

YEAR 10



BHA's Knowledge Quest

**Autumn 1
(Sept - Oct)
2026-2027**



How to use your Knowledge Quest Booklet

To support you in making progress in each of your lessons, your teachers have produced Knowledge Organisers which contain all of the main facts, knowledge and information that you need to know to be successful and make progress this half term. There are lots of ways to use these Knowledge Organisers, but the most important thing is that you are revising the knowledge and you are able to recall it in your lessons. Please see below details of how to use this booklet; what your half termly homework looks like and how to secure lots of positive Class Charts points!

English: 1 Seneca assignment set per week (alternating between Language and Literature). Sparx Reader will be used to accompany the reading of Literature set texts. Additional revision may be provided by individual class teachers.

Maths: 1 hour of Sparx Maths, individualised homework set every week. Pinpoint booklets provided following assessments and additional revision provided by class teacher, where appropriate.

Science: 1 hour of Seneca Science homework, set every week.

MFL: 1 hour of vocabulary / listening / reading practice on Language Nut, every week and 30 minutes of learning vocabulary, ready to be quizzed in the following lesson.

History: 1 hour Seneca assignment set by class teacher, every week. Recap content using Knowledge Organiser and, when provided, complete practice exam questions.

Geography: 1 hour Seneca, each week. 1 x Core vocabulary booklet, using OMG revision across the year.

DT: Seneca - core knowledge recap, as well as flip learning resources, both printed and or on teams. Hospitality and Catering: Yr 11- revision workbook, revision tasks set on Teams. Re-cap content using Knowledge Organiser. Online 3D CAD program Year 10 term 1

Art: To complete/refine work for portfolio or set task projects when required.

Computing: 1 hour of Smart Revise. Individualised homework set weekly, based around previously taught topics and current topics.

Film Studies: The 15 or 10 marks 'Explore' exam question which focuses on an aspect of film language.

All other subjects: Revise the information in this booklet using the revision sheets included with each subject.

Timetable

Use this page to copy out your lessons and room numbers

[illegible]

Dates to remember this half term:

September

October

Attendance record



Term	Attendance %
Autumn 1	
Autumn 2	
Spring 1	
Spring 2	
Summer 1	
Summer 2	

Sparx Check!

Remember to click: 'Login with Microsoft' using your academy email address and password!

In the boxes below, write the XRP score that you achieved for each subject. Your form tutor will award you additional CC points for the more XRP points you achieve in addition to the set points for each weekly homework.

	Sparx Reader Points:	Sparx Maths Points:
Week 1		
Week 2		
Week 3		
Week 4		
Week 5		
Week 6		
Week 7		
Week 8		
Total this half term:		

Seneca Check!

Remember to click: 'Login with Microsoft' using your academy email address and password!

In the boxes below, write the titles of the assignments that you complete for each subject and your overall percentage scores. Your form tutor will award you additional CC points for the highest percentages you achieve in addition to the set points for each weekly homework.

	English Assignment:	Science Assignments:	History Assignments:	Geography Assignments:
Week 1				
Week 2				
Week 3				
Week 4				
Week 5				
Week 6				
Week 7				
Week 8				
Total assignments completed this half term:				

Language Nut Check!

Remember to click:
'Login with Microsoft'
using your academy
email address and
password!

In the boxes below, write out how many points you have achieved from your weekly homework. Your form tutor will award you additional CC points for the highest scores you achieve in addition to the set points for each weekly homework.

	MFL Homework:
Week 1	
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	
Week 8	
Total assignments completed this half term:	

Independent Study Check!

Your form tutor and your parent/carer will also check that you are completing your independent study within this booklet. Additional positive CC points will be awarded for beautiful presentation and your ability to demonstrate a strong recall of the knowledge within this booklet.

	End of Half term Form Tutor Check:	Parent/Carer Check:
Independent Study Completed?		
Beautiful Presentation?		
Recall of Knowledge?		

Personal Reflection: What are you most proud of within your Independent Study Booklet?

Homework Log

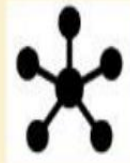
Use this page to record any homework this half term

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Homework Log

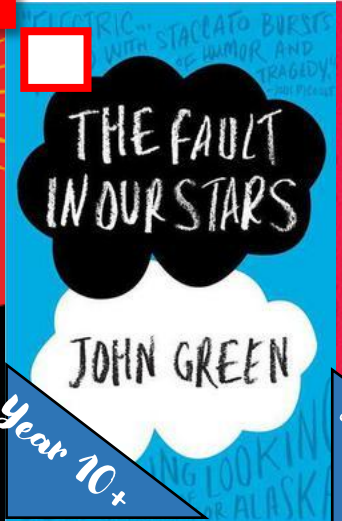
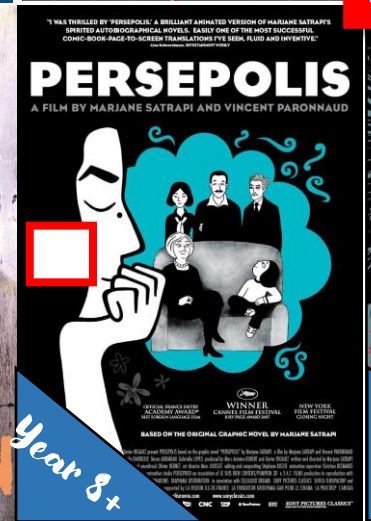
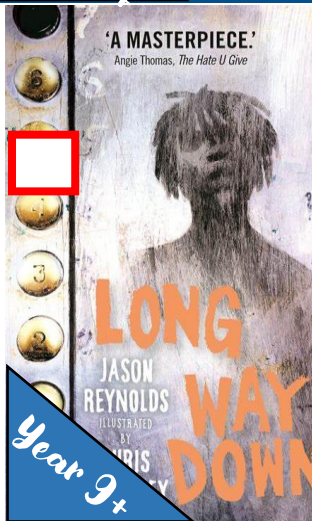
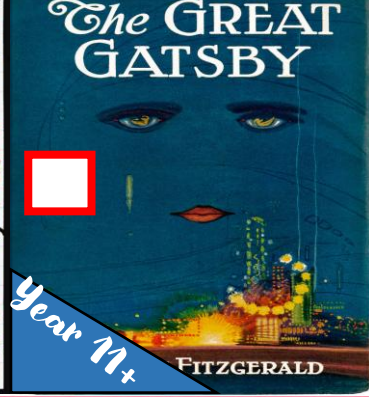
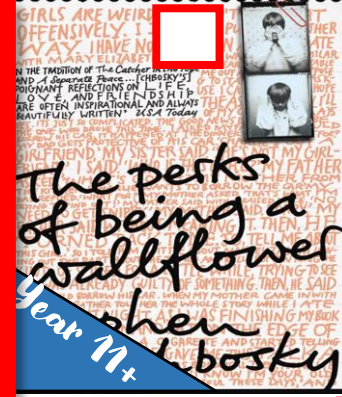
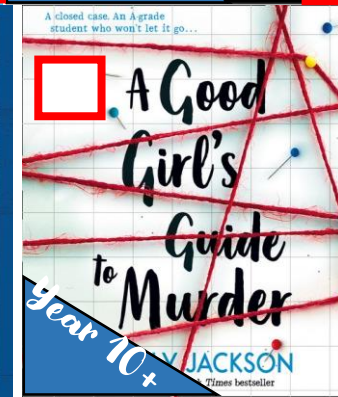
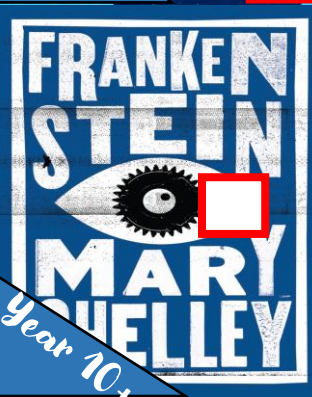
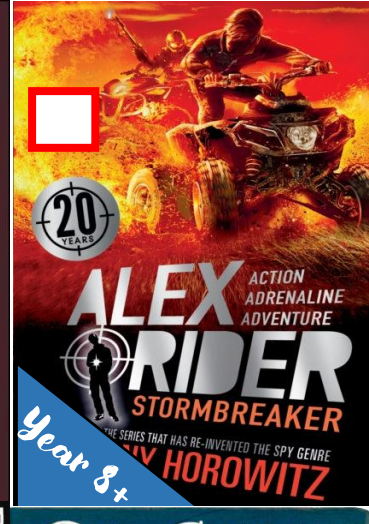
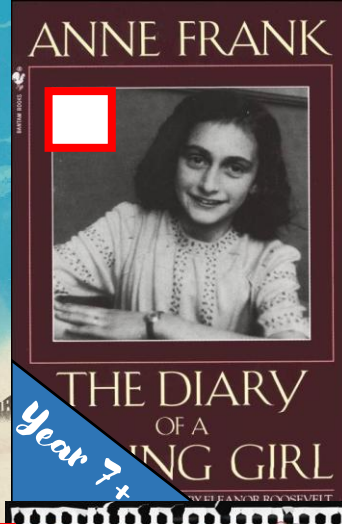
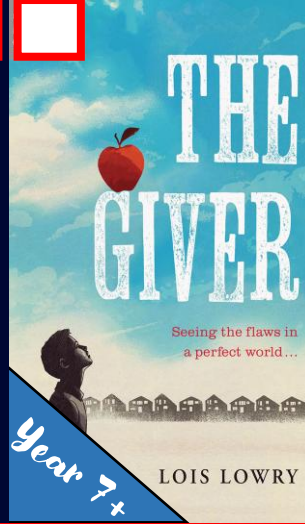
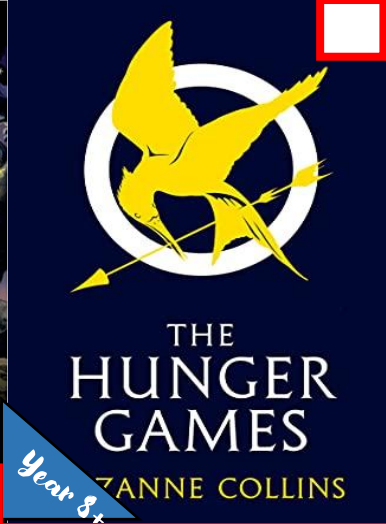
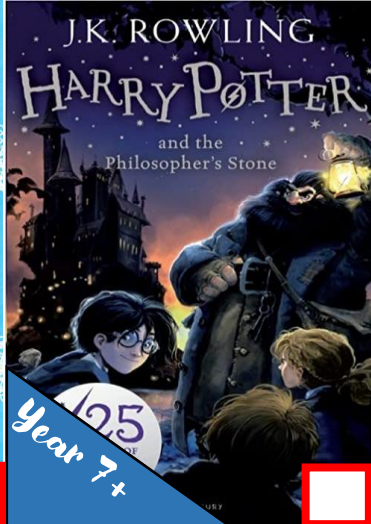
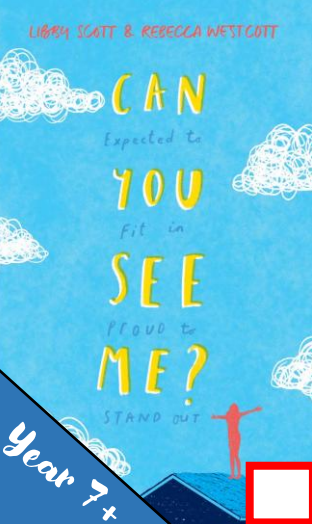
Use this page to record any homework this half term

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	Look, Cover, Write, Check	Definitions to Key Words	Flash Cards	Self Quizzing	Mind Maps	Paired Retrieval
Step 1	Look at and study a specific area of your knowledge organiser. 	Write down the key words and definitions. 	Use your knowledge organiser to condense and write down key facts and or information on your flash cards. 	Use your knowledge organiser to create a mini quiz. Write down questions using your knowledge organiser. 	Create a mind map with all the information you can remember from your knowledge organiser. 	Ask a partner or family member to have the knowledge organiser or flash cards in their hands. 
Step 2	Cover or flip the knowledge organiser over and write down everything you remember. 	Try not to use your knowledge organiser to help you 	Add pictures to help support. Then self quiz yourself using the flash cards.. You can write questions on one side and answers on the other. 	Answer the questions and remember to use full sentences. 	Check your knowledge organiser to see if there were any mistakes with the information you have made. 	They can test you by asking you questions on different sections of your knowledge organiser. 
Step 3	Check what you have written down. Correct any mistakes in green pen and add anything you missed. Repeat. 	Use your green pen to check your work. 	Use a parent/carer or friend to help quiz you on the knowledge. 	You can also use family to help quiz you. Keep self quizzing until you get all questions correct. 	Try to make connections that links information together. 	Write down your answers. 

WORLD MAP





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YEAR 10

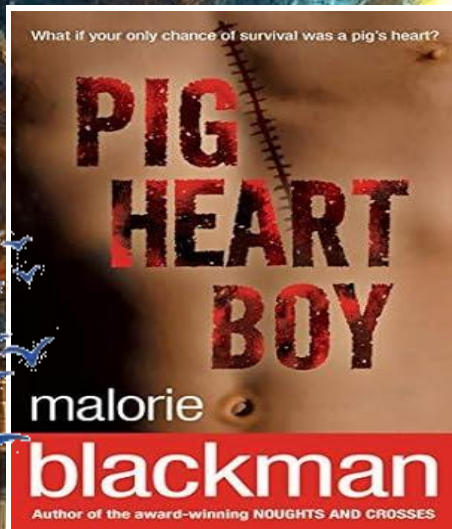
Recommended Reading



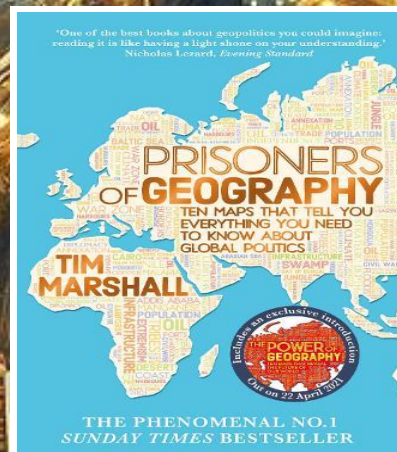
At first, Sara is treated like a princess because of her father's riches. However, when news arrives that he has died and left her penniless, her life changes dramatically. She is forced to work as a servant at the school, enduring harsh conditions and unkind treatment.



In this alternate reality, the ruling class are the black "Crosses," while the white "Noughts" are oppressed and treated as second-class citizens. The story follows Sephy Hadley, a Cross, and Callum McGregor, a Nought, who have been close friends since childhood despite the segregation between their communities.



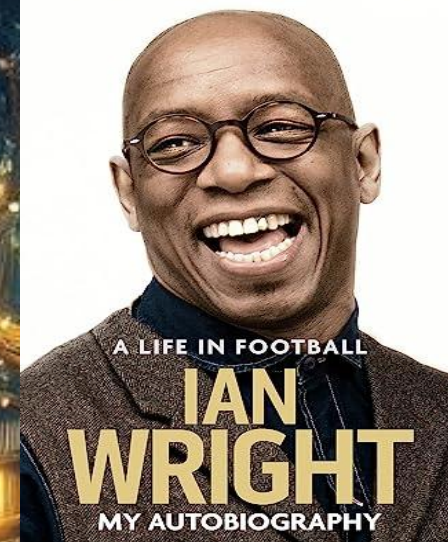
As his health worsens and a human donor heart becomes unlikely, Cameron is offered a controversial and experimental transplant using a pig's heart. Faced with the choice between taking this risky procedure or dying, he agrees, hoping for a second chance at life.



The book explores different regions of the world, such as Russia, China, the Middle East, and Africa, showing how physical features like mountains, rivers, oceans and climate influence political decisions, conflicts and relationships between countries. Marshall argues that leaders are often limited, or "prisoners," of their geography when making strategic choices.

Challenge yourself by reading these topic-related books for this half term!

THE SUNDAY TIMES BESTSELLER



Wright reflects on growing up in South London, facing challenges at home and in school, and discovering football as a source of purpose and escape. He describes his late start in professional football, his rise through Crystal Palace, and his successful career at Arsenal, where he became a club legend.

CHRISTMAS CAROL

LIT P1

PLOT SUMMARY

1	Ebenezer Scrooge is at work in his counting house on Christmas Eve. He refuses to pay to heat it, so his clerk, Bob Cratchit, is cold. Fred, Scrooge's nephew, asks Scrooge to Christmas Dinner. He refuses with "Bah! Humbug!" Two men ask for money for charity. Scrooge refuses. Bob is begrudgingly given Christmas Day off work. At home, Scrooge is visited by the ghost of his dead partner, Jacob Marley, who tells Scrooge that, due to his greedy life, he has to wander the Earth wearing heavy chains. Marley tries to stop Scrooge from doing the same. He tells Scrooge that three spirits will visit him during the next three nights. Scrooge falls asleep.
2	He wakes and the Ghost of Christmas Past takes Scrooge into the past. Invisible to those he watches, Scrooge revisits his childhood school days, his apprenticeship with a jolly merchant named Fezziwig, and his engagement to Belle, who leaves Scrooge as he loves money too much to love another human being. Scrooge sheds tears of regret before being returned to his bed.
3	The Ghost of Christmas Present shows Scrooge Christmas as it will happen that year. Scrooge watches the Cratchit family eat a tiny meal in their little home. He sees Bob Cratchit's crippled son, Tiny Tim, whose kindness and humility warms Scrooge's heart. The spectre shows Scrooge his nephew's Christmas party, where they are mocking him. Toward the end of the day, the ghost shows Scrooge two starved children, Ignorance and Want. He vanishes as Scrooge notices a dark, hooded figure coming.
4	The Ghost of Christmas Yet to Come takes Scrooge through a sequence of scenes linked to an unnamed man's death, such as his clothes being stolen and sold, and city workers suggesting they would only go to the funeral if there were food provided. The reader realises that this refers to Scrooge, but he does not. He begs to know the name of the dead man. He finds himself in a churchyard with the spirit pointing to a grave. Scrooge looks at the headstone and is shocked to read his own name. He is desperate to change his fate and promises to change his ways. He suddenly finds himself safely tucked in his bed.
5	Scrooge rushes out onto the street hoping to share his newfound Christmas spirit. He sends a turkey to the Cratchit house and goes to Fred's party. As the years go by, he continues to celebrate Christmas with all his heart. He treats Tiny Tim as if he were his own child, gives gifts for the poor and is kind, generous and warm.

Themes

What are the main themes?

Christmas Spirit



Poverty



Transformation



Politics



Generosity



Family



Author's Intent

Why did Dickens write the novella?

To reduce the extreme divide between the upper class and the destitute lower class

To use the spirit of Christmas to promote the idea of year round generosity

To contrast the ideas of economist Thomas Malthus and criticise the poor law

To remind people that there is always an opportunity to change if you are willing

CHARACTERS

Ebenezer Scrooge	Miserly, mean, bitter, materialistic, unsympathetic, indifferent, cold Selfish, generous, happy, sociable, transformed.	Marley's Ghost	Materialistic, self-centred, terrifying, haunting, Exhausted, regretful, hopeful, selfless, wise.
Fred – Scrooge's nephew	Warm-hearted, cheerful, optimistic, insightful, determined, generous, forgiving, jovial, caring.	Bob Cratchit	Uncomplaining, polite, patient, good-humoured, caring, cheerful, loving, forgiving.
Fan – Scrooge's sister	Affectionate, loving, jolly. Dead.	Tiny Tim – Bob's son.	Frail, ill, good, religious.
Belle – Scrooge's former fiancée.	Beautiful, wise, poor, family-orientated.	Ignorance and Want	Symbolic, symptomatic, desperate, neglected, abandoned.
Ghost of Christmas Past	Contradictory, strong, gentle, quiet, forceful, questioning, mysterious, ephemeral.	Ghost of Christmas Present	Compassionate, abundant, generous, cheerful, jolly, friendly, severe, sympathetic, prophetic.
Ghost of Christmas Yet to Come	Mysterious, silent, ominous, intimidating, frightening, resolute.	KEY INFO: Written: 1843 Structure: 5 Stave (chapter) novella Genre: Christmas ghost story. Political diatribe	

Key Quotations (AO1):

Stave One
'He was as tight-fisted as a grind stone' – about Scrooge
'His face was ruddy and handsome, his eyes sparkled' – Fred (presented as the opposite to Scrooge)
'I wear the chain I forged in life' –Ghost of Marley

Stave Two
'It wore a tunic of the purest white... from the crown of its head there sprung a bright clear jet of light' – Ghost of Christmas Past
'A lonely boy was sat reading near a feeble fire' – Scrooge as a young boy
'''Your lip is trembling,' said the Ghost, 'And what is that upon your cheek?' – first sign of emotion from Scrooge

Stave Three
'There sat a jolly Giant, who wore a glowing torch...it was clothed in one simple green robe' – Ghost of Christmas Present
'God bless us everyone!' – Tiny Tim's positive attitude
'Tell me Tiny Tim will live...' – Scrooge showing compassion.

Stave Four
'The phantom slowly, gravely, silently approached' – Ghost of Christmas Yet to Come
'I fear you more than any spectre I have seen' – Scrooge
'Tell me I may sponge away the writing on this stone!' – Scrooge desperate to change his ways
'I will honour Christmas in my heart' - Scrooge

Stave Five
'I'll raise your salary Bob and endeavour to assist your struggling family' – Scrooge changing his ways.
'to Tiny Tim, who did NOT die, he [Scrooge] was a second father' – Scrooge changing his ways
'Wonderful party, wonderful games, wonderful unanimity, won-der-ful happiness!' – repetition shows Scrooge's joy at the end.

Critical Verbs				
Dickens wrote the novella because he was influenced by what was going on in the world he was living in. Society, religion, politics, stereotypes, beliefs and personal experiences will all have impacted on what Dickens was writing and why he was writing it. Use the structure below to create points.				
Writer	Uses	Character/setting/ev ent	Critical Verb	Theme/concept/conte xt
Dickens	uses	Tiny Tim The Cratchit's house Tiny Tim's death	to advocate to criticise to celebrate to warn to teach to expose to personify	The impact of poverty in the Victorian era. Emphasising the need for reform

Example PEZEL and critical verbs:
Dickens uses the character of Tiny Tim to **expose** the devastating impact of the class divide in Victorian society. Dickens himself came from a disadvantaged background and, through his literature, wanted to criticise the way that the poor were being treated, in order to keep them in their place. The repetitive use of Tiny Tim's 'crutch' is a symbol of his poverty; but it is also much more than this. The 'crutch' represents his reliance on his family, a family that cannot afford to keep him. By making Tiny Tim disabled, Dickens was further increasing the reader's sympathy for the Cratchit family, as well as their sympathy for the poorest people in society generally. The symbol could also be representative of the innocence of children in this class system. Tiny Tim is a positive child, despite his clear need for help. His crutch is used by Dickens as a way of reminding Scrooge, and therefore readers, that the poor need support to overcome barriers. This was Dickens' overall message to society.

Context	
Dickens was born Charles John Huffam Dickens on February 7, 1812, in Portsmouth, on the southern coast of England. The famed British author was the second of eight children. His father, John Dickens, was a naval clerk who dreamed of striking it rich. Charles' mother, Elizabeth Barrow, aspired to be a teacher and school director. Despite his parents' best efforts, the family remained poor. Nevertheless, they were happy in the early days. In 1816, they moved to Chatham, Kent, where young Dickens and his siblings were free to roam the countryside and explore the old castle at Rochester.	The main features involved in the Industrial Revolution were technological, socioeconomic, and cultural. The technological changes included the following: (1) the use of new basic materials, chiefly iron and steel, (2) the use of new energy sources, including both fuels and motive power, such as coal, the steam engine, electricity, petroleum, and the internal-combustion engine, (3) the invention of new machines, such as the spinning jenny and the power loom that permitted increased production with a smaller expenditure of human energy, (4) a new organization of work known as the factory system, which entailed increased division of labour and specialization of function, (5) important developments in transportation and communication, including the steam locomotive, steamship, automobile, airplane, telegraph, and radio, and (6) the increasing application of science to industry. These technological changes made possible a tremendously increased use of natural resources and the mass production of manufactured goods.
The Victorian era marked the beginning of the supernatural which has only grown with the passage of time. Between 1750 to 1950 the main focus in Britain was on religion and it was this focus on religion which was accompanied by several beliefs.	A Christmas Carol is a Victorian Morality tale. It has elements of a 'ghost story', but its purpose is to deliver a clear message to its readers. Therefore, it can be classed as a morality novella.
England witnessed some sort of a contradiction. On one hand was the emergence industrial revolution which modernized the world with the help of new scientific inventions. On the other hand, practices like the witchcraft still found a place and were considered extremely popular. As time passed by, this fascination grew all the more intense. Particularly, the fascination with ghosts and ghost stories began to develop.	

Threshold Concepts	
	Workhouses and the Poor Law: Workhouses were a form of 'support' for poor families during the Victorian era. The Poor Law was introduced which meant that families had to go to these workhouses and could not receive any support if people in their family were 'able-bodied'. Dickens was very concerned by the plight of the poor and wrote many of his novels to express his anguish at the difficulties the poor had in society. Workhouses were not conducive to allowing families to progress and, in many cases, the families became more destitute as a result of being in these terrible conditions.
	Religion vs Science: At the time the novella was written, one of the most prominent movements in society was the migration from a purely religious influence to Scientific research developments in the Industrial Revolution. Although modern in many of his ways of thinking, Dickens' novella seems to be a criticism of this shift. He seems to want to hark back to a day where religion was the predominant guiding force in people's lives. However, many people were beginning to see Science and technological advances as the way forward.

A to Z of...

Recall any key information from the current topic you are studying in **ENGLISH**.

A	B	C	D
E	F	G	H
I	J	K	L
M	N	O	P
Q	R	S	T
U	V	W	X
Y	Z		

Representing solutions of equations and inequalities

Maths

What do I need to be able to do?

By the end of this unit you should be able to:

- Form and solve equations and inequalities
- Represent and interpret solutions on a number line as inequalities
- Draw straight line graphs and find solutions to equations
- Form and solve equations and inequalities with unknowns on both sides

Keywords

Solution: a value we can put in place of a variable that makes the equation true.

Variable: a symbol for a number we don't know yet.

Equation: an equation says that two things are equal — it will have an equals sign =

Expression: numbers, symbols and operators grouped together to show the value of something

Identity: An equation where both sides have variables that cause the same answer includes $\equiv$

Linear: an equation or function that is the equation of a straight line

Intersection: the point that two lines meet

Inequality: an inequality compares two values showing if one is greater than, less than or equal to another.

Solve equations R

$$2x + 4 = 30$$

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

$$6x + 12 = 30$$

$$6x = 18$$

$$x = 3$$

Expand the brackets

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

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

$$x = 3$$

Solutions on a number line



Includes the value it sits above
Does NOT include the value it sits above

Values less than or equal to 3 but also more than -1



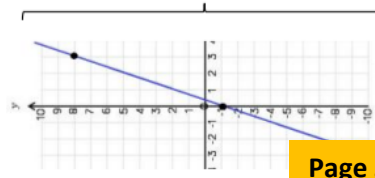
Plotting straight line graphs R

$$y = 3x - 1$$

x	-3	0	3
y	-10	-1	8

This represents a coordinate pair (-3, -10)

Draw a table to display this information



You only need two points to form a straight line

Plotting more points helps you decide if your calculations are correct (if they do make a straight line)

Remember to join the points to make a line

Find solutions graphically

For linear equations there is only one point the graph meets the x value

$$x = 2$$

$$y = 4$$

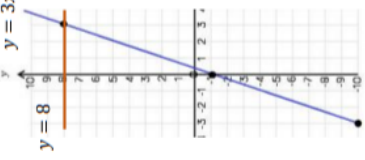
These two lines will cross at (2, 4) because they are just x = 2 and y = 4 they are parallel to axes and meet in one place

$$y = 8$$

$$3x - 1 = 8$$

Remember equation of a line format is $y = mx + c$

The solution is the point the two lines meet (3, 9)



Form and solve inequalities R

Form

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

$$3x + 2 > 11$$

Solve

$$x \leftarrow -3 \leftarrow -2 \leftarrow ||$$

$$x > 3$$

Two more than treble my number is greater than 11

Includes the value it sits above
Does NOT include the value it sits above

Values less than or equal to 3 but also more than -1



Equations: unknown on both sides R

$$8x + 5 = 4x + 13$$

$$8x + 5 = 4x + 13$$

$$4x + 5 = 13$$

$$4x = 8$$

$$x = 2$$

inequalities: unknown on both sides

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

$$x \leq 2$$



What do I need to be able to do?

By the end of this unit you should be able to:

- Work fluently with hypotenuse, opposite and adjacent sides
- Use the tan, sine and cosine ratio to find missing side lengths
- Use the tan, sine and cosine ratio to find missing angles
- Calculate sides using Pythagoras' Theorem

Keywords

Enlarge: to make a shape bigger (or smaller) by a given multiplier (scale factor)

Scale Factor: the multiplier of enlargement

Constant: a value that remains the same

Cosine ratio: the ratio of the length of the adjacent side to that of the hypotenuse. The sine of the complement

Sine ratio: the ratio of the length of the opposite side to that of the hypotenuse.

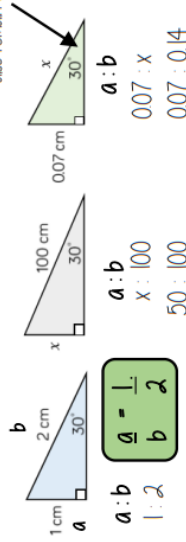
Tangent ratio: the ratio of the length of the opposite side to that of the adjacent side.

Inverse: function that has the opposite effect

Hypotenuse: longest side of a right-angled triangle. It is the side opposite the right-angle

Ratio in right-angled triangles

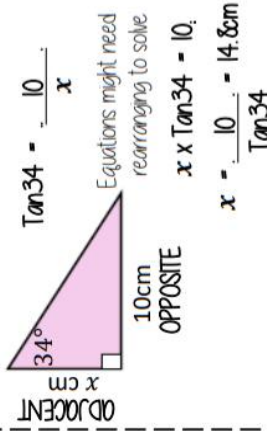
When the angle is the same the ratio of sides a and b will also remain the same



Tangent ratio: side lengths

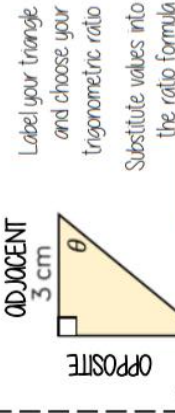
$$\tan \theta = \frac{\text{opposite side}}{\text{adjacent side}}$$

Substitute the values into the tangent formula



Sin, Cos, Tan: Angles

Inverse trigonometric functions

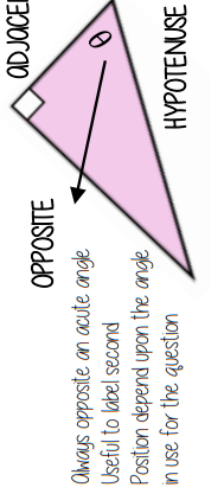


$$\theta = \tan^{-1} \frac{\text{opposite side}}{\text{adjacent side}}$$

$$\theta = \sin^{-1} \frac{\text{opposite side}}{\text{hypotenuse side}}$$

$$\theta = \cos^{-1} \frac{\text{adjacent side}}{\text{hypotenuse side}}$$

Hypotenuse, adjacent and opposite ONLY right-angled triangles are labelled in this way



Sin and Cos ratio: side lengths

$$\sin \theta = \frac{\text{opposite side}}{\text{hypotenuse side}}$$

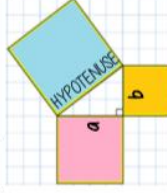


$$\cos \theta = \frac{\text{adjacent side}}{\text{hypotenuse side}}$$

Substitute the values into the ratio formula
 Equations might need rearranging to solve

Pythagoras theorem ^R

$$\text{Hypotenuse}^2 = a^2 + b^2$$

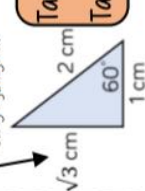


This is commutative — the square of the hypotenuse is equal to the sum of the squares of the two shorter sides

- Places to look out for Pythagoras triangles
- Perpendicular heights in isosceles triangles
- Diagonals on right angled shapes
- Distance between coordinates
- Any length made from a right angles

Key angles

This side could be calculated using Pythagoras



$$\tan 30 = \frac{1}{\sqrt{3}}$$

$$\tan 60 = \sqrt{3}$$

$$\cos 30 = \frac{\sqrt{3}}{2}$$

$$\cos 60 = \frac{1}{2}$$

$$\sin 30 = \frac{1}{2}$$

$$\sin 60 = \frac{\sqrt{3}}{2}$$

Key angles 0° and 90°

$$\tan 0 = 0$$

$$\tan 90 = \text{undefined}$$

This value cannot be defined — it is impossible as you cannot have two 90° angles in a triangle



$$\sin 0 = 0$$

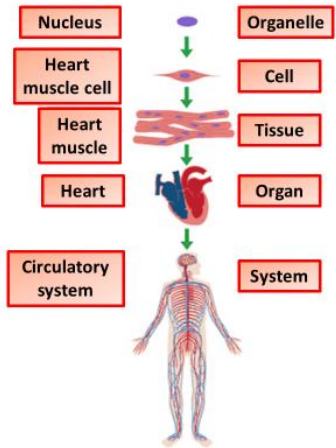
$$\sin 90 = 1$$

$$\cos 0 = 1$$

$$\cos 90 = 0$$

Animal Tissues

In animals, cells are grouped together to form tissues. These tissues vary in their structure, function, and origin. The four important tissues in an animal body are epithelial, connective, muscular and nervous tissues.



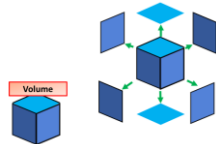
Exchange Surfaces

Organisms must take in food, oxygen and water, and other essential substances, from the environment. Plants also need carbon dioxide for photosynthesis. Organisms also need to remove waste substances.

Small organisms exchange these essential and waste substances between themselves and the environment. They do this over their body surface. Simple chemical substances can diffuse in and out of their bodies.

Inside their bodies, in small organisms, substances don't have to move far.

The size of their surface, or surface area, defines how quickly they can absorb substances. The size of their volume defines how much of these substances they need.

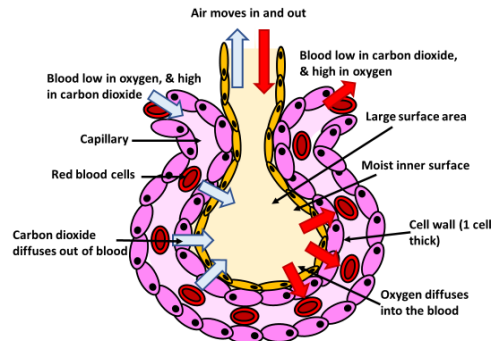


Animal systems And respiration

Gaseous Exchange Surfaces

Key features

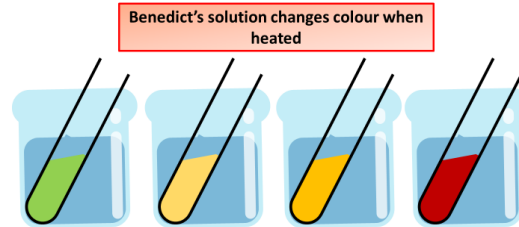
- Good ventilation
- Good circulation
- A large surface area
- Moist surface
- Short diffusion distance
- Concentration gradient
- Movement of gases



Food tests

Testing For Sugars

Sugars like glucose will react with Benedict's solution on heating for a few minutes and give a red-brown product. The precipitate takes a while to settle in the tube – you're more likely to see simply a red or brown colour. If there's not much glucose present, the final colour may be green or yellow, or orange if there's a little more.

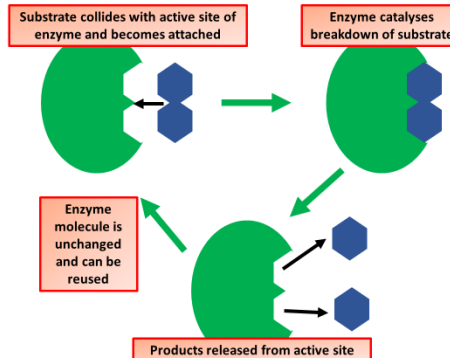


Testing for Starch

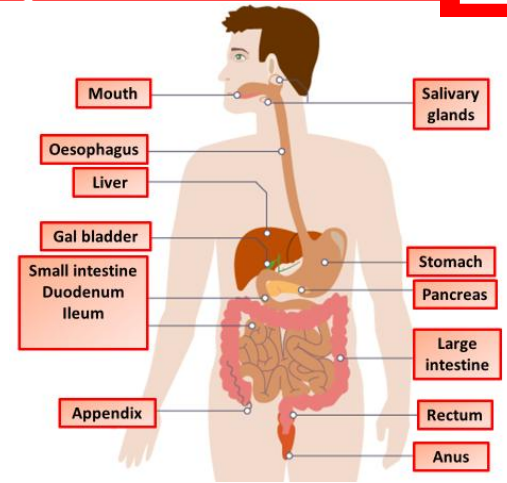
In the presence of starch, iodine turns a blue/black colour. It is possible to distinguish starch from glucose (and other carbohydrates) using this iodine solution test. For example, if iodine is added to a peeled potato, then it will turn black. Benedict's reagent can be used to test for glucose.

Testing for Proteins

- Use a pestle and mortar to grind up a small sample of food.
- Transfer the ground up food into a small beaker. Then add a little bit of distilled water.
- Stir the mixture so that some of the food dissolves in the water.
- Filter using a funnel with filter paper to obtain as clear a solution as possible.
- The solution should be collected in a conical flask.
- Put 2 cm³ of this solution into a test tube
- Add 2 cm³ of Biuret solution to the solution in the test tube. Shake gently to mix
- Note any colour change. Proteins will turn the solution pink or purple.

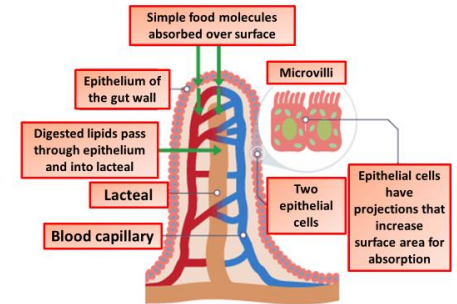


The digestive system



Villi

Villi (singular is villus) are small, finger-like structures in the small intestine. They help to absorb digested food. Each villus has micro-villi which increase the surface area of the intestinal walls. A larger surface area allows nutrients to be taken in more quickly.

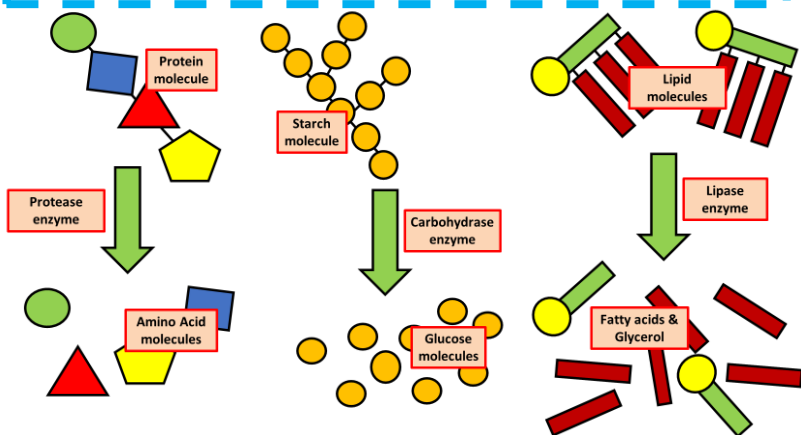


Enzymes

Enzymes are protein molecules in cells which work as catalysts. Enzymes speed up chemical reactions in the body, but do not get used up in the process. Almost all biochemical reactions in living things need enzymes. With an enzyme, chemical reactions go much faster than they would without the enzyme.

Digestive Enzymes

Digestive enzymes are released, or secreted, by the organs of the digestive system. These enzymes include proteases that digest proteins, and nucleases that digest nucleic acids. Examples of digestive enzymes are: Amylase, produced in the mouth.

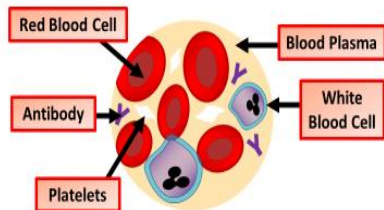


Investigating Enzymes

1. You will investigate the breakdown of **starch** by amylase at different pHs.
2. The different pHs under investigation will be produced using **buffer solutions**. Buffer solutions produce a particular pH, and will maintain it if other substances are added.
3. The amylase will break down the starch.
4. A series of test tubes containing a mixture of starch and amylase is set up at different pHs.
5. A sample is removed from the test tubes every 10 seconds to test for the presence of starch. **Iodine solution** will turn a blue/black colour when starch is present, so when all the starch is broken down, a blue-black colour is no longer produced. The iodine solution will remain orange-brown.
6. For each pH investigated, record the time taken for the disappearance of starch, i.e. when the iodine solution in the spotting tile remains orange-brown.

Blood

It has four main components: plasma, red blood cells, white blood cells, and platelets. Blood has many different functions, including: transporting oxygen and nutrients to the lungs and tissues. forming blood clots to prevent excess blood loss.



Blood vessels

Artery

- The arteries are the blood vessels that deliver oxygen-rich blood from the heart to the tissues of the body.
- Each artery is a muscular tube lined by smooth tissue and has three layers:
- The intima, the inner layer lined by a smooth tissue called endothelium.

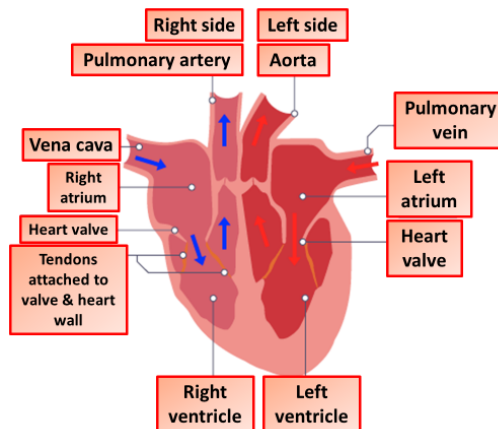
Veins

- A vein is an elastic blood vessel that transports blood from various regions of the body to the heart.
- Unlike the high pressure arterial system, the venous system is a low pressure system that relies on muscle contractions to return blood to the heart.

Capillary

- Capillaries are very thin, approximately 5 micrometers in diameter, and are composed of only two layers of cells; an inner layer of endothelial cells and an outer layer of epithelial cells.
- They are so small that red blood cells need to flow through them single file.

The Heart

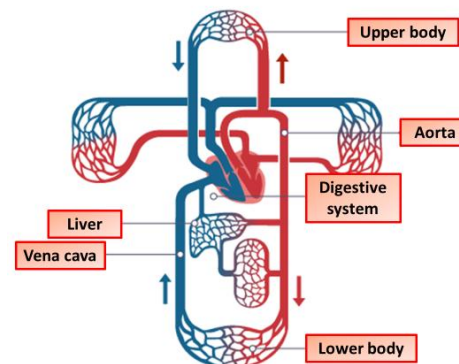


Stents

Coronary arteries that are blocked or have become narrow can be stretched open and have a stent inserted to restore and maintain blood flow. The stent is inserted into a coronary artery in a catheter. Stents are made from metal alloys and do not lead to an immune response in the patient.

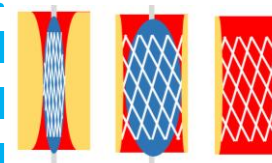
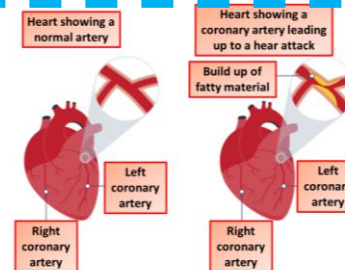
Circulation

Blood enters the heart through the atria. Blood from two vena cavae enters the right atrium. Blood from the pulmonary veins enters the left atrium. The atria fill, followed by the ventricles. Blood is prevented from flowing back into the atria by heart valves. Blood leaves the heart in the body's main artery - the aorta - from the left side, and the pulmonary artery, from the right.



Coronary heart disease

The heart is a muscular pump. Like all muscles, it needs oxygen for aerobic respiration to contract. The coronary arteries supply blood, and therefore oxygen, to the heart muscle. The coronary arteries may become blocked by a build-up of fatty material, caused by certain kinds of 'bad' cholesterol. As the fatty material increases, one or more coronary arteries narrow, and can become blocked.



Respiration

Respiration is the chemical reaction which occurs inside the **mitochondria** of all living cells to release energy for living functions and processes, e.g. movement, warmth and building larger molecules for growth and repair. The reaction is **exothermic**, meaning that energy is released to the surroundings.

Respiration can be either **aerobic** (using oxygen) or **anaerobic** (without using oxygen).



In anaerobic respiration, the glucose is not completely oxidised. This means that there is less energy released than in aerobic respiration.



In plants and yeast, anaerobic respiration makes some different products. The reaction is also called fermentation and is used in bread-making and beer-brewing.



Effect of Exercise

When a person exercises, their body (specifically their **muscles**) need much more energy. To release more energy, the amount of respiration reactions occurring has to increase.

The **heart** pumps faster and the **breathing** rate and breath volume all increase to supply more **oxygen** to the muscles via the bloodstream.

If the muscles are not receiving enough oxygen to keep up the demand needed by the respiration reactions, then **anaerobic** respiration begins to occur. This incomplete oxidation of the glucose produces **lactic acid**, which can build up in the muscles and results in an **oxygen debt**.

After long periods of exercise, the muscles can become fatigued and stop contracting. You might experience a pain commonly called a **stitch**.

Metabolism

Metabolism is the combination of all the reactions in a cell or in the body.

Energy released during respiration is used during metabolic processes to synthesise new molecules:

- Glucose is converted to starch, glycogen and cellulose.
- Glycerol and three fatty acids are joined to form a lipid molecule.
- Glucose and nitrate ions are joined to form amino acids.
- Amino acids are joined to form proteins.
- Excess proteins are broken down and released as urea during excretion.

Respiration itself is also a process which is included in metabolism.

Oxygen Debt (HT only)

During vigorous exercise, the body can begin to carry out **anaerobic respiration** and produces **lactic acid**.

Lactic acid is transported via the bloodstream to the **liver**. The liver converts the lactic acid back into **glucose**. However, **oxygen** is needed to carry out this reaction.

The **oxygen debt** is the amount of the oxygen required by the body to convert the built-up lactic acid back into glucose and remove it from the respiring cells.

Plant Tissues, Organs and Systems

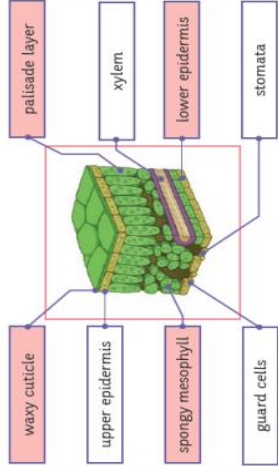
Leaves are plant organs and their main function is to absorb sunlight energy for use in **photosynthesis**. Within the cells are small organelles called **chloroplasts** which contain a green pigment called **chlorophyll**. This is the part of the plant which absorbs the sunlight and where photosynthesis occurs.



Leaves are adapted to carry out their function. Leaves are typically flat and thin with a large **surface area**. This means they have a maximum area to absorb the sunlight and carbon dioxide. The **thin shape** reduces the distance for diffusion of water and gases.

Leaves contain vessels called **xylem** and **phloem**. The **xylem** transport water and dissolved minerals toward the leaves. The **phloem** transport glucose and other products from photosynthesis around the plant.

The large **air spaces** between the cells of the spongy mesophyll layer allow for the diffusion of gases. Carbon dioxide enters the leaves and oxygen exits the leaves.



The **guard cells** are specially adapted cells located on the underside of the leaf. They are positioned in pairs, surrounding the **stomata** (a small opening in the epidermis layer). The guard cells change shape to open and close the stomata, controlling the rate of **gas exchange** in the leaf.

Root Hair Cells

Plants absorb water by osmosis through the root hair cells of the roots. Dissolved in the water are important minerals for the plant's growth and development, which are absorbed by **active transport**.

The root hair cells are adapted to their function with the following features:

- Finger-like projection in the membrane increases the **surface area** available for water and minerals to be absorbed across.
- The narrow shape of the projection can squeeze into small spaces between soil particles, bringing it closer and reducing the distance of the **diffusion pathway**.
- The cell has many **mitochondria**, which release energy required for the active transport of some substances.



Xylem and Phloem

Xylem vessels transport water through the plant, from roots to leaves. They are made up of dead, lignified cells, which are joined end to end with no walls between them, forming a long central tube down the middle. The movement of the water, and dissolved minerals, along the xylem is in a **transpiration stream**.



Xylem vessels also provide **support and strength** to the plant structure. They are found in the middle of roots so they aren't crushed within the soil. They are found in the middle of the stem to provide strength and prevent bending. In the leaves, they are found in **vascular bundles** alongside the phloem and can be seen as the veins which network across the leaf.

Phloem vessels transport food such as dissolved sugars and glucose from photosynthesis. The food is transported around the plant to where growth is occurring (root and shoot tips), as well as to the organs which store the food. The transport occurs in **all directions** throughout the plant. The cells making up the phloem tube are living, with small holes in the walls where the cells are joined.

Transpiration and Translocation

Transpiration is the loss of water, by **evaporation and diffusion**, from the leaves of the plant. Water is a cohesive molecule and as it evaporates, there is less water in the leaf, so water from further back moves up to take its place. This, in turn, draws more water with it. This is the **transpiration stream**.

Transpiration occurs naturally as there is a tendency for water to diffuse from the leaves (where the concentration is relatively high) to the air around the plants (where the concentration is relatively low), via the **stomata**.

Environmental factors can change the rate at which transpiration occurs:

- Increased **light intensity** will increase the rate of transpiration because light stimulates the stomata to open. The leaf will also be warmed by the sunlight.
- Increased **temperature** will cause the water to evaporate more quickly and so increase the rate of transpiration.
- Increased **humidity** (moisture in the air) will reduce the rate of transpiration. Whereas if the air becomes drier, the rate increases.
- A greater concentration gradient will increase the rate of diffusion.
- If the **wind speed** increases, then the rate of transpiration also increases. This is because as the water surrounding the leaves is moved away more quickly, the concentration gradient is increased.
- If the **water content** in the soil is decreased, then the rate of absorption in the roots decreases. This causes the stomata to become flaccid and close, reducing transpiration. If the loss of turgor affects the whole plant, then it will wilt.

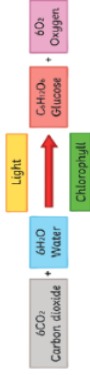
AQA GCSE (Combined Science) Unit 4: Bioenergetics Higher

Photosynthesis

Photosynthesis is a chemical reaction which takes place in plants. It converts **carbon dioxide** and **water** into **glucose** and **oxygen**. It uses **light energy** to power the chemical reaction, which is absorbed by the green pigment **chlorophyll**. This means that photosynthesis is an example of an **endothermic reaction**.

The whole reaction takes place inside the **chloroplasts** which are small organelles found in plant cells.

Plants acquire the carbon dioxide via diffusion through the **stomata** of their leaves. The water is absorbed from the soil through the roots and transported to the cells carrying out photosynthesis, via the **xylem**.



The glucose made in photosynthesis is used for respiration, stored as starch, fat or oils, used to produce cellulose or used to produce amino acids for protein synthesis.

The Rate of Photosynthesis and Limiting Factors

A **limiting factor** is something which stops the photosynthesis reaction from occurring at a faster rate. **Temperature**, **light intensity** and **carbon dioxide level** are all limiting factors.

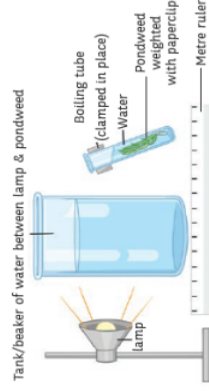
Increasing the temperature of the surroundings will increase the rate of reaction, but only up to around 45°C. At around this temperature, the enzymes which catalyse the reaction become denatured.

Increasing the light intensity will increase the rate of reaction because there is more energy to carry out more reactions.

Increasing the carbon dioxide concentration will also increase the rate of reaction because there are more reactants available.

The Effect of Light Intensity on the Rate of Photosynthesis (RPI)

The amount of light a plant receives affects the rate of photosynthesis. If a plant receives lots of light, lots of photosynthesis will occur. If there is very little or no light, photosynthesis will stop.



Method

1. Measure 20cm³ of sodium hydrogen carbonate solution and pour into a boiling tube.
2. Collect a 10cm piece of pondweed and gently attach a paper clip to one end.
3. Clamp the boiling tube, ensuring you will be able to shine light onto the pondweed.
4. Place a metre rule next to the clamp stand.
5. Place the lamp 10cm away from the pondweed.
6. Wait two minutes, until the pondweed has started to produce bubbles.
7. Using the stopwatch, count the number of bubbles produced in a minute.
8. Repeat stages 5 to 7, moving the lamp 10cm further away from the pondweed each time until you have five different distances.
9. Now repeat the experiment twice more to ensure you have three readings for each distance.

The **independent** variable was the light intensity.

The **dependent** variable was the amount of bubbles produced. Counting the bubbles is a common method, but you could use a gas syringe instead to more accurately measure the volume of oxygen produced.

The **control** variables were same amount of time and same amount of pondweed. A bench lamp is used to control the light intensity and the water in the test tube containing the pondweed is monitored with a thermometer to monitor and control the temperature.

Interaction of Limiting Factors (HT only)

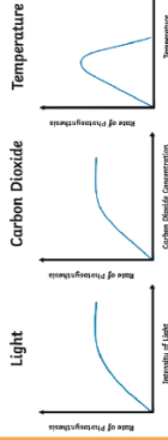
The limiting factor for the reaction will depend on the environmental conditions.

For example:

At night, light intensity is the limiting factor.

In winter, temperature is the limiting factor.

In other conditions, carbon dioxide is usually the limiting factor.



From the graphs, you can see that increasing one of the factors will also increase the rate of reaction, but only for so long before it plateaus. This is because another factor will have then become the limiting factor. E.g. you could increase the supply of carbon dioxide, but if there is not enough chlorophyll to absorb the sunlight, then the sunlight will become the limiting factor instead.

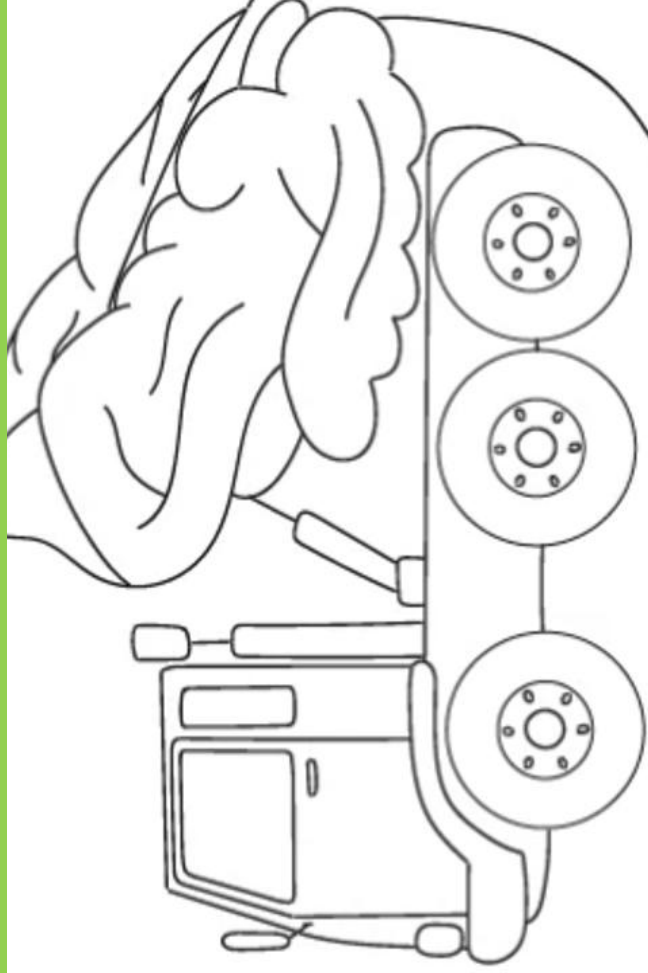
Greenhouse Economics (HT only)

To grow plants in the most suitable conditions, a greenhouse can be used. A greenhouse traps the sun's radiation as heat inside the greenhouse, so that temperature is not a limiting factor for the rate of photosynthesis. Artificial lighting can be installed in the greenhouse to provide constant light energy and prevent light intensity being a limiting factor.

A paraffin heater can be used in the greenhouse to not only maintain a suitable temperature, but the by-product of the combustion off the paraffin is carbon dioxide.

Enclosing the crops in a greenhouse and regulating all the conditions in this way can be expensive, however, it is often outweighed because the harvest of the crop is much healthier, faster-grown crops. Furthermore, the enclosed conditions mean that disease and pests can be easily controlled and prevented.

Within the 'brain dump', add all the knowledge you can remember from **Science** and **Maths** without looking back at the sheets. Once you have added everything you can remember, look at these pages again and using a different colour pen, add in the knowledge that you missed out. This is the knowledge you should now continue to revise. Continue this process until you can remember everything on the page.



BRAIN DUMP

SPANISH GCSE ESSENTIALS (FOUNDATION)

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INTENSIFIERS	FREQUENCY
mucho - a lot	todos los días
muy - very	a menudo
tan - so	a veces
demasiado - too much	algunas veces
bastante - quite	de vez en cuando
un poco - a little	raramente

JOINING IDEAS	OPPOSING IDEAS
y - and	pero - but
además - also	sin embargo - however
así que - therefore	mientras - whereas
porque - because	no obstante - however
por lo tanto - therefore	aunque - although

OPINION STARTERS
para mí
me parece que

ADJECTIVES	
POSITIVE	NEGATIVE
barato/a	aburrido/a
fácil	fatal
útil	feo/a
genial	inútil
amable	malo/a
	duro

PRESENT	PRETERITE	FUTURE
I play	I played	I will play
juego	jugué	jugaré
soy	fui	seré
he	hube	habré
estoy	estuve	estaré
tengo	tuve	tendré
hago	hice	haré
voy	fui	iré
como	comí	comeré
veo	vi	veré

TIME MARKERS		
PRESENT	PAST	FUTURE
hoy	ayer	mañana
de momento	en el pasado	en el futuro
esta noche	anoche	mañana por la noche
este verano	el verano pasado	el próximo verano
el lunes	el lunes pasado	el lunes que viene
ahora	anteayer	pasado mañana

VERB ENDINGS	-AR	-ER	-IR	IR to go	HABER to have	ESTAR to be
yo	-o	-o	-o	voy	he	estoy
él/ella	-a	-e	-e	va	ha	está
ellos/ellas	-an	-en	-en	van	han	están

PRESENT	PRETERITE	FUTURE
I play	I played	I will play
ser		
estar		
ir		
tener		
haber		
hacer		

TIME MARKERS		
PRESENT	PAST	FUTURE
hoy	ayer	mañana
de momento		
esta noche		
este verano		
el lunes		
ahora		

VERB ENDINGS	-AR	-ER	-IR	IR to go	HABER to have	ESTAR to be
yo						
él/ella						
ellos/ellas						

OPINIONS
me encanta(n)
me gusta(n)
no me gusta(n)
odio
prefiero

USEFUL EXPRESSIONS		
PRESENT	PAST	FUTURE
es	era	será
hace	hacía	habrá
hay	había	habrá

INFINITIVE EXPRESSIONS
tengo que - I have to
puedo - I can
quiero - I want to
voy a - I will
me gustaría - I would like to
se debe - you must
se puede - you can
hay que - you have to

NEGATIVES
no
no
no

OPINIONS
+ INFINITIVE OR + NOUN

USEFUL EXPRESSIONS	
PRESENT	PAST
es	
hace	
hay	

INFINITIVE EXPRESSIONS
I can
I want to
You can
You must

NEGATIVES
no
no
no

SPANISH GCSE ESSENTIALS (FOUNDATION)

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MFL

INTENSIFIERS	FREQUENCY
mucho	todos los días

JOINING IDEAS	OPPOSING IDEAS
y - and	pero - but

OPINION STARTERS
para mí

ADJECTIVES	
POSITIVE	NEGATIVE

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OPINION STARTERS		
en mi opinión	a mi modo de ver	
debo admitir que	mi padre opina que	

SEQUENCERS		CONDITIONALS	
primero	si tuviera el dinero	+ CONDITIONAL	
para empezar	si fuera rico		
luego	si tuviera la opción		
después	si pudiera		
mas tarde			
finalmente			

JOINING		OPPOSING	
y por eso	por otro lado		
igualmente	al contrario		
sin duda	en contraste		
por ejemplo	sino que		
de manera que	aún si		

SUBJUNCTIVES	
quiero que haga	I want him to do
para que tenga	so that I have
cuando sea mayor	when I am older
a menos que pueda	unless I can
espero que haya	I hope that there are

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[illegible]

Spanish Writing Mat (F)

MFL

Time markers

present	past	future
hoy - today	ayer - yesterday	mañana - tomorrow
de momento - at the moment	en el pasado - in the past	en el futuro - in the future
esta noche - tonight	anoche - last night	mañana por la noche- tomorrow night
este verano - this summer	el verano pasado - last summer	el próximo verano - next summer
ahora - now	anteayer - the day before yesterday	pasado mañana - the day after tomorrow

Adjectives

Positive				Negative			
barato/a	cheap	agradable	pleasant	aburrido/a	boring	terrible	terrible
fácil	easy	bonito/a	pretty	fatal	awful	feo/a	ugly
útil	useful	genial	great	difícil	hard	inútil	useless
relajante	relaxing	amable	nice	egoísta	selfish	malo/a	bad
facinante	fascinating	divertido/a	fun	caro/a	expensive	duro/a	hard

INFINITIVE EXPRESSIONS

tengo que - I have to	+ INFINITIVE
puedo - I can	
quiero - I want to	
voy a - I will	
me gustaría - I would like to	
se debe - you must	
se puede - you can	
hay que - you have to	

OPINION STARTERS

para mí	creo que
me parece que	pienso que

Opinions

me encanta(n)	+ infinitive or + noun
me gusta(n)	
no me gusta(n)	
odio	
prefiero	

justifying opinions

porque	because
es	it is
era	it was
será	it will be

JOINING IDEAS

y - and
además - also
así que - therefore
porque- because
por lo tanto- therefore

OPPOSING IDEAS

pero - but
sin embargo - however
mientras - whereas
no obstante - however
aunque - although

Negatives

no	VERB	- not
no		nunca - not ever
no		nadie - not anybody

INTENSIFIERS

mucho - a lot
muy - very
tan - so
demasiado - too much
bastante - quite
un poco - a little

FREQUENCY

todos los días
a menudo
a veces
algunas veces
de vez en cuando
raramente

VERB ENDINGS	-AR	-ER	-IR	IR to go	HABER to have	ESTAR to be
yo	-o	-o	-o	voy	he	estoy
él/ella	-a	-e	-e	va	ha	está
ellos/ellas	-an	-en	-en	van	han	están



Grade 7-9

Spanish WOW

phrases

Spice up your 150

word and your

speaking.



Go through this booklet and pick out between 3-5 phrases in each section that you are going to use in your 150-word piece of writing no matter what the bullets are asking you. Learn them off by heart. In your writing examination write them down when you are planning to make sure you include them in your answers.

MFL

Opinion phrases.

me chifla/me mola - I like
me parece que - It seems that
a mi modo de ver - from my point of view
desde mi punto de vista - from my point of view.
según mi madre - according to my mum
diría que - I would say that
es importante decir que - it's important to say that
debo admitir que - I have to admit that
que vale la pena - it is worth it
ser un sueño hecho realidad - a dream come true
tengo la impresión de - I get the impression
habría creído - I would have believed
para mi parte - as for me
lo que me molesta - what annoys me
lo que me preocupa - what worries me

A range of adjectives.

irritante - irritating	delicioso/a - delicious
decepcionante - disappointing (not deceptive)	agotado/a - exhausted
emotivo/a - moving (emotional)	ridículo/a - ridiculous
exitoso/a - successful	inolvidable - unforgettable
original - original	encantado/a - delighted
confundido/a - confused	
flipante - awesome	
enfadado/a - angry	

A range of grammatical structures.

- Tener structures.
tener suerte - to be lucky (Ian tiene suerte porque va a Barcelona)
tener éxito - to be successful (Tengo éxito porque...)
tener miedo de - to be scared of (Tengo miedo de viajar en avion)
tener prisa - to be in a hurry (siempre tengo prisa por la mañana)
- Sin + infinitive (without)
sin perder un momento (without wasting a moment)
es mejor vivir sin fumar (it's better to live without smoking)
sin aprender los verbos irregulares el español resultará más difícil (without learning irregular verbs, Spanish would be more difficult)
- Antes de (before)
antes de coger el avion - before catching the plane.

antes de volver a casa - before going home

- Al + infinitive (on doing something)

al llegar al colegio, voy al club de tenis - on arriving at school I go to tennis club.
al volver a casa siempre meriendo algo - on arriving home, I always have a snack.

- Después de (after doing something)

después de hacer mis deberes - after doing my homework.

después de charlar con mis amigos - after chatting to my friend.

- A pesar de - in spite of doing something

a pesar de hacer mis deberes, recibí un castigo ayer - despite doing my homework, I got a dentition yesterday.

a pesar de trabajar bien en matemáticas, siempre saco malas notas - in spite of working hard in maths, I always get bad grades.

- Acabar de + infinitive (to have just done something)

acabo de hacer mis deberes - I have just done my homework.

acabo de llegar de Barcelona - I have just arrived from Barcelona.

acaban de ganar cinco partidos - they have just won 5 matches.

- Estar a punto de - to be about to do something

estoy a punto de ir al cine con mis amigos ¡Qué guay! - I'm about to go to the cinema with my friends - how cool.

estaban en punto de salir cuando llegaron sus abuelos - they were just about to leave when their grandparents arrived.

- Desde hace/hace + time

estudio el Español desde hace 5 años - I have been studying Spanish for 5 years.

hace 5 años, fui a España por la primera vez - 5 years ago I went to Spain for the first time.

Use idiomatic expressions.

- Aburrirse como una ostra - to be bored to death
- Estar más perdido que un pulpo en un garaje - to not have a clue.
- Un pulpo en un garaje - a fish out of water.
- Ser la leche - to be amazing/the greatest
- Cuesta una oja de la cara - to cost an arm and a leg
- Tomar el pelo - to pull one's leg (me estás tomando el pelo - you're pulling my leg)
- Ser pan comido - to be a piece of cake.
- Estar como una cabra - to be a bit barmy
- No tener pelos en la lengua - to be straight-talking/direct (mi amigo no tienes pelos en la lengua - my friend tells it how it is)
- Tirar la casa por la ventana - to spare no expense. ("Tiré la casa por la ventana cuando compré mi nuevo coche." (I spared no expense when I bought my new car.)
- Estar hecho un ají - to be hopping mad
- Estar más sano que una pera - to be as fit as a fiddle.
- Ser uña y carne - to be bosom buddies.
- Tener un humor de peros - to be in a bad mood

Extending your sentences (fancy connectives)

- que - who/which/that (mi madre que se llama Sheila)
- lo que - use at the beginning of a sentence to express an opinion (lo que me molesta)
- cuando - when
- mientras - while
- por ejemplo - for example
- por un lado... por otro lado - on one hand... on the other hand.
- de hecho - in fact
- sin embargo/no obstante - nevertheless
- aparte de - besides
- no solo...sino también - not only...but also
- como - as
- solo el tiempo dirá - only time will tell
- no cabe duda de que - there is no doubt that

- Tener más lana que un Borrego - to be loaded/rolling in money
- Estar sin blanca - to be skint

The Subjunctive

- cuando tenga dieciocho años - when I'm 18
- si tuviera bastante dinero - if I had enough money
- ojalá ganemos la lotería - I hope we win the lottery
- ojalá haga buen tiempo mañana - I hope its nice weather tomorrow.
- quiero que me madre sea - I hope my mum will be
- espero que tenga buenas notas - I hope I get good grades
- sea como sea - no matter how/at any cost
- cuando sea - whenever
- aunque sea poco - although it's not a lot
- aunque sea pequeño - although it's small
- ojalá sea pronto - I hope it will be soon.
- ojalá que salga bien - I hope it turns out well.
- cuando sea necesario - when it is necessary
- quiero que sepas - I want you to know.

Introducing ideas

- trata de - this is about/ to do with
- con respecto a - as for
- para colmo - to cap it all
- dado que/puesto que - given that
- considerando que/dado que - considering that
- en vista de/visto que - in view of
- me parece que- it seems to me that
- sin duda - without doubt
- gracias a - thanks to
- a causa de - because of

- de hecho - indeed, in fact
- en primer lugar - First of all

Name: _____

Tracker grid

Week	Category	Score	Further action needed
1	Verbs		
2	More verbs		
3	Verbs of opinion		
4	More verbs of opinion		
5	Adjectives		
6	More adjectives		
7	Colours, shapes and materials		
8	Comparisons		
9	Time phrases		
10	Seasons, days, weeks and months		
11	Questions		
12	Quantities and size		
13	Prepositions and negatives		
14	Connectives		
15	Exclamations and everyday phrases		
16	Common abbreviations and tricky numbers		
17	Access and correctness		
18	Weather		
19	Location and distance		
20	More locations and distances		
21	Exam instructions		
22	Review		

Week 1: Verbs

Spanish	First guess	Reviewed	Re test
acabar de			
bastar			
comenzar			
continuar			
dar			
darse cuenta de			
deber			
decidir			
dejar de			
Echar Echar de menos			
empezar			
embarazarse			
hace(n) falta			
durar			
emboracharse			
hay			
hay que			
escoger			
elegir			
coger			

Self-test score: /20

Teacher test score: /20

Re-test score: /20

Week 2: More verbs

Spanish	First guess	Reviewed	Re test
medir			
mentir			
necesitar			
ocurrir			
pasar			
pesar			
poder			
poner			
gastar			
querer			
Ganar			
saber			
seguir			
aprobar			
suspender			
confiar			
tener lugar			
tener que			
Tener ganas de			
casarse			

Self-test score:..... /20

Teacher test score: /20

Re-test score: /20

Week 3: Verbs of opinion

Spanish	First guess	Reviewed	Re test
aburrirse			
Aguantar			
alegrar			
alegrarse (de)			
apreciar			
aprovechar			
aprovecharse (de)			
creer			
dar igual			
decepcionar			
decir			
molestar			
detestar			
disfrutar			
divertirse			
dudar			
encantar			
encontrar (+adj.) que			
esperar			
estar de acuerdo			

Self-test score:..... /20

Teacher test score: /20

Re-test score: /20

Week 4: More verbs of opinion

Spanish	First guess	After learning	Reviewed
estar a favor de			
estar en contra de			
estar equivocado			
estar harto de			
fastidiar			
Soportar			
interesar(se)			
odiar			
opinar			
parecer			
pasarlo bien/mal			
pensar			
ponerse de acuerdo			
preferir			
quedar			
querer decir			
reconocer			
sentir(se)			
tener razón			
valer la pena			

Self-test score:..... /20

Teacher test score: /20

Re-test score: /20

Week 5: Adjectives

Spanish	First guess	After learning	Reviewed
aburrido			
afortunado			
agradable			
antiguo			
barato			
bonito			
caro			
decepcionante			
desagradable			
divertido			
duro			
emocionante			
encantador			
entretenido			
espléndido			
estupendo			
fácil			
fatal			
fenomenal			
feo			

Self-test score:..... /20

Teacher test score: /20

Re-test score: /20

Week 6: More adjectives

Spanish	First guess	After learning	Reviewed
genial			
guay			
hermoso			
horroroso			
impresionante			
increíble			
inseguro/seguro			
inútil/útil			
malo			
maravilloso			
nuevo			
precioso			
profundo			
raro			
sencillo			
sorprendido			
tonto			
tranquilo			
único			
viejo			

Self-test score: /20

Teacher test score: /20

Re-test score: /20

Week 7: Colours, shapes and materials

Spanish	First guess	reviewed	Re test
claro			
morado			
oscuro			
pálido			
rosa/rosado			
vivo			
cuadrado			
redondo			
de algodón			
de cerámica			
de cristal			
de cuero			
de lana			
de madera			
de oro			
de papel			
de plata			
de seda			
de tela			
de vidrio			

Self-test score: /20

Teacher test score: /20

Re-test score: /20

Week 8: Comparisons

Spanish	First guess	Reviewed	Re test
bastante			
comparar			
un cuarto			
demasiado			
igual que			
más (que)			
mayor			
la mayoría			
medio			
mejor			
menor			
menos (que)			
mismo			
la mitad			
muy			
parecido a			
peor			
poco (e.g. poco ruidoso)			
tan ... como			
tanto ... como			

Self-test score: /20

Teacher test score: /2

Was Anglo-Saxon justice just violent and superstitious?

Crime	Punishment	Law Enforcement
Crimes that threatened authority and wealth were serious and harshly punished.	Punishment was used for retribution and deterrence.	The community was responsible for law enforcement by tithings and the hue and cry.
People had a strong sense of duty so there was a low crime rate.	Fines and Wergild were the most common, corporal punishments and capital punishment were also used.	Guilt/innocence had to be decided by a jury in court. Trial by ordeal was used when a court couldn't decide guilt/innocence. Swearing oaths before God was a major part of Anglo-Saxon justice.

Did the Normans annihilate Saxon justice?

YES	NO
William created the Forest Laws (1072) which made poaching illegal – this was a social crime. ✓	Tithings and Hue and Cry stayed the same. ✗
William I built castles to watch over the Saxons. ✓	Trial by Ordeal Continues to be used to determine guilt or innocence. ✗
Rebellions were punished harshly and the death penalty was used for the rebels. ✓	
The Murdrum Fine (1070) was introduced - if a Saxon murdered a Norman they had to pay a large fine to the king. ✓	
Trial by Combat (1066) was introduced. ✓	
Use of the death penalty increased. ✓	
The sheriff was introduced for enforcement. ✓	

Keywords:

Law enforcement – catching criminals and putting them on trial.

Tithings – group of 10 men over 12 responsible for each other's behaviour.

Hue and cry – anyone who heard the shout for help had to hunt for the criminal.

Oath – promise before God.

Retribution – revenge.

Deterrence – designed to put people off.

Corporal punishment – physically hurting a criminal.

Capital punishment – killing the criminal.

Poaching – illegally hunt.

Social crime – illegal act but is supported by some.

Did justice improve in the Later Middle Ages?

	Statute of Labourers (1351) made it illegal for peasants to ask for higher wages or move to another village.
	Heresy (following a different religion to the country) was also made illegal.
	Collective Responsibility - Communities were still involved in law enforcement but there were more authorities.
	Parish constables were unpaid volunteers.
	Justices of the Peace were appointed by the king to hear trials in court.
	Capital punishment gradually decreased, fines became more common and corporal punishments were still widely used.

Did the Church help or hinder medieval justice?

- The Church was extremely powerful – it decided what constituted a crime, what trial was used, and what punishments were given.
- Church courts were used to try people accused of moral crimes and were more lenient than other courts.
- They also tried all clergymen accused of crimes and people had to prove their role by reading a passage from the bible. This was known as benefit of the clergy and was often exploited.
- Churches also provided sanctuary (protection from the law).

- Trial by ordeal was used so that God could judge the guilt/innocence of the accused when a jury could not reach a decision.
- Trial by ordeal was banned by the pope in 1215.



Why were there so many new crimes in the Early Modern Period (15001-1700)

Religious change meant it was difficult to avoid committing heresy. Also more people believed in evil and supernatural explanations.

- Cromwell created new 'moral laws' banning activities he thought were immoral.

Smuggling was a popular social crime due to high import duties on goods.

Landowners became richer, more influential and were suspicious of the poor.

Why so many crimes?

The 1671 Game Act made poaching illegal in enclosed land.

A steady increase in population meant it was harder to find work and many remained poor and desperate.

The printing press was important as it publicised issues of crime and criminals.

Why were there so many new crimes in the Early Modern Period (15001-1700)

The gunpowder plotters were Catholics who were unhappy with the unfair laws of James I.

They planned to replace him with his daughter.

Robert Catesby enlisted Guy Fawkes to blow up Parliament using barrels of gunpowder.

The plotters were found guilty of treason and hung, drawn and quartered as a deterrent. Afterwards, Catholics' rights were limited.

They searched the building and found Fawkes. The rack was used to torture Fawkes and get the names of the rest of the plotters.

Two weeks before, Lord Monteagle received a letter warning him not to attend parliament.

Why were Vagabonds treated so harshly?

	Growing population caused more people to move in search of jobs.
	Many became homeless, known as vagrants.
	People saw them as lazy and troublemakers.
	Pamphleteers stirred up trouble in their leaflets.
	1547: Vagrancy Act said able-bodied vagrants should be branded and sold as a slave.
	1597: Act for the Relief of the Poor introduced punishments like whipping and burning the ear.
	1601: Poor Laws introduced poor relief to the 'deserving poor'.
	'Undeserving poor' were branded, whipped or sent to a House of Correction.

Keywords:

Vagabonds – unemployed/homeless people.

Enclosure – land that rich people fenced off from the poor.

Import duties – taxes on goods brought into the country.

Branded – burned.

Poor relief – financial assistance for the poorest.

'Deserving poor' – anyone not physically fit to work like the elderly/disabled.

High Treason – Plotting to kill the King as well as authority figures (e.g. Government).

Treason – betraying your country/plotting against the King.

Why did people hunt witches in 1500-1700?

- Lots of people of all backgrounds believed in witches.
- They believed witches made a pact with the devil in return for powers.
- Religious change encouraged belief in witches.
- James I encouraged witch hunts in his book Demonologie.
- The Civil War and poor harvests caused economic problems and people wanted someone to blame.
- People viewed unmarried or widowed women as suspicious.
- Matthew Hopkins was employed to hunt witches in Essex and East Anglia.
- He used torture to extract confessions and stirred up panic in 1645-47.



Who protected the people in the early modern period?

	Collective responsibility was still used.
	Standards of law enforcement varied across the country – rich were better protected than the poor.
	Town constables were employed by the town authorities to stop suspects and arrest criminals.
	Night watchmen were unpaid volunteers who patrolled the streets at night and were overseen by the town constable.
	Thief takers were paid rewards but were often corrupt criminals themselves.

Just how effective was the Bloody Code?

Effective 	Not effective 
It was designed to be an active deterrent – the hope that the use of capital punishment would stop crime.	The system was flawed as many crimes were committed out of desperation (e.g. stealing).
	Pregnant women could make a 'plead for belly' and were often pardoned after the birth.
	If criminals could prove their previous good character they were let off so it was ineffective.
	Minor crimes like poaching were capital crimes in the 17th century.
	The number of crimes carrying the death penalty increased to 50 in 1688.

Keywords:

Collective responsibility – hue and cry and tithings.

Typhus – disease.

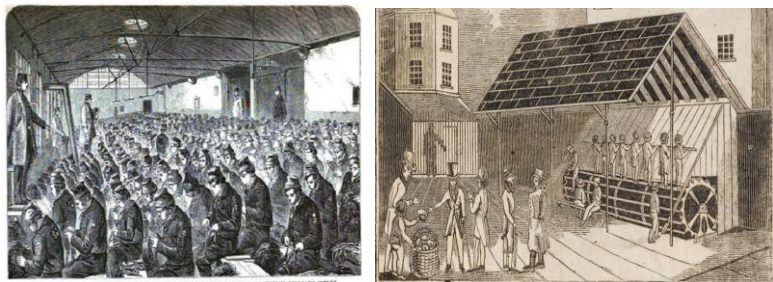
Hard labour – physical work like breaking up rocks.

Capital crime – crime that deserves the death penalty.

Plead for belly – ask to live until the baby was born.

Pardon – let off the punishment for their crime.

Colonies – new settlements of the British Empire.

Why were prisons so awful?

- Prisons were previously used for holding criminals until their trial so weren't actually a punishment.
- Conditions were poor – inmates had to pay for food and bedding.
- Everyone was housed together.
- Younger prisoners could be corrupted by older criminals.
- Sanitation was poor so typhus was common.
- Houses of Correction were built after 1556 to punish vagabonds and house orphans – inmates had to do hard labour to pay for their keep.

Why were prisons so awful?

When? 
17th-19th
century.

Where? 

North America until 1776 after the American Revolution. Started then in Australia until 1868.

What? 

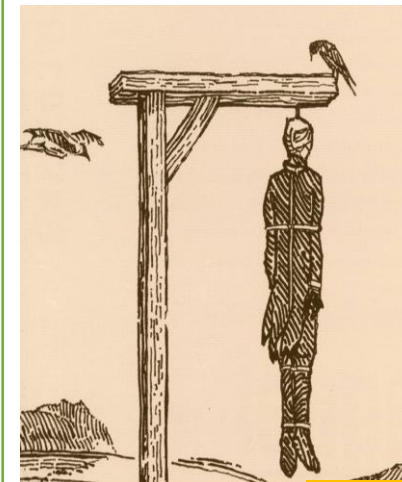
Prisoners were taken in chains to the British colonies in America to work for 7 or 14 years doing tough manual labour.

How long? 

7-14 years
(pardon could be issued before full length of sentence served).

Why? 

- It was an effective deterrent for criminals.
- It was introduced as England didn't have an effective prison system so this was a good alternative.
 - It was also introduced as a way to populate permanent colonies in America.



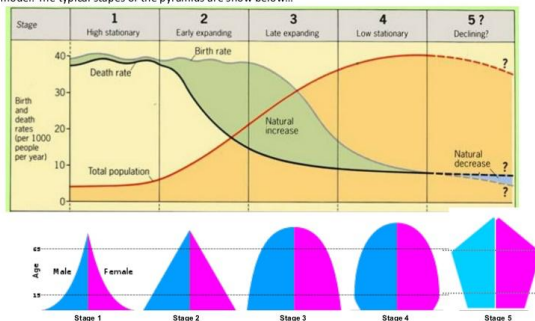
KL : There are global variations in economic development and quality of life

Key terms	Definitions
Birth rate	Number of births in a year per 1000 of the population.
Death rate	Number of deaths in a year per 1000 of the population.
Demographic Transition Model	A model showing how populations change over time in terms of their birth rates, death rates and total population size.
Development	The progress of a country in terms of economic growth, technology and welfare.
GNP per capita	Gross national income divided by the size of the population.
Human Development Index (HDI)	Development measure using GDP per capita, life expectancy and adult literacy. Given as an index figure.
Infant mortality	Average number of deaths of infants under 1 year of age per 1000 live births per year.
Life expectancy	Average number of years a person might be expected to live.
Literacy rate	Percentage of people who have basic reading or writing skills.
Access to safe water	Percentage of people with access to clean water.
People per doctor	Number of people per doctor.

Classification of countries	
LIC – Low Income Countries	US \$1045 or less GNP 30 countries.
NEE – Newly Emerging Economy	80 countries. Number increasing due to globalisation.
HIC – High Income Country	US\$ 12,736 or more 80 countries.

Population Structures & the DTM

The population structures change as countries develop and progress through the demographic transition model. The typical stages of the pyramids are show below...



The Changing Economic World - The Development Gap

Indicator	Limitations
LICs	Not higher death rate as have younger population.
Birth rate	Useful except where Government policies.
Infant Mortality Rate	Decreasing in HICs. Increasing in LICs. Close link to wealth, access to services. Data can be inaccurate.
Life Expectancy	Rising in HICs though may decrease due to obesity.
Gross National Income	Blunt tool. No measure of how much \$1 will buy. Hides variations.
HDI	Most useful indicator. Economic and social element. Data can be unreliable. Does not account for subsistence economy, corrupt governments etc.

Causes of uneven development

Physical	Climate Poor farming land Extreme weather	Few raw materials Lack of safe water Natural hazards
Economic	Poor trade links Debt Lack of education	Primary economy Corrupt government Poor health and water quality
Historical	Colonialisation	Conflict

Consequences of uneven development

Disparities in wealth and health	HICs – higher income, better health care, higher life expectancy, lower IMR. NEE – wealth not evenly distributed. LICs depend on HICs for aid. Borrow from world bank causing debt. North America 35% of global wealth, Africa 1%.
International migration	Migration to countries with higher development e.g. Mexico to USA. Depends on push and pull factors. Money sent home.

KL : Various strategies exist for reducing the global development gap

Key terms	Definitions.
Development gap	Difference in standards of living and wellbeing between LICs and HICs.
Fair trade	When producers in LICs are given a better price for the goods they produce.
Intermediate technology	Simple, easily learned and maintained technology used in a range of economic activities serving local needs in LICs.
Microfinance loans	Very small loans given to people in LICs to help start a small business.

Strategy for reducing the development gap

Investment	Governments, organisations of companies invest in big projects. Provides employment and income leading to development. TNCs from NEEs and HICs inject FDI leading to multiplier effect.
Industrial development and tourism	HEP helps economic growth in Africa and Asia. Brings employment, income and opportunities. Investment occurs in housing, education and infrastructure. Move from primary products as issues with overproduction and import taxes. Manufacturing goods lead to more profit. Tourism leads to investment and more income. Vulnerable to recession.
Aid	Gift (not repaid). Can be funding for development e.g. infrastructure which boosts economy and leads to an increase in quality of life. From countries / IMF / World Bank. UK spends 0.7% GDP on aid.
Intermediate technology	Comines sophisticated ideas with cheap readily available materials. Local knowledge and tools used e.g. Afridev handpump, solar ovens.
Fair Trade	Prevents exploitation with realistic prices and better working conditions. Increases standard of living, health care and education.
Debt relief	Writing off debts / making repayments lower and terms longer. IMF / World Bank Highly Indebted Poor Countries Initiative helped 41 countries (mainly in Africa) control their finances, show no government corruption and agree to spend saved money on education, healthcare and decreasing poverty. Tanzania now has free education and Uganda has safe water for 2 million people. African countries are over US\$300 billion in debt.
Microfinance loans	Provided by investors in HICs to entrepreneurs in NEEs and LICs. Many borrowers are women e.g. Glameen Bank in Bangladesh. Vital cash to escape cycle of poverty.

EG of how tourism in a LIC can reduce the development gap - Case Study : Jamaica

Reasons for tourism	Beautiful beaches Warm sunny climate Rich cultural heritage	Good international air communications Hub for cruise ships
How has it helped?	24% of GDP from tourism (2014) Income from tourism \$2 billion Main source of employment – jobs for 200,000 directly or indirectly Provide income for people to spend in shops and on services Quality of life improved for many High level of investment on infrastructure – North Coast	
Concerns	Quality of life improved for some – wealthy Jamaicans live in high quality housing but many people live in poor housing, limited food supply etc.. Environmental problems – footpath erosion; excessive waste; harmful emissions Solutions: Conservation and landscape projects – job opportunities, encourage visitors Montego Bay – improved by landscaping; new water treatment plant at Logwood reduced pollution; Negril Marine Nature Park – tourists and income; community tourism and sustainable ecotourism in isolated regions – small scale guest houses.	

10 REDUCED INEQUALITIES



GOAL 10



Geog your memory/ Hi-story Lane

Use the LANES to recall key information about a particular topic, from from *History/ Geography*, without looking at the sheets. Once you have added everything you can remember, look at these pages again and using a different colour pen, add in the knowledge that you missed out. This is the knowledge you should now continue to revise. Continue this process until you can remember everything on the page.

The image shows a grid of 20 horizontal lines for note-taking, arranged in 4 rows and 5 columns. Each row contains 5 lines, and each column contains 4 lines. The lines are blue and slightly curved, providing a guide for writing notes.

CRITICAL STUDIES – How To Research Artists

Process/technique: How the work was made.



Personal information: Name, date of birth/death, nationality.



Context: Background to the work. Could be social/cultural.

Formal qualities of work:

Style;

Colour;

Representational/abstract;

Mood created/message;

Subject matter: What the focus of the work was.



Influences: Friends, styles of art.



Materials/media: With what the work was made.

My opinion of the work: Likes and dislikes, what would you like to emulate, be specific!

Eva Hesse

Personal information: Born in Germany in 1936.

Jewish.

Family escaped the German Nazis and fled to Holland first and then to England and finally to America where they settled.

Hesse's parents divorced a few years later, sadly her mother committed suicide.

Eva went on to study Art in New York. She became a sculptress.

In 1969, she was diagnosed with a brain tumour. Her death in 1970 at age 34 ended a career spanning only ten years.



Materials/media: Weird and wonderful materials. New and modern for the time...like plastics and latex (stretchy rubber). She would use anything that she could find. Cloth-covered cord, electrical wire, and masonite, latex and fibre glass. She recycled materials.



Influences: Her art is effected by all the painful struggles of her life including escaping the Nazis, her parents' divorce, the suicide of her mother when she was ten, her failed marriage and the death of her father. She "coped" with emotional chaos by reinventing sculpture through playing with worthless material amid the industrial ruins of a defeated nation that, only two decades earlier, would have murdered her without a second thought. She also always felt she was fighting for recognition in a male dominated art world.

Subject matter: Natural forms and the environment. The human condition (being a human). Human body forms.

Context: Eva Hesse was working in a new 'modern' world. Science was creating new and wonderful materials ...like plastic. She was inspired by the materials that she used.

Process/technique:

Eva would plan her sculptures in her pencil studies and through exploring and experimenting with materials.

Formal qualities of work:

Style; abstract and expressive

Colour; Pastels

Representational/abstract; Abstract

Eva Hesse - Sculptures



Process/technique:

Hesse would create ink pen or colour studies recording and exploring natural forms. She would then work from these to create her sculpture reliefs.

Part of the process would be exploring and experimenting with new materials.

Formal qualities of work:

Style;
Abstract

Colour;
Pastels

Mood created/message;
Exploring what it is to be a natural form.



Influences:

Nature.
Her life.

Personal information:

Born in Germany 1936.

Jewish.

Escaped the Nazi regime.

Ended up in America.

Died in 1970 at the age of 34 from cancer.

Sculpture Design process:

Extending forms.

Repeating forms.

Removing elements.

Rounded forms.

Dropping down forms.



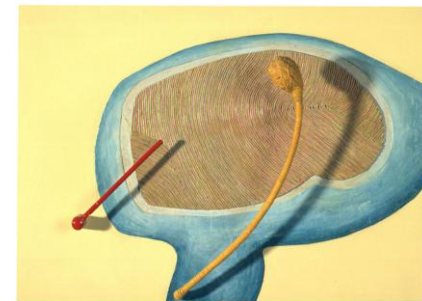
Subject matter:

Natural Forms;

The human Form.

Materials/media:

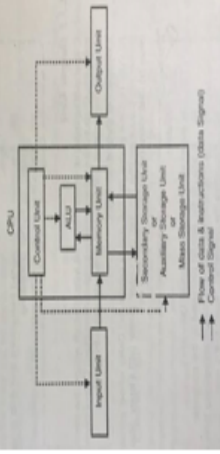
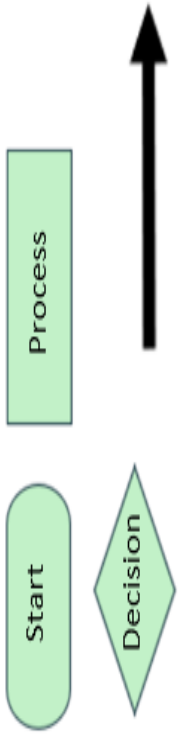
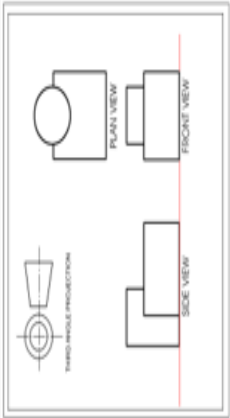
Fibre Glass;
Latex rubber;
Cardboard;
Paper;
String;
Wire mesh;
Wire.



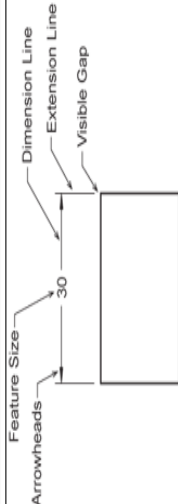
Context: Background to the work. Could be social/cultural.

Hesse was working at a time when scientists were creating new materials for industries, such as fibre glass and latex. This gave her interesting materials to explore and create her imaginative art with.

Eva Hesse's work connects beautifully to your GCSE Natural Forms project, due to its connection to nature and the creation of a sculpture relief as a final response to your title.

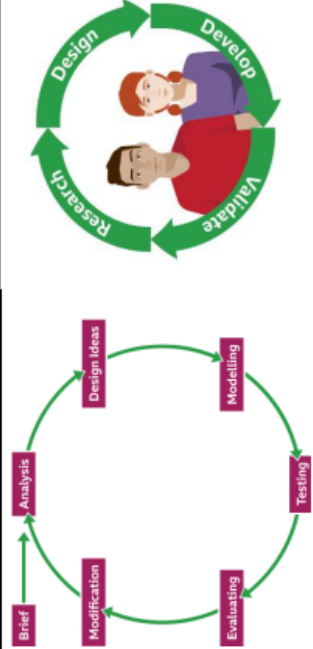
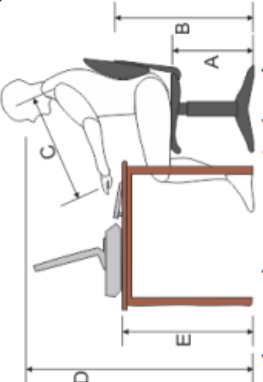
Design Communication	
1	Isometric Drawing Isometric drawings are a type of 3D representation of an object on a 2D surface, where all three axes (length, width, and height) are equally foreshortened.
2	Oblique Drawing Oblique drawing is a simple type of 2D technical drawing used to represent 3D objects.
3	Orthographic Drawing An orthographic drawing, also known as an orthographic projection, is a way to represent a 3D object in 2D by using multiple views.
4	Exploded View Drawing An exploded view drawing is a technical illustration that shows the relationship and order of assembly of components within a product or system. Also known as an assembly drawing.
5	Free hand sketching Freehand sketching is the art of drawing without relying on tools like rulers or stencils, using only your hand, pencil, and paper. Also known as a concept sketch.
6	Working Drawing Working drawings are detailed, scaled technical drawings used in construction and manufacturing to guide the building or production process.
Diagram	
7	 Diagram that shows in schematic form the general arrangement of the parts or components of a complex system or process, such as an industrial apparatus or electron circuit.
8	 Flow chart Symbols
9	 3rd Angle Orthographic orientation

Keywords Vocabulary

10	Title Block	Figure 2 Title block in compact form <table><tr><td>Responsible dept. ABC 2</td><td>Technical reference Patricia Johnson</td><td>Document type Sub-assembly drawing</td><td>Document status Released</td></tr><tr><td>Legal owner Jane Smith</td><td>Created by Jane Smith</td><td>Title, Supplementary title Apparatus plate Complete with brackets</td><td>AB123 456-7</td></tr><tr><td></td><td>Approved by David Brown</td><td></td><td>Date of issue 2002-05-14</td></tr><tr><td></td><td></td><td></td><td>Rev. A</td></tr><tr><td></td><td></td><td></td><td>Sheet 1/5</td></tr></table> Figure 3 Title block with person name fields on additional line <table><tr><td>Responsible dept. ABC 2</td><td>Technical reference Patricia Johnson</td><td>Created by Jane Smith</td><td>Approved by David Brown</td></tr><tr><td>Legal owner Jane Smith</td><td>Document type Sub-assembly drawing</td><td>Title, Supplementary title Apparatus plate Complete with brackets</td><td>Document status Released</td></tr><tr><td></td><td></td><td></td><td>AB123 456-7</td></tr><tr><td></td><td></td><td></td><td>Date of issue 2002-05-14</td></tr><tr><td></td><td></td><td></td><td>Rev. A</td></tr><tr><td></td><td></td><td></td><td>Sheet 1/5</td></tr></table>	Responsible dept. ABC 2	Technical reference Patricia Johnson	Document type Sub-assembly drawing	Document status Released	Legal owner Jane Smith	Created by Jane Smith	Title, Supplementary title Apparatus plate Complete with brackets	AB123 456-7		Approved by David Brown		Date of issue 2002-05-14				Rev. A				Sheet 1/5	Responsible dept. ABC 2	Technical reference Patricia Johnson	Created by Jane Smith	Approved by David Brown	Legal owner Jane Smith	Document type Sub-assembly drawing	Title, Supplementary title Apparatus plate Complete with brackets	Document status Released				AB123 456-7				Date of issue 2002-05-14				Rev. A				Sheet 1/5	
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11	Dimensions																																														
12	CAD- Computer aided Design	Advantages - Competitively priced packages. - Drawings can be produced and amended quickly. - Most cad programs have online training to upskill. - Range of programs that are available internationally. Files can be shared easily. - CAD produces designs that can be rendered and viewed from a 360 degree. Limitations - Requires high processing capacity so IT needs to be high quality- expensive. - Initial training in complex programs is necessary. - Can be time consuming to produce initial designs. - Computers using the software are susceptible to software changes.																																													

Page 30

Engineering	Designing Processes	Year 10/11	R038
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Designing Processes		
1	Linear design	Linear design is a process that follows a step-by-step process .
2	Iterative design	Iterative design is a circular design process that models, evaluates and improves designs based on the results of testing.
3	Inclusive design	Inclusive design is a design process that aims to create products, services, and environments that are accessible and usable by the widest range of people, including those with disabilities, diverse cultural backgrounds, and varying needs.
4	User-centred design	User-centered design (UCD) is a design philosophy and process that prioritizes the needs, goals, and feedback of the user throughout the entire design and development lifecycle.
5	Sustainable design	Sustainable design is an approach to creating products, buildings, and systems that minimize environmental impact and promote social and economic well-being throughout their entire life cycle.
6	Ergonomic design	The ergonomic design discipline focuses on designing products and environments that are comfortable, efficient, and safe for humans to use.
Diagram		
7	Iterative design process as a diagram.	
8	Ergonomics	 A- Chair Height B- Back Rest Height C- Viewing distance/ angle D- Height of human to table E- Height of chair When anthropometric data (measurements / statistics) is applied to a product, e.g. measurements of the hand are used to design the shape and size of a handle, this is ergonomics.
9	ACCESS FM	A: Aesthetics, what does the product look like. C: Cost, how much does the product cost to buy? C: Customer, who would buy or use the product? E: Environment, where would the product be used or stored? S: Size, how big or small is the product? S: Safety, how safe during normal use? F: Function, how does the product work? M: Material, what is the product made of? ACCESS FM is a design tool used for product analysis and evaluation. It stands for Aesthetics, Cost, Customer, Environment, Size, Safety, Function, and Materials. This framework helps designers and students consider various aspects of a product during the design process,

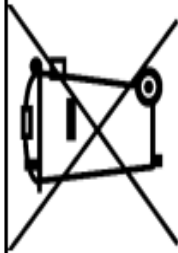
Keywords Vocabulary

10	Anthropometrics	The study of the human body and its movement, often involving research into measurements relating to people. It also involves collecting statistics or measurements relevant to the human body, called Anthropometric Data.	
11	Design brief	A set of instructions given to a designer by a client.	
12	Design specification	Document containing details of a product's required characteristics, and all the processes, materials and other information needed to design the product.	
13	Market Research	Market research is the process of collecting, collating and analysing data about the market.	
14	Primary Research 1. Postal surveys – these have a high sample size but low response rate, relatively cheap 2. Telephone surveys – more expensive, higher response rate, can explain questions 3. Interviews – smaller sample size, higher response rate, may be interviewer bias 4. Focus groups – provide in-depth analysis, small sample size	Advantages • Fitness for purpose; • Allows to target right segments; • Can explain difficult problems / concepts	Disadvantages • Can be time consuming; • Expensive; • Some forms have low response rates
15	Secondary Research 1. Census – provides information on all the households in the UK, updated every 10 years 2. Internet – can provide a wealth of information however need to check validity of data 3. Government statistics 4. Books and journals Company reports 5. MINTEL reports – these are often a good source of market information	Advantages • Quick and easy; • Relatively cheap	Disadvantages • May be out of date; • May not be relevant
16	Projection Lines	Lines used to extend existing lines on a drawing and used to help create new geometry.	
17	Projections	2D view of an object used to represent it in 3D.	

Engineering	Designing Requirements	Year 10-11	R038
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Commercial Production methods			
1	Needs and wants	In design, needs represent fundamental requirements for a product or service to function as intended and fulfill a basic purpose, while wants are desires or preferences that enhance the user experience but are not strictly necessary. Needs are about functionality and usability, whereas wants focus on aesthetics, features, and emotional connections.	
2	Quantitative and qualitative criteria	Quantitative criteria rely on numerical data and statistical analysis to measure and quantify variables. Qualitative criteria, on the other hand, focus on descriptive, non-numerical data to understand experiences, perspectives.	
3	Scale of manufacture	One-off; One-off manufacturing, also known as job or bespoke production, involves creating a single, unique product tailored to a specific customer's requirements.	Batch; Batch manufacture, also known as batch production or process manufacturing, is a production method where goods are produced in discrete groups or sets, called batches. Mass; Mass manufacture, also known as mass production, involves producing large quantities of standardized goods, often on assembly lines, using specialized machinery and a division of labour.
Types of manufacturing processes:			
4	Wasting	Wasting is a process that uses tools to remove material from a workpiece until the required component has been produced: wasting can be achieved by hand tools and machine tools. Examples, drilling, routing, chiselling, turning.	
5	Shaping	Shaping refers to the process that take raw materials and form them into final parts. Examples, casting, moulding, injection moulding and machining processes.	
6	Forming	Forming, pressing or press forming is where a pressing force is applied to a material to cause it to deform. Examples, die pressing, line bending, Vac forming, rolling.	
7	Joining	Joining processes are used to physically join two or more components. Examples, brazing, soldering, adhesives, bolts and rivets.	
8	Finishing	Finishing refers to the process of applying a decorative appearance, protective coating or other treatments to protect a surface material. Examples, painting, spraying, waxing, heat treating, dip coating.	
9	Assembly	Products with two or more components will have been designed to be assembled so they can function.	

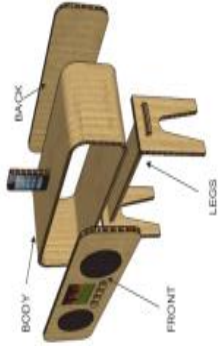
Diagram

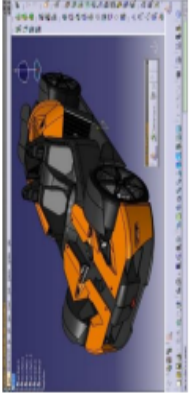
10	Supply Chains-	 THE SUPPLY CHAIN – is a network between a company and its suppliers to produce and distribute a specific product, and the supply chain represents the steps it takes to get the product or service to the customer. Left is an infographic to show the general supply chain of a product getting to market.
11	British Safety Institute	 The British Standards Institution (BSI) is the UK's national standards body, dedicated to developing and publishing standards to improve the quality, safety, and reliability of products, services, and systems.
12	European safety symbol	 The CE mark is a conformity marking required for many products traded in the European Economic Area (EEA). It indicates that the manufacturer has checked the product meets EU safety, health, and environmental requirements, and it allows the product to be sold freely within the EEA. The CE mark is not a quality mark or a guarantee of origin, but rather a declaration by the manufacturer that the product complies with applicable EU legislation.
13	British Safety Marks	 The BSI Kitemark is a UK product and service quality certification mark, owned and operated by the British Standards Institution (BSI). It signifies that a product or service has been. The UKCA (UK Conformity Assessed) marking is a product marking used for goods being placed on the GB (Great Britain) market, replacing the CE marking for many products.
14	WEEE symbol	 The WEEE symbol is a crossed-out wheeled bin, indicating that electrical and electronic equipment should not be disposed of with regular household waste. This symbol, mandated by the Waste Electrical and Electronic Equipment (WEEE) Regulations, signifies that the product needs to be recycled separately. The WEEE regulations aim to reduce the amount of electrical waste going to landfills and promote recycling and reused.
15	Aluminium Recycling symbol	 The "ALU" symbol, in the context of recycling, represents recyclable aluminium. It typically appears as a circle of arrows with the letters "alu" inside, indicating that the product can be recycled and made into new aluminium items. This symbol is often found on aluminium cans, foil, and other packaging.

Keywords Vocabulary		
16	Tooling	Manufacturing equipment needed to produce a component, such as cutting tools, dies, gauges, moulds or patterns.
17	Deburring	Process to remove sharp or raised edges on a material caused by other processes.
18	Labour Costs	Costs associated with employees in a business, including wages, taxes and additional benefits.
19	Overheads	Expenses that need to be paid by the business, not including labour or materials but rent and utilities.
20	Subtractive process	The removal of material from a solid block by a machining process, such as milling, turning or drilling.
21	Consumables	Resources that assist manufacture and are used up during the process- for example, oil and lubricant used in machines.
22	Standard Forms	Made available in large quantities to the same specification- sheet metal, paper, timber sheeting.
23	Geometry	Shape of the object.
24	Automation	Using computer technology to operate equipment, rather than humans.
25	Turning	A machine operation that generates cylindrical and rounded forms with a stationary tool.
6 R's- Sustainable Approaches		
26	Rethink	Can the designer rethink the way it is manufactured. Is the material being used the only option?

Engineering	Designing Requirements	
	Year 10-11	R038
27	Reuse	Is about reusing what you've already got rather than buying new items straightaway.
28	Recycle	From batteries to bubble wrap, you might be surprised by how much can be recycled.
29	Repair	Taking the time to repair broken items can extend their lifetime and avoid introducing new materials into the cycle.
30	Reduce	Consider how you can reduce your meat and dairy consumption, and buy new clothes only when you really need them by making do with what you've got before replacing them.
31	Refuse	Say no to single-use bags, packaging, cups, straws and so on, and get into the habit of bringing along your own reusable replacement.

Engineering	Evaluating Design Ideas	Year 10-11	R038
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Evaluation Models			
1	ACCESS FM	ACCESS FM is a design and technology framework used for analysing and evaluating products. It stands for	
2	House of Quality (HOQ)	The House of Quality (HOQ) is a matrix-based tool used in Quality Function Deployment (QFD) to translate customer needs into technical requirements for product development.	
3	Pugh Chart	A Pugh chart, also known as a Pugh matrix or decision matrix, is a tool used to compare multiple options against a set of criteria, helping to identify the best choice.	
4	Quality Function Deployment (QFD)	Quality Function Deployment (QFD) is a structured method used to translate customer needs and expectations into specific engineering characteristics and design parameters for products or services	
5	Production Plan	A production plan, also known as production planning, is a comprehensive strategy that outlines how a company will manufacture its products or deliver its services.	
6	Gantt Chart	A chart in which a series of horizontal lines shows the amount of work done or production completed in certain periods of time in relation to the amount planned for those periods.	
7	Evaluation	In production, evaluation is the process of systematically assessing the performance and impact of a product, service, or process to determine its effectiveness, efficiency, and value.	
8	Product Testing	Product testing is the process of evaluating a product's performance, quality, and usability before its release to the market.	
Diagram			
9	Breadboard	 A breadboard in electronics is a solderless platform used for prototyping and building temporary electronic circuits. It allows users to easily connect and disconnect components without soldering, making it ideal for experimenting with circuit designs and testing new ideas.	
10	Card Modelling	 Card modelling offers several benefits, including versatility, portability, ease of manipulation, and cost-effectiveness, making it a valuable tool for design exploration and prototyping. It allows designers to quickly and inexpensively create physical representations of their ideas, enabling better visualization, spatial understanding, and communication with stakeholders.	
11	3D Printing	 3D printing offers numerous benefits, including faster prototyping, design flexibility, cost-effectiveness, and on-demand production. It allows for the creation of complex geometries, customization, and reduced waste compared to traditional manufacturing methods. Furthermore, 3D printing can be more environmentally friendly and accessible.	
12	Block Modelling	 Blockboard is a great material for creating physical models of design ideas due to its strength, ease of working with, and relatively low cost. It's lightweight, making it easy to transport and handle, and its dimensional stability means models won't easily warp or bend. Additionally, blockboard can be cut, shaped, and joined using common woodworking tools, making it versatile.	

13	CAD Modelling	 CAD software offers numerous advantages for modelling ideas, including improved accuracy, faster design iterations, better visualization, enhanced collaboration, and cost reduction. It enables designers to create precise 2D and 3D models, simulate designs, and easily make changes, leading to more efficient design processes and higher quality products.
14	Vernier Callipers	 Source: Mitsubishi Vernier Caliper is a widely used linear measurement instrument with the least count of 0.02 mm. It is used to measure linear dimensions like length, diameter, depth. It is a basic instrument of measurement, consisting of two types of scale. The main scale and the Vernier scale can slide along the main scale. Two types of measurement we can do, the first one is through the external jaw (measure external dimensions) and another one is the internal jaw (measure internal).
14	Micrometer	External Micrometer is also known as Outside Micrometer or External Micrometer.  It is used to check the outside diameter of the circle by the means of the accuracy of 0.01 mm or up to 0.001 mm.
15	Steel rule	 A steel rule is a single piece linear measuring instrument. The steel scale indicates two units that are cm and inches, on cm division on one side and inches, on another side.
Keywords Vocabulary		
16	Subjective Evaluation	Subjective evaluation refers to assessments or judgments based on personal opinions, feelings, interpretations, or preferences, rather than on objective facts or measurable criteria. It involves individual perspectives and can vary from person to person.
17	Objective Evaluation	Objective evaluation refers to assessments that are based on measurable, verifiable facts and data, rather than on personal opinions or biases. It emphasizes impartiality and consistency, aiming for judgments that would be similar regardless of who is making them.
18	Summative Evaluation	Summative evaluation is a method of assessment conducted at the end of a program, course, or project to measure its overall effectiveness and determine the extent to which objectives have been achieved.
19	Ranking matrix	In the context of design, a ranking matrix is a tool used to prioritize or rank different design options or features based on their importance or effectiveness according to specific criteria. It helps designers make informed decisions by systematically comparing and evaluating alternatives.
20	Qualitative data	Qualitative data is non-numerical information that describes characteristics and qualities. It focuses on concepts, opinions, and experiences, rather than numerical measurements or statistics. This type of data is often gathered through interviews, observations, and text-based sources, providing insights into the "why" and "how" behind phenomena.
21	Quantitative data	Quantitative data is numerical information that can be counted or measured, often used for statistical analysis to understand quantities, frequencies, and trends. It differs from qualitative data, which describes characteristics or qualities. Essentially, quantitative data provides numerical values that can be subjected to mathematical calculations and statistical analysis.

Fabric manipulation: Making textile manipulations (or fabric manipulations) is **playing with the fabric to change its appearance, drape or shape**. Usually, we want the fabric to become more dimensional, to go from flat to 3D.



Free machine embroidery- this is where you drop the feed dogs into the machine and move the fabric freely as it stitches. It is creative and allows you to stitch freely – often called ‘drawing with stitches’.



Analysing the work of an Artist/Fashion designer:

Use the following headings when analysing the work of your chosen Artist/Fashion designer:

1. First impressions: Record your reactions and thoughts of the artwork.
2. What materials and processes have been used? Write a paragraph describing everything you see: colour, pattern, texture, line, shape, material or anything else interesting.
3. Background information about the Artist: The name of the artist, the title of the artwork. People, events, movements, concepts they have been influenced by.
4. Meaning – what mood or feeling do you get from the work and how has the artist created this?
5. What do you think of it? Describe some of the following things: What you particularly like about the work, what the artist has done well, what you would change about the artwork, what 2-3 questions would you like to ask the artist about the work and what ideas has the artwork given you for your own work.
6. Last thoughts. Using all the information you have gathered, explain if your views have changed.
7. Compare 2 pieces of work –either between work of the same artist or another artist. Describe the main similarities and differences.

Quilting is a method of stitching layers of material together. A quilt usually means a bed cover, using 2 layers of fabric stitched together with a layer of wadding in the middle. There is usually a design stitched onto the surface of the fabric to create a design. There are 3 main types of quilting:

Trapunto quilting uses 2 layers of fabric – designs stitched through the layers and then the backing layer is cut open and stuffing is added between the 2 layers to pad the fabric.



English quilting is the most common and popular type of quilting. This also uses 2 layers of fabric with a layer of wadding in between the 2 layers. Designs are stitched through the 3 layers, usually in lines to create a typical English quilted effect.



Italian quilting also uses 2 layers of fabric – designs are stitched through the layers in parallel narrow lines. Italian wool is then threaded through the stitched lines to create padded lines.



Catering



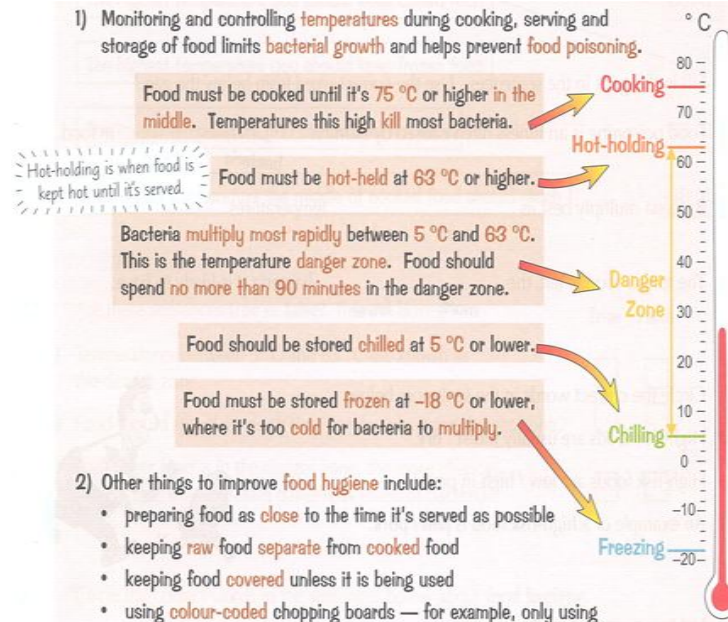
AC4.1, 4.4 & 4.5

- Describe food related sources of ill health
- Describe common types of food poisoning
- Describe the symptoms of food induced ill health

Key Terms

Bacteria	microscopic organisms that can cause food poisoning
Contaminate	food that has come into contact with microbes and become unsafe to eat.
Cross-contamination	microbes spreading from first to first.
Food spoilage	when food becomes unfit or unsafe to eat.
Micro-organism	tiny plants and animals that can only be seen under a microscope.
Mould	tiny organisms, related to mushrooms.
Pathogenic	something that is capable of causing illness.
Toxins	another name for poisons.
Yeasts	single-celled fungi that ferments food.
Allergen	something that causes an allergy.
Anaphylaxis	a potentially life threatening reaction to food.
Food Allergy	a condition where food reacts with the body's immune system.
Food Intolerance	a condition where food reacts with the body's digestive system.

- 1) Monitoring and controlling temperatures during cooking, serving and storage of food limits bacterial growth and helps prevent food poisoning.



Where micro-organisms are found:

Food packaging, soil, sewage, untreated water, air, clothing, dirty, rubbish, surfaces, equipment, in and on people, in and on animals, insects and birds, food.

Non-visible symptoms (Food Poisoning)

- Headache, weakness, feeling cold, stomach ache, feeling sick, loss of appetite, aching muscles.

Visible symptoms (Food Poisoning)

- Diarrhoea, high temperature, being sick, dizziness.

Bacillus Cereus	Campylobacter	Clostridium	Listeria	Salmonella	Staphylococcus
- Soil - Rice - Pasta	- Unclean water - Dairy - Milk - Meat - Poultry	- Raw meat - Raw poultry	- Ready-to-eat meat - Soft cheese - Raw sprouts	- Faeces - Meat - Poultry - Raw eggs	- Sneezing - Coughing - Not washing hands
- Cramps - Vomiting	- Temperature - Vomiting - Cramps	Cramps	Flu like	- Cramps - Vomiting - Flu like	- Cramps - Sickness - Nausea

Food Allergies

Foods: eggs, milk, fish, peanuts, other nuts, seeds, citrus, soya, strawberries, kiwi, mustard, celery, sulphur, mustard.



Visible symptoms

- Red skin, hives, swelling, difficulty breathing, lips swell.



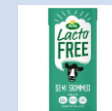
Non-visible symptoms

- Difficulty breathing.
- Pain in stomach.
- May collapse.



Food intolerances

Lactose intolerance = dairy
Coeliac disease = wheat



Muscle and joint pain, bloating, nausea, tiredness, diarrhoea, eczema.



Bacteria can grow rapidly in the correct conditions. A single **bacterium** can divide into two by the process called **binary fission**. A single bacterium can produce 16 million bacteria in only 12 hours.

Food poisoning bacteria have four essential requirements for growth:

Food- bacteria grow rapidly in high risk foods that are good sources of protein; such as cooked meat and poultry, shellfish, and seafood, undercooked or lightly cooked eggs, unpasteurised milk and cheeses, cooked rice and pasta, and salads.

Moisture- bacteria cannot multiply without moisture, which means that they do not usually affect dried foods or products with high quantities of salt or sugar, which absorb water.

Warmth- most bacteria multiply at **ambient temperature**-normal room temperature. This falls within the danger zone between 5°C and 63°C. Below 5°C most bacteria are unable to multiply rapidly, and below -18°C they become **dormant**. Cooking food at high temperatures above 63°C will destroy most bacteria; when cooked, the food should reach 75°C for at least two minutes.

Time- in the right conditions the number of bacteria can double every 20 minutes.

The acidity and alkalinity of a food can influence the growth of bacteria. If conditions are too acidic or too alkaline, bacteria can not grow.

Catering		
AC4.2 & 4.3	- Describe the role and responsibilities of EHO's - Describe food safety legislation	

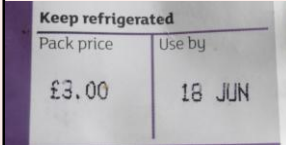
How does legislation protect food businesses?	How does legislation protect consumers?
- Making sure all food handlers are trained. - Making sure working conditions are good. - Preventing consumers making false claims.	- Helping prevent food induced ill health. - Ensuring highest standards. - Providing a way to prosecute food businesses who break the law.

All the following sectors in the industry are covered by legislation:		
Food production.		Farmers, crop pickers, fishing boats.
Food processing and product manufacture.		Dairies, mills, washing and packing etc.
Warehouse storage and food distribution.		Warehouses, deliver vans and lorries.
Preparation and sale of food.		Supermarkets, restaurants, cafes, hotels, markets, street food, schools, pubs, hospitals, prisons etc.

The Food Safety Act 1990	Food Hygiene Regulations	Food Labelling Regulations
Applies to <i>all</i> food businesses. It ensures that food is: - Safe to eat; - What people expect it to be; - Not labelled, advertised or presented in a misleading way. 	Applies to all food and drink, their ingredients including when it was made - The food has been handled hygienically. - Identify food hazards. - Critical safety points (HACCP). - What controls to put in place. - Ensure they are put in place and maintained. 	- Name of food; - Ingredients; - Quantity of ingredients; - Quantity of food; - Use by date; - Storage conditions; - Name of business and address; - Country of origin; - Instructions; - Nutritional declaration. 

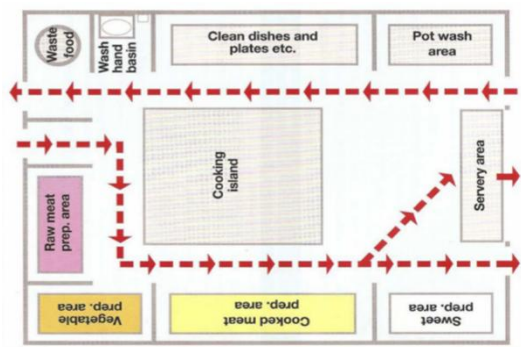
Key Terms	
Critical control points	stages in a food production operation where food safety could go wrong
Due diligence	being able to prove that reasonable actions to avoid a health risk have been taken
Hazard Analysis Critical Control Points (HACCP)	a food safety management system to identify hazards to food safety

Responsibilities of food premises	Responsibility of food handlers
- Be clean and in good repair - Be designed and built that allows hygiene practices - Have a sufficient supply of drinking water - Have suitable controls in place for pests - Have natural and artificial lighting - Have natural or mechanical ventilation - Provide clean staff toilets - Proper hand washing facilities - Enough drainage - Easily disinfected surfaces - Proper food waste facilities - Enough space 	- Always wash your hands (before handling food, after going the toilet, coming in from outside, after coughing, sneezing, toughing money, handling rubbish., touching animals, handling raw eggs and meat) - Tell your employer if you are ill or have any infections - Keep good hygiene and cleanliness - Do not smoke in food room - Clear as you go - Use very hot water to clean dishcloths and tea towels to dry - Prepare raw food with separate equipment - Keep hands off food for as long as possible - Make sure that waste is disposed of properly - Tell your employer if you cannot follow the rules.

Environmental Health Officers (EHO)	
Purpose is to make sure that:	What they do in an inspection:
- Food is being stored, handled and cooked hygienically; - Food is not contaminated; - Food handlers have been trained; - Food handlers are aware of importance of personal hygiene; - There are control measures in place to prevent pests; - The premises is in good condition and clean; - Make sure hazards are identified and managed through HACCP; - Offer advice and training improving food safety. They can: - Enter without warning; - Inspect any food premises; - Take food samples for testing; - Take photographs as evidence; - Look at data and records; - Take food so it cannot be sold; - Tell the owners to make improvements; - Close the premises; - Give evidence in court against a business.  	- Check use-by and best-before dates on food; - Check equipment used for preparation, cooking and storing is clean and working properly; - Check for evidence of pest and pest control; - Check the cleanliness of the kitchen and storerooms; - Watch how food handlers prepare food; - Inspect food waste systems; - Check paperwork and records kept by business.  

Page 40

Workflow in the kitchen should follow a logical process by using different areas so that the clean stages in food production never come into contact with the “dirty” stages.



- You need to consider the following key areas in terms of layout...
1. Delivery
 2. Storage
 3. Food preparation
 4. Cooking
 5. Holding
 6. Food service area
 7. Wash up
 8. Waste disposal

DRESS CODE

A chef's uniform is more than a fashion statement. Each component plays a specific role in protecting from potential dangers common in most kitchens

Chef's uniform

- Chef's jacket
- Chef's pants
- Hat
- Neckerchief
- Apron
- Hand towel
- Slip-resistant shoes

Some establishments have staff wear the same uniform; this makes them easily identifiable for staff and customers. The uniform may change depending on which area of the establishment they work in.

Protective clothing as part of a uniform must be paid for by the employer.

KNIVES

- 1.Store knives safely so you don't cut yourself accidentally
- 2.Clean knives after each use. gently scrub the knife, then wash it off with hot water. Dry with a clean cloth
3. Make sure knives are sharp.
- 4.Use knives for the purpose that they were intended.
- 5.Cut with a slicing action i.e. forwards and backwards.

STOCK CONTROL

2 types of foods when it comes to stock control:

Perishable food and products that do not stay fresh for very long

- Fresh fruit, vegetables
- Dairy products
- Meat and fish
- Only buy enough to last a few days because they will not last

Staple foods and supplies that are canned, bottled, dried or frozen

These have a longer shelf life and so do not need to be purchased as frequently. Larger amounts can be bought to get cheaper prices and can be stored .

- Condiments,
- Canned vegetables
- Frozen foods including meat, fish and deserts
- Sauces
- Flour, sugar, fat,oil

DOCUMENTATION

Why must they be completed?

1. Maintaining organisational procedures
2. Safety of staff and customers
3. Legal requirements
4. Complying with food safety legislation
5. Complying with accounting and taxation practices

Stock control

Monitor stock levels for re ordering

Decide frequency of stock check

First in First out for items with a shelf life

Health and safety, hygiene

Fire certificate

Staff training records

Accident book

Food hygiene checks

Cleaning checks

Bookings and reservations

Electronic booking system

Electronic reservations system

Diary with bookings and reservations

Feedback forms

Purchasing

Food and drink orders

Packaging orders

Equipment

Tables, chairs etc.

Cutlery and crockery

Staff uniforms

Financial

Income tax

VAT

Wages

Insurance

Sales and income

Staff costs

Heating, lighting

Personnel records

Hours worked

Personal details

Wages

Taxation

National insurance

Training

Accidents

Staff rotas and timetables

CUSTOMER REQUIREMENTS

Customer service is what an establishment does in order to meet the **expectations** of their customers and generate customer satisfaction.

- **So customers return.**- People will not return to a place where they were not satisfied with the service. Repeat business means a successful business.
- **Exceeding expectations**-This makes repeat business more likely
- **Growth of the business**- If customers receive a high standard of service ad return, they will spend more money and also tell other people about the business.

Customers are influenced by:

- TV
- Magazines
- Health
- Travel abroad
- Technology
- Ratings and reviews
- Amount of money service is

Types of Customer

Leisure	Local residents	Business / corporate
Customers who visit the establishments in their leisure time e.g. a meal with friends, a family day out, tourists,	Customers who live in the local area who visit the establishment often eg regular Sunday lunch, or get togethers	e.g. business lunches. Use business facilities in establishment for meetings or presentations. Courses and conferences

Leisure customers' requirements

- Value for money
- Good facilities
- Families want child menus, play area, child friendly
- Tourists want local food, easy to communicate
- Older people may want more formal service
- Good customer service
- Varied choice of menu
- Dietary needs e.g. allergies, intolerances, vegetarian catered for without having to ask for special foods
- Facilities for physically impaired customers

Local customers' requirements

- Value for money
- good standard of customer service so they return
- Catering for local needs (culture, religion)
- Consistent dishes served
- Loyalty schemes
- Recognised by staff- feel welcome
- Menu specials
- Theme nights
- OAP discount day
- Child friendly
- Entertainment
- Mailing list or email for special offers

Business customers requirements

- Dedicated corporate (business) contact at establishment
- Discounted rates
- Meeting rooms
- Water, juice on tables
- Presentation equipment, Tea and coffee for breaks
- Lunch or other meals- buffet or restaurant
- Accommodation if attendees are from a long distance
- Quick service for lunch meetings

Remember

1. **FIFO – First In First Out rule.**
2. **Check use by/best before dates and make sure you stick to these. Do not use something if it is past its use by date.**
3. **Keep food that an cause an allergic reaction separate from all other food.**

Small Equipment – you will need to know what each piece of equipment is used for.

Large Equipment – you will need to know what each piece of equipment is used for.

Deep Fat Fryer

- Check the level of oil is above the heater coils.
- Avoid spilling any water in the oil.
- Do not overheat the oil..

Grill/Salamander

- Ensure the tray beneath the bars are clean.
- Switch off electrical supply and clean the bars thoroughly, as well as the top.
- Do not clean when hot.

Free Standing Mixer

- Ensure the parts underneath the arm are cleaned
- Switch off electrical supply and clean the blade/whisk thoroughly, as well as the top.
- Do not clean when moving

Bain Marie

- Ensure there is water at all times when the Bain Marie is on.
- Do not let the water boil vigorously.
- Refill with clean water

Hot Plate

- Avoid spilling water on surface
- switch off parts, which are not being used.
- Cool hot plates before cleaning

One, two, three...Knowledge Retrieval

Based on your **OPTION SUBJECT**, recall 3 points from the topic you have been learning from. Once you have added everything you can remember, look at these pages again and using a different colour pen, add in the knowledge that you missed out. This is the knowledge you should now continue to revise.

3							
2							
1							
<u>Question/ Topic</u>							

Page 4

TA1: The Different Sources of Media that Cover Sport

Digital & Social Media

- **Social Networking:** This differs from traditional media such as magazines and newspapers because it is interactive and immediate, rather than delayed. Something could happen during a game, and it would take 30 seconds for someone to create a post about it and share it with the world.



- **Media Sharing Sites:** These are websites that allow users to distribute their video clips. Some sites charge a fee, but most are free.



- **Streaming:** This refers to an online broadcasting that is recorded and broadcast online at the same time. Viewers can watch from anywhere with a suitable internet connection. Sports clubs may stream an event (for a cost) through a specific website.



- **Websites:** These play a large part on how information is accessed by sports fans. They include official media sources such as BBC Sport, official National Governing Body (NGB's) websites such as England Athletics and official club websites.



Broadcast Media

Terrestrial TV: signals sent from a transmitter to an aerial or receiver. These are the original channels like BBC1, BBC2, ITV, Channel 4 and Channel 5. these are available on all TV's. As long as the household has a TV license.



Free view: channels that come built into modern TV sets such as ITV2 and BBC News and can be watched for free with no subscription charges. These occasionally include some sports channels.



Smart TV: Internet connected TV that offers a range of online features. People could access sport through 'the red button' and apps such as YouTube and Netflix.



Subscription channels: These are channels which require a subscription at a monthly cost, with the price differing depending on the package that a customer subscribes to.



Radio: There are two main designated sports radio stations in the UK: BBC Radio 5 Live (dominates, 5 million listeners per week) and TalkSPORT (3 million). National radio stations broadcast virtually all major sporting events staged in the UK or involving British competitors, although rights restrictions means that some events may not be able to be covered live.



Podcasts: A podcast is a digital audio recording available to download. People can listen to them at their own leisure often whilst walking, driving, exercising etc. This makes them very convenient and accessible to people who have busy lives. Fans may chose to listen to a number of episodes in one sitting.



YEAR 10 DANCE

Techniques & Performance Skills



A strong dancer combines technique, control and expression to communicate ideas and connect with an audience.

REMEMBER: Practice with intention, perform with confidence, and express yourself!



BALLET

Ballet is the foundation of many dance styles. It focuses on alignment, control, grace and precision.

KEY TECHNIQUES

- **Posture** – tall spine, lifted head, elongated lines
- **Turnout** – from the hips, using external rotation in defined positions
- **Placement** – arms and legs in defined positions
- **Footwork** – precise and controlled steps
- **Balance** – stability and control
- **Extension** – long, stretched lines through the limbs

EXAMPLES: Plié, Tendu, Dégagé, Relevé, Arabesque, Prouette, Grand Jeté



JAZZ

Jazz is dynamic, energetic and stylish, with strong influences from musical theatre and popular culture.

KEY TECHNIQUES

- **Isolation** – moving one body part at a time
- **Sharpness** – clean, precise movements
- **Kicks** – high, controlled leg actions
- **Leaps** – lift and power in the air
- **Turns** – spot and maintain balance
- **Rhythm** – performing in time with the music

EXAMPLES: Jazz Walk, Chassé, Kick Ball Change, Fosse, Turn, Leap



CONTEMPORARY

Contemporary combines technique and fluidity to explore emotion, ideas and the human experience.

KEY TECHNIQUES

- **Floor Work** – using the floor for support and movement
- **Release** – letting go of tension, using weight
- **Fall & Recovery** – safe, controlled transitions to the floor and up
- **Spiral** – movement around a central axis
- **Flow** – smooth, continuous movement

EXAMPLES: Contraction, Release, Spiral, Floor Slide, Roll, Tilting, Suspension



STREET DANCE

Street dance is urban, original and full of attitude. It draws on hip hop culture and individual style.

KEY TECHNIQUES

- **Groove** – relaxed, rhythmic movement
- **Isolation** – control of individual body parts
- **Popping** – quick tensing and releasing of muscles
- **Locking** – fast, sharp movements that 'lock'
- **Toprock** – upright dance steps
- **Footwork** – intricate steps and patterns

EXAMPLES: Wave, Pop, Lock, Toprock, Six Step, Freeze, Footwork

PERFORMANCE SKILLS – TO BE AN EFFECTIVE PERFORMER YOU NEED TO DEVELOP SKILLS IN 3 AREAS

1. PHYSICAL SKILLS

These are the physical attributes that support strong, safe and controlled dancing.

- **Strength** – to support, lift and control the body
- **Stamina** – to sustain energy throughout a performance
- **Flexibility** – to achieve range of movement
- **Balance** – to stay steady and controlled
- **Coordination** – to use the body efficiently

TIP: Train your body – warm up, stretch, stay hydrated and look after yourself. A strong body helps you dance with confidence.

2. TECHNICAL SKILLS

These are the dance-specific skills and knowledge that show control, accuracy and understanding of technique.

- **Alignment** – correct body position and posture
- **Control** – of movement quality and use of dynamics
- **Timing** – accurate rhythm and musicality
- **Spatial Awareness** – use of levels, directions and pathways
- **Technique** – applying the elements of dance with precision

TIP: Practice the basics – strong technique creates clarity and makes your movement look effortless.

3. EXPRESSIVE SKILLS

These skills help you communicate meaning, mood and character to connect with your audience.

- **Facial Expression** – showing emotion and intention
- **Body Language** – using movement to communicate
- **Projection** – performing with energy and commitment
- **Focus** – being present and connected on stage
- **Interpretation** – understanding and conveying the choreography/idea

TIP: Perform with feeling – believe in the story and let your personality shine through.

YEAR 10 DANCE

Developing Performance Skills, Choreography Devices, Structures and Development of Movement

DEVELOPING PERFORMANCE SKILLS

To become a strong performer, you need to develop your Physical, Technical and Expressive skills.



1. PHYSICAL SKILLS

Use and control your body safely, with strength, stamina and flexibility.

DEVELOP BY:

- Improving strength, stamina, flexibility and balance
- Maintaining good posture and alignment
- Using efficient and coordinated movements
- Controlling breathing and energy levels
- Warming up and cooling down
- Looking after your body

TIP: A fit and healthy body helps you perform with confidence and reduces the risk of injury.



2. TECHNICAL SKILLS

Use dance technique and movement vocabulary with control and accuracy.

DEVELOP BY:

- Practising dance techniques regularly
- Focusing on alignment, posture and precision
- Using a range of dynamics, levels and pathways
- Performing movements with control and timing
- Adding variations and combinations
- Rehearsing choreography with attention to detail

TIP: Repetition, focus and quality of movement help your technique improve.



3. EXPRESSIVE SKILLS

Communicate ideas, emotions and meaning to your audience.

DEVELOP BY:

- Using facial expression, gesture and body language
- Exploring mood, emotion and intention
- Connecting with the music and choreography
- Using performance skills (focus, projection, timing, phrasing)
- Engaging with your audience
- Being confident and authentic

TIP: The more you perform, the more confident and expressive you will become.

GROUP CHOREOGRAPHY: DEVICES AND STRUCTURES

Choreographers use devices to make their work interesting and clear. They also use structures to organise their dance.

CHOREOGRAPHIC DEVICES

Ways to make movement and choreography interesting.

- **Unison** – everyone does the same movement at the same time.
- **Canon** – dancers copy a movement one after another.
- **Formation** – the way dancers are placed on stage.
- **Contrast** – using differences in movement, dynamics or level.
- **Repetition** – repeating a movement or phrase.
- **Question and Answer** – one group or dancer 'asks' and another 'answers'.
- **Mirroring** – dancers copy each other as a mirror image.

CHOREOGRAPHIC STRUCTURES

The overall plan or shape of the dance.

- **Binary** – two contrasting sections (A B).
- **Ternary** – three sections, with the third returning to the first (A B A).
- **Rondo** – a main section (A) returns between different sections (A B A C A).
- **Narrative** – based on a story or idea with a beginning, middle and end.
- **Episodic** – a series of shorter sections or events.
- **Climax** – builds up to a key moment and then resolves.
- **Fragmented** – short, broken phrases or ideas put together.

DEVELOPMENT OF MOVEMENT

Developing movement means taking a simple idea and adding changes to make it more interesting. You can develop movement using a variety of approaches:



1. ACTION

Change how the body moves.

- Different body parts
- Locomotor / non-locomotor
- Smooth / sharp
- Strong / light
- Big / small
- Fast / slow

TIP: Explore changes to create contrast.



2. SPACE

Change where the movement happens.

- Levels (high, middle, low)
- Directions
- Pathways (straight, curved, diagonal)
- Size of space (large, medium, small)
- Proximity (near / far)

TIP: Use the space around you creatively.



3. DYNAMICS

Change the energy or quality.

- Strong / light
- Sudden / sustained
- Bored / free
- Tense / relaxed
- Accented / smooth

TIP: Dynamics help show mood and intention.



4. RELATIONSHIPS

Change how the body relates to others.

- Lead / follow
- Mirroring
- Counterpoint
- Action / reaction
- Complementary and contrast
- Connection and contact

TIP: Relationships build connection and meaning.



5. STRUCTURE

Change the order or organisation.

- Repetition
- Accumulation
- Fragmentation
- Development
- Climax
- Resolution

TIP: A clear structure helps your dance flow.

KEY POINTS TO REMEMBER

- Strong performers develop their Physical, Technical and Expressive skills.
- Choreographic devices add interest and help communicate ideas.
- Structures organise your dance and give it a clear shape.
- Developing movement makes your choreography more original and engaging.
- Experiment, take risks and refine your ideas.
- Feedback and reflection help you improve.
- Work well with your group and respect each other's ideas.

TIP: Be creative, be focused and enjoy the process!

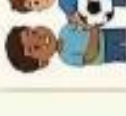
Dance



CHILDHOOD (4-10 YEARS)

Health and Social

PIES MILESTONES

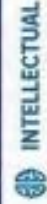
AGE	PHYSICAL Developing the body and physical skills	INTELLECTUAL Learning, thinking and problem solving	EMOTIONAL Understanding feelings and self	SOCIAL Building relationships and belonging
4 years	 - Hops on one foot - Catches a large ball - Uses scissors with support	 - Recognises some letters - Counts to 10 - Asks lots of questions	 - Expresses a range of emotions - Seeks praise from adults	 - Plays cooperatively - Takes turns - Enjoys imaginative play
5 years	 - Skips - Balances well - Draws recognisable pictures - Dresses independently	 - Recognises most letters and sounds - Begins reading simple words	 - More confident - Begins understanding rules	 - Makes friends - Follows classroom routines - Shares with others
6 years	 - Improved handwriting - Rides a bicycle with stabilisers or independently	 - Reads simple books - Understands basic maths - Follows multi-step instructions	 - Better control of emotions - Understands consequences of actions	 Enjoys group activities and team games
7 years	 - Improved coordination and balance - Greater stamina for physical activities	 - Reads more fluently - Tells the time - Solves simple problems	 - Begins to compare themselves with others - Develops self-esteem	 - Forms closer friendships - Understands cooperation
8 years	 - Refined fine motor skills - Improved sporting ability	 - Uses logical thinking - Understands more complex concepts and instructions	 - Shows empathy towards others - Manages emotions more effectively	 Enjoys belonging to friendship groups and clubs
9 years	 - Increased strength and coordination - Participates confidently in sports	 - Improved concentration and memory - More independent learning	 Develops a stronger sense of identity and responsibility	 Fear relationships become increasingly important
10 years	 - Some children show early signs of puberty - Good control of fine and gross motor skills	 - Thinks more critically - Plans and organises tasks independently	 - Greater emotional maturity - Understands complex feelings	 - Values close friendships - Works effectively in teams - Seeks greater independence from adults

KEY MILESTONES TO REMEMBER



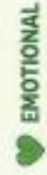
PHYSICAL

- 4 yrs - Hops on one foot
- 5 yrs - Skips confidently
- 6-7 yrs - Rides a bicycle
- 10 yrs - Possible early signs of puberty



INTELLECTUAL

- 4-5 yrs - Recognises letters and numbers
- 6 yrs - Reads simple books
- 7 yrs - Tells the time
- 8-10 yrs - Logical thinking and independent learning



EMOTIONAL

- 4 yrs - Seeks praise
- 6 yrs - Understands consequences
- 8 yrs - Shows empathy
- 10 yrs - Greater emotional maturity



SOCIAL

- 4 yrs - Takes turns
- 5 yrs - Makes friendships
- 7 yrs - Cooperative play and teamwork
- 9-10 yrs - Peer groups become highly important

SIMPLE REVISION TIP

P Physical skills
Get active and grow

I Intellectual skills
Learn and think

E Emotions
Understand feelings

S Social skills
Make friends and belong

Quiz maker

Look through the KO for the SOL you're currently studying in your ***OPTION SUBJECT***. Use it to create a quiz (multiple choice) that you can test yourself on towards the end of studying the topic.

1.	
A	☐
B	☐
C	☐
D	☐

2.	
A	☐
B	☐
C	☐
D	☐

3.	
A	☐
B	☐
C	☐
D	☐

4.	
A	☐
B	☐
C	☐
D	☐

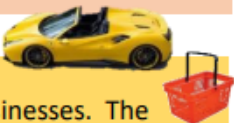
5.	
A	☐
B	☐
C	☐
D	☐

6.	
A	☐
B	☐
C	☐
D	☐

Meeting customer needs and wants

A business is successful if it can meet the needs and wants of its customers effectively. A **need** is a basic human requirement such as food and drink. A **want** is the desire for a particular product such as the desire to drive a Ferrari.

The Business Environment



A business will compete against other businesses. The competitive environment describes how much competition exists and how businesses compete against each other.

In the supermarket industry, for example, there are few supermarket companies (mainly Tesco, Sainsburys, Asda, Morrisons, Aldi and Lidl) but they compete very aggressively against each other with price wars and regular discounts.



The Dynamic Environment

The business environment is constantly changing – it is **dynamic**. Look at any newspaper or any news website and you will see how much change there is – changes in incomes, changes in the number of people working, new laws, new competitors and much more. A business has to keep adapting.

You may once have made money from selling typewriters but you would struggle to do so these days. Businesses cannot stay still. They need to change.



Businesses can also be classified in terms of:

- **The private sector:** this refers to businesses that are owned by private individuals. Typically, profit is the objective of these businesses.
- **The public sector:** this refers to organizations owned by the government such as the NHS and state school. These organisations often have social objectives – they aim to help society.

Functions of a Business

A business transforms resources into outputs.

To be successful it must **understand its customers effectively** and make sure that it **provides products that are in demand**. It needs to think about the **nature of the product**, **how to promote the benefits** of the product to potential customers, **what price to set** and **how and where customers will want to buy it**.



These activities are all part of the **marketing function**.

The business must produce the good or service.

In some cases, there may only be one person in the business, but some organisations have hundreds or thousands of people working for them. Managing people (for example recruiting and training staff and deciding how to reward them) is known as the **Human Resources function**.



A business will also have to manage **money**.



It may need to raise finance. It will need to monitor what is spent in different parts of the business and calculate if the business has sufficient funds. These activities are part of the **Finance function**.

A business will have to manage **stock and raw materials**



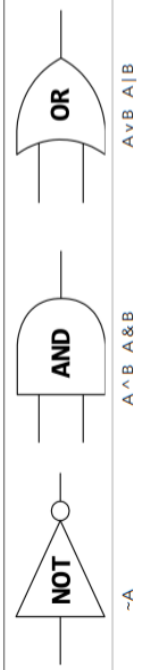
A business will need to consider which products it produces and when. It will need to ensure that it has the necessary raw materials to produce these goods and that they have the necessary equipment. This is part of the **Operations Function**.

The interdependent nature of business activity

The functions of a business are **interdependent**. This means they are linked to each other and changes in one can affect the others.

For example, if **marketing** generates more sales this may require more production from **operations**. This may require longer hours from staff or even more employees being taken on (**human resources**). If the revenue from the extra sales covers these costs this will lead to more profits (**finance**).

1. Logic Gate Symbols



2. Truth Tables

A	NOT A	A	B	A AND B	A	B	A OR B
0	1	0	0	0	0	0	0
1	0	0	1	0	0	1	1
		1	0	0	1	0	1
		1	1	1	1	1	1

4. Translators

Assembler	Assembles' assembly language into machine code. Translates the whole code before execution
Compiler	Translates source code from high-level languages into object code and then into machine code ready to be processed by the CPU. The whole program is translated into machine code before it is run.
Compiler Advantages	• No need for translation software at run-time, and no need to share original source code • Speed of execution is faster because code is usually optimised.
Compiler Disadvantages	• You cannot compile the program if there are syntax errors anywhere in it which can make it tricky to debug. • If you change anything you need to recompile the code
Interpreter	Translates source code from high level languages into machine code ready to be processed by the CPU. The program is translated line by line as the program is running.
Interpreter Advantages	• Easy to write source code because the program will always run, stopping when it finds a syntax error. • Code does not need to be recompiled when code is changed, and it is easy to try out commands when the program has paused after finding an error.
Interpreter Disadvantages	• Translation software is needed at run-time, so you need to share the original source code. • Speed of execution is slower because the code is not optimised

3. Levels of Programming Languages

Machine Code 1st Generation	• Binary representation of instructions in a format that the CPU can decode and execute. • Have an operation code (opcode) instruction and address or data to use (operand).
Low-Level Languages 2nd Generation	• Written in Assembly language. • Translated by an assembler into machine code. • Used for embedded systems and device drivers where instructing the hardware directly is necessary. • One instruction translated into one machine code instruction. • The code works on one type of processor only. • The programmer works with memory directly. • Code is harder to write and understand. • Memory efficient. • Code is fast to execute.
High-Level Languages 3rd Generation	• Source code is written in languages as Python, C++. • Translated by a compiler or interpreter into machine code. • Makes the writing of computer programs easier by using commands that are like English. • One source code instruction translates to many machine code instructions. • Code will run on different types of processors. • The programmer has lots of data structures to use. • Code is quicker and easier to understand and write. • Less memory efficient. • Code can be slower to execute if it is not optimised.

5. Integrated Development Environments

Debugging Tools	• Breakpoints - stopping at a line of code during execution. • Stepping through lines of code one at a time. • Tracing through a program to output the values of variables.
Run Time Environment	• Output window. • Simulating different devices the program can run on.
Usability Functions	• Navigation, showing/hiding sections of code. • Formatting source code often in different colours. • Text-editor functions • Illustrating keyword syntax and auto-completing command entry.
Translator	Some IDEs have an inbuilt translator to test the program and make small alterations before compiling the final program into an executable file for distribution

Knowledge Organiser 3 : Data Storage

1. Data units	2. Conversions
Bit (b)	Binary to Denary
Nibble (N)	Denary to Binary
Byte (B)	Hexadecimal to Denary
Kilobyte (KB)	Denary to Hexadecimal
Megabyte (MB)	Binary to Hexadecimal
Gigabyte (GB)	Hexadecimal to Binary
Terabyte (TB)	Left Binary Shift
Petabyte (PB)	Right Binary Shift

3. Operations

Binary addition	You should arrange the two binary numbers above each other so that the columns line up. Start on the rightmost digit and add them. If there are any carries, write them down next to the next left column.
Overflow	If the answer to the left column results in a carry, this is known as an overflow and it causes an overflow error. This can cause problems if a computer program hasn't been written to handle overflows.
Left Binary Shift	Make the number longer, and therefore bigger. Each place it shifts will double the value. A binary left shift of one place (<<1) will double the value, a binary left shift of two places (<<2) with quadruple.
Right Binary Shift	Make the number shorter, and smaller. The right most digit is "lost", so we forget about it. A binary right shift of one place (written as >>1) halves the number, and a binary right shift of two places (>>2) will quarter it.

7. Sound

Analogue / Digital	Analogue sound waves must be converted into digital sound waves by taking a sample of the sound at set intervals. This is because computers can only work with digital 'numbers', and not analogue 'sound'
Sample rate	Number of times analogue signal is sampled per second. Measured in Hertz
Bit depth	Number of bits used per sample. Sometimes known as sample resolution
File size	Sample rate x sample resolution x seconds
Factors	Larger sample rate and/or bit depth will make the file size bigger and improve the playback quality, and vice versa. Also, making the duration of the recording longer will make the file size bigger, and vice versa

4. Characters	5. Examples of Character Sets
Individual Characters	Each character is assigned an individual binary code to represent it. The number of bits depends on the 'encoding' used
Character Set	The name given to a collection of characters matching to binary codes. There are many examples.
Choice of Character Set	A character set encoded with more bits allows more characters. This is useful for accents, symbols, emojis, other languages (e.g. Chinese)

6. Images

ASCII	7-bits to represent characters allowing 127 characters to be represented
Unicode	16 / 24 / 32 bits. Covers many modern and historic languages, as well as lots of symbols which are used in maths and other specialist areas
Pixel	The smallest element of a bitmap image. Pixels desk
Vector vs Bitmap	A vector image describes the lines and shapes. A bitmap image consists of rows of coloured dots.
Colour Depth	The number of bits used to represent each pixel in a bitmap image. An 8 bit image can show 2 ⁸ or 256 colours.
Resolution	In a bitmap image resolution is measured in DPI (dots per inch). The higher the resolution the better the picture quality
Metadata	Data that is saved before and after the image to tell the computer how to decode the image. It includes the size in pixels (width x height), the colour depth, the resolution, the GPS location of where the image was taken, etc.
Image size	The size of an image is width x height x colour depth (+10% for metadata)
Factors	Greater colour depth and/or greater resolution will make the file size bigger, and improve the quality of the image; and vice versa

8. Compression

Compression	Compression is when a file is encoded so it uses fewer bits than the original file format
Lossless compression	Gets rid of unnecessary data to re-present data without losing any information. This process is reversible
Lossy compression	Gets rid of the least essential data. This is an irreversible process: once data is lost it can't be recovered

Mise-en-scene- everything in a scene:

- Setting
- Costumes
- Props
- Lighting:
 - ✓ High key lighting;
 - ✓ Low key lighting;
 - ✓ Backlighting;
 - ✓ Top lighting;
 - ✓ Under lighting;
 - ✓ Short side lighting
- Performance
- Gestures/ Body language
- Representation



Cinematography- the art of photography and camerawork in film-making:

- Framing
- Camera shots/angles:
 - ✓ Establishing shot (ES);
 - ✓ Long shot (LS);
 - ✓ Mid shot (MS);
 - ✓ Close-up shot (CU);
 - ✓ Extreme close-up shot (ECU);
 - ✓ High-Angle Shot;
 - ✓ Low-Angle Shot;
- Shot size
- Focus



Sound- different types of sounds used in film:

- Diegetic
- Non-diegetic
- Sound bridges
- Sound effects
- Ambient sounds



Editing- how the film/ scenes are put together:

- Types of editing:
 - ✓ Cutting on action;
 - ✓ Cut away;
 - ✓ Jump cuts;
 - ✓ Match cut
- Pace of editing;
- Special effect



Useful sentence starters:

In the research....
This is shown by
This comparison to...
The director's use of...is shown by....
The meaning of this piece is
The techniques used are.....

In my opinion...
This is demonstrated through...
This demonstrates...
The conveys...
The director was trying to show...
The director used these because...

Function	Cultural
Analyse	Describe
Evaluate	Meaning
Suggests	Influence
Meaning	Focal point

← Useful Tier 2 Vocabulary

←

←

The director used colour to show.....

Through this film the director is trying to convey.....

The impact this scene has on the audience is

This could influence my own work by

The subject matter in this piece shows

The director's background influenced or impacted on this film by

The scene shows.....

The use of colour suggests

This film shows a strong influence from

To develop further I.....

The strengths of this piece are.....

Task 1: Choosing suitable equipment and factors for choice



Factors affecting suitability of equipment.



Age and weight appropriateness - recommended age, weight (minimum and maximum), size of child, adjustable

Durability – hard wearing (will it last for long), materials (wipe down, comfortable)

Safety – safety features, star ratings, safety labelling, review, stable, flammable

Design – comfort, accessibility, ease of use, aesthetics, adjustability

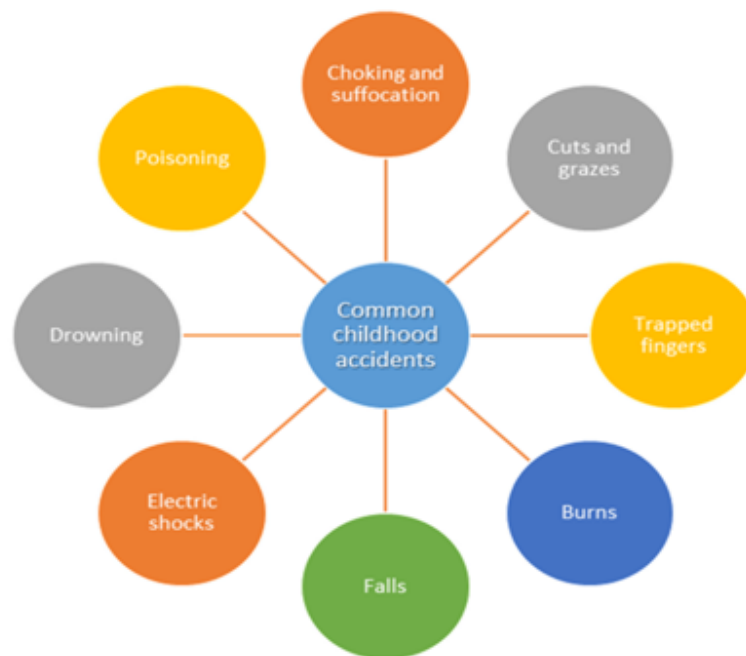
Cost – value for money, price range, cost effective, within a suitable budget/price range.



Task 2: Creating a safe environment in a childcare setting

Why do accidents happen?

- The environment
- Lack of supervision
- Untrained staff
- Safety equipment
- As part of child's development



Ways to prevent accidents:

- Staff training
- Staff supervision – correct ratios
- Safety consideration
- Sensible placement of equipment
- Different areas in setting
- Educating the children to keep safe.
- Reasons for plan choices
- Completing risk assessments
- Objects out of reach
- Nonslip objects/mats
- Suitable heights
- Locked cupboards
- Appropriate age equipment
- Safety gates

Key Word	Meaning
Family (of instruments)	Instruments or equipment which are 'related' to your instrument (e.g. in the same orchestral 'family' or 'section' or different sizes and types of your instrument).
Pitch	The highness or lowness of a sound, governed by the rate of vibrations producing it.
Pitch Range	The distance from the lowest to the highest note a musical instrument can play. For a singing voice, the equivalent is the "vocal range".
Playing Technique	The ability of instrumental and vocal musicians, or performers using technology to exert optimal control of their instruments or playing equipment in order to produce the precise musical effects they desire. Also includes playing a musical instrument or singing in a particular way (e.g. <u>pizzicato/arco/cal legno for strings</u>).
Sound Production	Describes how sound is produced either on a musical instrument e.g. <i>via vibration</i> , a voice or electronically using digital technology.
Special Effects/FX	FX in music technology stands for "effects" which is the processing of sound using digital software (e.g. <i>reverb, delay, phaser etc.</i>) Musical instruments and the voice can also produce special effects by being played or performed in a particular way (see <i>Playing Technique above</i>).
Tessitura	A term used commonly in vocal music and singing to describe the pitch range in which most notes of the vocal part fall (comfortably for the singer/performer).
Timbre/Sonority	The character or quality of musical sound or voice. Each musical instrument has its own unique timbre which is how we identify it as distinct from others.
Transposing Instrument	An orchestral instrument for which parts are written in a different key from that in which they sound e.g. <i>the clarinet and many brass instruments</i> .

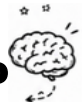
- ✓ A single BEAT is a basic unit of musical time. In dance music, beats are grouped together to make a repeating pattern – normally made up of either twos, threes or fours.

- ✓ The repeating pattern of beats gives us the **METRE** or the **TIME** of the music, shown by the **TIME SIGNATURE** at the start of a piece of music. Each repetition of the beat-pattern is called a **BAR** and bars are separated by vertical lines called **BAR LINES**.
- ✓ A **DOUBLE BAR LINE** always comes at the end of a piece of music or section of music. The **TOP NUMBER** of a time signature tells you how many beats there are in each bar.
- ✓ The **BOTTOM NUMBER** tells you what types or note values these beats are (as divisions of a semibreve = 1): 1 = Semibreve 2 = Minim 4 = Crotchet 8 = Quaver 16 = Semiquaver **SIMPLE DUPLÉ METRE**:
 - Two beats to a bar Dance music such as **MARCHES**, the **TANGO** and **IRISH REEL** often use simple duplé metre. **SIMPLE TRIPLE METRE**: Three beats to a bar Dance music such as **WALTZES** and the **MINUET**, **COURANTE** and **SARABANDE** from the Baroque Dance Suite often use simple triple metre.
- ✓ **SIMPLE QUADRUPLE METRE**: Four beats to a bar Dance music such as the **TANGO**, the **IRISH REEL**, the **ALLEMANDE** from The Baroque Dance Suite, **AMERICAN LINE DANCE MUSIC** (Country and Western), **DISCO** and **CLUB DANCE** often use simple quadruple metre.

Have a read through the information on your option KO and then use the information below to help you create mind maps.



THE KNOWLEDGE MAP



Visualise what you know

1. KEY VOCABULARY

2. KEY IDEAS

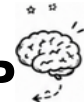
3. IMPORTANT FACTS

4. EXAMPLES

TOPIC



THE KNOWLEDGE MAP



Visualise what you know

1. KEY VOCABULARY

2. KEY IDEAS

3. IMPORTANT FACTS

4. EXAMPLES

TOPIC

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**Fancy some additional Class Charts points? Impress your teachers with any of these BHAmazing pieces of vocabulary, and they will award you extra CC points.
Challenge: Can you use them in any sentences and show a member of the Senior Leadership Team?**

Word List 1	Word List 2	Word List 3	Word List 4	Word List 5	Word List 6	Word List 7
Myriad (adjective) – many Assert (verb) – state a fact confidently or forcefully Egregious (adjective) – outstandingly bad Erroneous (adjective) – wrong Engender (verb) – to cause Employ (verb) – to make use of Salient (adjective) – most noticeable and important Advantageous (adjective) – providing an advantage / beneficial Galvanize (verb) – to shock or excite someone into action Substantiate (verb) – to provide evidence	Caustic (adjective) – mean / harsh Elucidate (verb) – to make clear Esoteric (adjective) – likely to only be understood by a small number of people / obscure Tenuous (adjective) – weak or fragile Perfunctory (adjective) – carried out with minimal effort Moral (noun) – a lesson Autonomy (noun) – independence Assertive (adjective) – confidence Conceited (adjective) – excessively proud / vain Superior (adjective) – better than	Tension (noun) – feeling of anxiety or nervousness Oblivious (adjective) – unaware Naïve (adjective) – Inexperienced / unaware Pretentious (adjective) – arrogant Pompous (adjective) – arrogant Privileged (adjective) – having an advantage over other, usually wealth Compassionate (adjective) – sympathetic Vindictive (adjective) – spiteful, cruel Duplicitous (adjective) – having two sides Narcissistic (adjective) – self-obsessed	Omniscient (adjective) – all-knowing Gullible (adjective) – believes things easily Supercilious (adjective) – arrogant Tyrannical (adjective) – a cruel dictator Brazen (adjective) – bold, shameless Elusive (adjective) – mysterious Chauvinistic (adjective) – has an attitude of superiority to opposite sex Materialistic (adjective) – cares for objects and commodities Prophetic (adjective) – able to accurately predict Impulsive (adjective) – rash / careless	Sentimental (adjective) – emotional Bawdy (adjective) – rude or vulgar Hypermasculine (adjective) – overly masculine Atavistic (adjective) – has characteristics of an earlier generation Troglodytic (adjective) – like a caveman Apathetic (adjective) – indifferent / lazy Segregated (adjective) – separated Misogynistic (adjective) – hateful towards women Choleric (adjective) – quick-tempered, angry Secular (adjective) – not religious	Oppressed (adjective) – subjected to cruel mistreatment Subservient (adjective) – obedient / submissive Exploit (verb) – to use someone for your own good Epiphany (noun) – a sudden realization Façade (noun) – a front (to ‘wear a façade’ means you wear a metaphorical mask, covering your true emotions or character) Microcosm (noun) – a smaller community which represents a larger one Aloof (adjective) – stand-offish Degenerate (adjective) – disgusting Depraved (adjective) – immoral / evil Feral (adjective) – wild	Metamorphosis (noun) – a change / transformation Abhorrent (adjective) – repulsive Abhor (verb) – to hate Fate (adjective) – destiny Integral (adjective) – important Demise (noun) – a person’s downfall or death Ridicule (verb) – to make fun of Deride (verb) – to mock Contempt (noun) – hate Hysterical (adjective) – uncontrolled emotion

My BHAmazing vocabulary, written in sentences:

1.

2.

3.

4.

5.

6.

7.