagree with the idea that abortion can be a positive moral choice.

1.5 Death and the afterlife
How do different attitudes towards death and the afterlife impact on a person's life?

People have different ideas about what happens after death.
Christians believe that the resurrection of Jesus proves that life continues after death.
Atheists and Humanists do not believe in life after death. They argue that death is the end of human existence and to think anything else is just 'wishful thinking'.
Christians reject all arguments that say there is no such thing as an afterlife. They are also taught to answer questions and explain their beliefs to the non-religious.
Some people claim to have had near death experiences, which they think supports the idea of an afterlife, although others disagree and say this can be explained in other ways.

1.6 Euthanasia
Why is euthanasia a controversial issue?

Euthanasia is a term used to describe the deliberate act of ending a person's life to relieve pain and suffering, it is a complex issue and can also be known as assisted dying.
Hospices and palliative care are seen as alternatives to euthanasia.
Most Christians disagree with euthanasia and think it is morally wrong. This is because of a belief in the sanctity of life.
Humanists and many atheists would like to see voluntary euthanasia legalised, under strict conditions. They believe that it is everyone's basic human right to be able to choose how and when they die.
Christians do not want euthanasia to be legalised.

1.7 Christian responses to issues in the natural world
How do Christians respond to issues in the natural world?

Christians believe that stewardship is a way of life. This means they have a responsibility to try to protect and improve the environment. Operation Noah is an ecumenical Christian charity which is very concerned about climate change. It says that the time has come for everyone, particularly Christians, to take action against this.
In the past, Christianity has been criticised for its attitude towards animals. Today most Christians believe that animals are an important part of God's creation.
However, they have different ideas about the role of animals and, in some cases, how they should be treated.
The Anglican Society for the Welfare of Animals (ASWA) is a Church of England Organisation, which aims to educate people about the importance of caring for all of creation. It also campaigns to stop the abuse of animals.

2. Vocabulary

Big Bang Theory Evolution Theory Sanctity of life	A scientific view on how the world began. A scientific view on how life began. Belief that all life is sacred and from God.
Reincarnation	Belief that the soul lives on in a new life form after death.
Euthanasia	A gentle death
Abortion	Ending a pregnancy before the full term.

3. Skills

Discuss differing attitudes towards how the world and life began.
Evaluate whether the sanctity of life impacts on the life of Christians.
Explain why some Christians allow abortion.
Explain why some Christians do not agree with euthanasia.
Interpret SOWA and consider their application for and against one of the concepts

4. Key SOWA

Genesis 1–2.
Genesis 1–3;
Humanae Vitae;
Ephesians 2:1–10;
1 Peter 3:18–22
Job 2:1–10;
The Christian Declaration on Nature, Assisi 1986;

5. Key Figures

Jesus	Son of God/founder of Christianity.
Pope	Head of the Catholic Church across the world.

6. Assessment Criteria

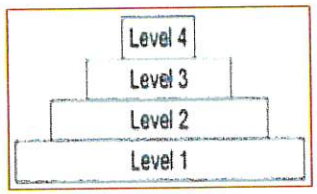
State/ Outline	Give 3 examples in 3 different sentences
Explain	2 developed reasons in 2 sentenced. (develop with examples / SOWAs or explanation)
Explain and SOWA	2 developed reasons in 2 sentences. (develop with examples / SOWAs or explanation) and link in a SOWA to support the points.
Evaluate	Higher level answers will state which in the

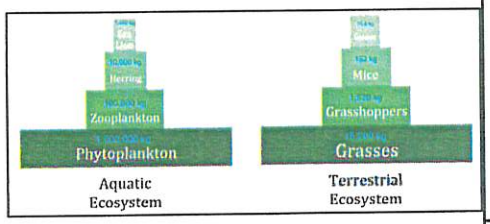
Year 10 Separate Science Biology Ecology

1. Trophic levels and biomass

Trophic levels can be represented by numbers and biomass in pyramids.		
Trophic levels are numbered sequentially according to how far the organisms is along the food chain.		
Level 1	Producers	Plants and algae.
Level 2	Herbivores	Primary consumers.
Level 3	Carnivores	Secondary consumers.
Level 4	Carnivores	Tertiary consumers.

Apex predators are carnivores with no predators.





Transfer of biomass	
Biomass is lost between the different trophic levels	
Producers transfer about 1% of the incident energy from light for photosynthesis.	Large amounts of glucose is used in respiration, some material egested as faeces or lost as waste e.g. CO_2, water and urea in urine.
Approximately 10% of the biomass from each trophic level is transferred to the level above.	

Decomposers break down dead plants and animal matter by secreting enzymes. Small soluble food molecules than diffuse into the microorganism.

2. Food Security and food production

Factors affecting food security: *Enough food is needed to feed a changing population*
Increasing birth rate.
Changing diets in developing countries.
New pests and pathogens affecting farming.
Environmental changes e.g. famine when rains fail.
Cost of agriculture input.
Conflicts (war) affecting water of food availability

Farming techniques
Increasing efficiency of food production
Reduce energy waste, limiting movement, control temperature, high protein diet to increase growth.

Some people have concerns about the treatment of animals.

Sustainable fisheries	
Fish stocks in oceans are declining	Maintain/grow fish stocks to a sustainable level where breeding continues or certain species may disappear. By controlling net size, fishing quotas.

Biotechnology
Meeting the demands of a growing population
Fungus *Fusarium* to produce mycoprotein. Requires glucose syrup, aerobic conditions. Biomass is harvested and purified.
GM bacterium produces insulin to treat diabetes.
GM crops to provide more/nutritional food (golden rice).

Year 10 Separate Science Chemistry Chemical Analysis

1. Identification of metal ions (positive)

Flame Test

Element	Colour flames
Lithium	*Crimson*
Sodium	*Yellow*
Potassium	*Lilac*
Calcium	*Orange-red*
Copper	*Green*

Sodium Hydroxide Test

Sodium hydroxide	*Is added to solutions to identify metal ions.*
White precipitates	*Aluminium, calcium and magnesium ions form this with sodium hydroxide solution.*
Coloured precipitates	*Copper (II) = blue* *Iron (II) = green* *Iron (III) = brown*

2. Identification of non-metal ions (negative)

Carbonates, halides and sulfates

Carbonates	*React with dilute acids to form carbon dioxide.*
Halide ions	*When in a solution, they produce precipitates with silver nitrate solution in the presence of nitric acid.*
Sulfate ions	*When in a solutions they produce a white precipitate with barium chloride solutions in the presence of hydrochloric acid.*

3. Instrumental methods

Instrumental methods	*Methods that rely on machines*	Can be used to identify elements and compounds. These methods are accurate, sensitive and rapid.

Flame emission spectroscopy	*An instrumental method used to analyse metal ions.*	The sample solution is put into a flame and the light that is given out is put through a spectroscope. The output line spectrum, can be analysed to identify the metal ions in the solution. It can also be used to measure concentrations.

Separate Science SPACE PHYSICS PHYSICS ONLY

Solar system

Milky Way our galaxy.

Planet	*A large body orbiting the Sun*
Moon	*A natural satellite orbiting a planet*
Dwarf planet	*A body large enough to have its own gravity which caused a spherical shape*
Solar system	*Any object orbiting the Sun due to gravity*
Galaxy	*Collection of billions of stars*
Universe	*Collection of galaxies*

Comets, asteroids, satellites

Other objects.

The life cycle of a star.

Nebula	*A cloud of cold hydrogen gas and dust*	Cloud collapses due to gravity, particles move very fast colliding with each other, kinetic energy transfers into internal energy and the temperature increases.
Protostar	*The large ball of gas contracts to form a star*	High temperature causes Hydrogen nuclei to collide and nuclear fusion begins. A star is 'born'.
Main sequence	*Stable period of star*	Gravity tries to collapse the star but enormous pressure of fusion energy expands and balances

Stars the same size as our Sun.

Red giant	*A large star that fuses Helium into heavier elements*	Hydrogen runs out, star becomes unstable, pressure inside drops causing star to collapse. Atoms now closer together results in atoms fusing and temperature increases. This increase in temperature causes the core to swell.
White dwarf	*Star collapses*	Nuclear fuel runs out, fusion stops, dense very hot core.
Black dwarf	*Cold da*	

Stars larger than our Sun.

Red super giant	*Star swells greatly*	Nuclear fuel begins to run out and star swells (more matter = bigger size).
Supernova	*Gigantic explosion due to run away fusion reactions*	Rapid collapse, heats to very high temperatures causing run away nuclear reactions, star explodes, flinging remnants out into space. Large gravitational forces collapse the core into a tiny space. Remains of supernova form heavier elements (Iron and above)
Neutron star	*Very dense star*	Made out of neutrons.

OR if collapse is into a really tiny space.

Black hole	*No light escapes*	Gravitational forces so strong everything is pulled in.

Effect of gravity.

Gravity causes moons to orbit planets, planets to orbit the Sun, stars to orbit galaxy centres.

Force of gravity changes the moon's direction not its speed.

Gravity pulls objects towards the ground.

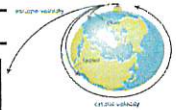
Orbital motions

Speed of Orbit.

Too fast = disappears into Space.

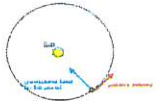
Correct speed = steady orbit around Earth.

Too slow = falls to Earth.



HIGHER: Circular orbits.

To calculate speed of Orbit: distance object moves in 1 orbit, Distance = $2\pi r$, then average speed = distance ÷ time.



Planets close to the Sun, gravity pull is strong. Planets move quickly.

Planets further away from the Sun, gravity pull is weaker. So speed of planet is slower.

HIGHER:

Velocity = a vector.

A planet's velocity changes but speed remains constant.

Due to the Sun's gravity, planets accelerate towards the Sun and so changes direction.

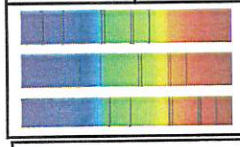
Red shift

When ambulances go past the sound changes from a high pitch to a low pitch.

Frequency of sound wave decreases, wavelength increases.

Understanding models.

Red-shift	*The observed increase in wavelength of light from most distance galaxies. Light moves towards the red end of the spectrum.*
Hubble (1929)	*He studied light from distant galaxies; found as frequency decreases, wavelength increases.*



Light from star in our galaxy.

Light from star in nearby galaxy.

Light from star in distant galaxy.

Galaxies are moving away from us in all directions.

Light from distant galaxies is red-shifted, so galaxy is moving away from us.

Galaxies further away have bigger red-shift so are moving faster away.

The Big Bang	*Universe began 13.8 billion years ago*
All matter and space expanded violently from a single point.	Red—shift provides evidence for expansion.

Aristotle (ancient Greek)	*Earth at the centre, other heavenly bodies move around the Earth.*
Copernicus (1473 - 1543)	*Sun at the centre, other heavenly bodies move around the Sun.*
Galileo (1610)	*Made a telescope, looked at Jupiter, found four moons rotating around planet.*

Planets and moons moved at different speeds to stars = reason for different positions.

Task 1:

Q1.

***Historia de una escalera*, a play by Antonio Buero Vallejo**

You read this extract adapted from the play.

It is a conversation between Don Manuel and Doña Asunción.

Don Manuel	Y Fernando, ¿qué hace?
Doña Asunción	Trabaja en la papelería. Pero no está contento. ¡El salario es tan bajo! Tiene muchos planes. Quiere ser arquitecto, ingeniero… En su tiempo libre le gusta leer y pensar. Siempre en su cama. Y escribe cosas también, poemas. ¡Muy bonitos!

Finish the sentences.

Write the correct letter in each box.

1 Fernando works…

A	as an architect.	
B	as an engineer.	
C	in a stationery shop.	

(1)

2 Doña Asunción thinks that Fernando…

A	does not earn very much.	
B	has no plans for the future.	
C	enjoys his job.	

(1)

3 Fernando likes to spend his time…

A	eating and reading.	
B	sleeping and writing.	
C	reading and thinking.	

(1)

(Total 3 marks)

Task 2: Q2.

Life at school

Your friends tell you about their school in Tenerife.

El director de mi instituto es trabajador. No le tenemos miedo. Su relación con los estudiantes, los profesores y los padres es estupenda.
Antonio

Yo soy poco creativa y, por eso, me cuesta mucho diseñar y dibujar. Estoy harta de las clases y los profesores.
Beatriz

Bueno, el gimnasio es muy antiguo y los vestuarios están sucios, las pistas de tenis no están mal y tenemos un nuevo campo de deportes genial.
Azucena

Los profesores preparan bien sus clases y explican con paciencia. Afortunadamente, no toleran el mal comportamiento de los alumnos tontos.
Rafael

What are your friends' opinions about these aspects of their school?

Write **P** for a **positive** opinion.
N for a **negative** opinion.
P + N for a **positive** and **negative** opinion.

1	Antonio's opinion of the headteacher	

(1)

2	Beatriz's opinion of Art	

(1)

3	Azucena's opinion of the PE facilities	

(1)

4	Rafael's opinion of the teachers	

(1)
(Total 4 marks)

Task 3:

Q3.

Fundraising activities at Pepe's school

You read this email from your Spanish friend, Pepe, about his school's fundraising activities.

When do these fundraising activities happen?

Write **P** if the activity happened in the **past**.
N if the activity is happening **now**.

60

F if the activity is going to happen in the **future**.

1	Non-uniform day	

(1)

2	Cake sale	

(1)

3	Car washing	

(1)

4	Sponsored walk	

(1)
(Total 4 marks)

Q4.

Task 4:

Bullying

You read a report about bullying in Spain.

Ayer se celebró el Día Mundial contra el Acoso Escolar.

Los niños españoles de 11 años son los que sufren más el acoso escolar.

Además, el 30% de los niños españoles reciben insultos, no por su inteligencia sino por su apariencia física.

Muchos estudiantes menores de 14 años usan las redes sociales y a los profesores les preocupa que sus alumnos reciban mensajes crueles.

Answer the questions in **English**.

1 When did the World Anti-Bullying at School Day take place?

_____

(1)

2 What are 30% of Spanish children bullied about?

_____

(1)

3 Who are worried about online bullying?

_____

(1)
(Total 3 marks)

Task 5:

Q5.

Deberes en vacaciones

Lees las opiniones de dos expertos argentinos sobre los deberes.

Durante las vacaciones a unos niños les gusta ver la tele, otros dibujan y a la mayoría les encanta leer. En mi opinión, es necesario jugar. Creo que los niños no deben estudiar durante las vacaciones. Lo más importante para los niños es divertirse, en mi opinión. **Gregorio**	Para muchos niños las vacaciones son ideales para repasar y es muy beneficioso para ellos. Además, para muchos padres es importante seguir rutinas. Si los niños repasan durante las vacaciones tienen menos posibilidades de suspender cuando regresan. **Inma**

Contesta las preguntas en **español.**

Ejemplo: Según Gregorio, ¿cuál es el pasatiempo **más** popular para los niños durante las vacaciones?

leer

1 Según Gregorio, ¿qué deben hacer los niños durante las vacaciones?

Escribe **dos** actividades.

1 _____

2 _____

(2)

2 Según Inma, ¿para qué son útiles las vacaciones para muchos niños?

62

_____

(1)

3 Según Inma, ¿qué peligro hay para los niños que no estudian?

_____

(1)
(Total 4 marks)

Big Picture: Why are we learning this now?
In this unit we are going to talk about travel and tourism with a focus on roleplay questions and solving problems whilst on holiday.

Masla	Dushwaari	Rakaavat	Museebath	Barbaadi
مسلہ	دشواری	رکاوٹ	مصیبت	بربادی

1. Key Concepts

The present tense tells us something that is happening NOW and includes opinions. E.g. I like to go on the beach.
ہے ہیں ہوں

Present continuous tense: what you are currently doing. E.g. I am looking for a room with a seaside view.

2. Processes: Subordinate Clause

Even though ....., [independent]

Halaankay	حالانکہ

3. Sentence starters

مجھے ایک ایسا کمرہ چاہیے جو .....

میری شکایت یہ ہے کہ .....

اگر آپ کے پاس ..... نہیں ہے تو .....

میں اِس ملک میں .....

4. Vocabulary 1: Accommodation

Rehaaish	Accommodation	رہاءش
Makaan	Property	مکان
Kiraaya	Rent	کڑایا
Munaasib	Reasonable	مناسب
Mehnga	Expensive	مہنگا
Sstha	Cheap	سستا

5. Vocabulary 2: Adjectives

Zabardhasth	Fantastic	زبردست
Shaandhaar	Excellent	شاندار
Bakwaas	Rubbish	بکواس
Behthareen	Best	بہترین
Badthareen	Worst	بدترین

6. Assessment

میں آپ کی کیا مدد کر سکتا ہوں؟

اپنی گمشدہ چیز کے بارے میں بتاو؟

آپ کو اپنا کمرہ کیسا لگا؟

اپنی زاتی معلومات مجھے دیں؟