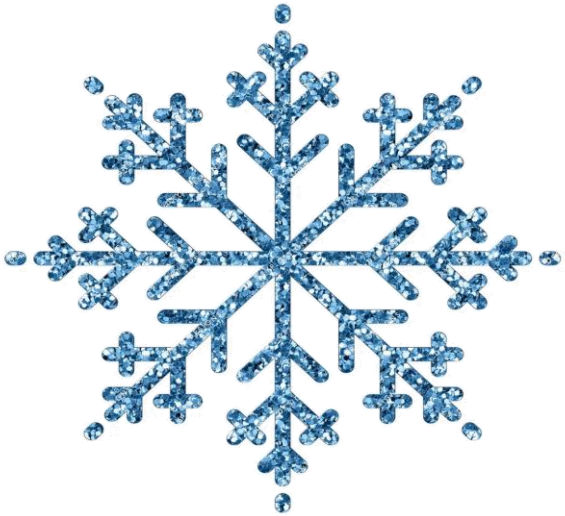
YEAR 10

BHA's Knowledge Quest

Autumn 2
(Nov - Dec)
2025-2026



Bristnall Hall Academy

How to use your Independent Study 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 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: Engineering: Seneca - core knowledge recap, as well as flip learning resources, both printed and or on teams. Reading and comprehension tasks with booklets on teams. Hospitality and Catering: Yr 11- revision workbook, revision tasks set on Teams. Re-cap content using Knowledge Organiser.

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.

Sociology: 30 minutes of Senneca homework per week or an exam style question.

Sport: Year 11, 1 hour of exam revision from the revision guide & resources in Teams.

Child Development and Health & Social Care: Year 11, 1 hour of exam revision from the revision guide and resources on Teams.

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

	W1 Mon	W1 Tues	W1 Wed	W1 Thurs	W1 Fri	W2 Mon	W2 Tues	W2 Wed	W2 Thurs	W2 Fri
1										
2										
3										
4										
5										
6										

Enrichment and Intervention 2025-26

Autumn Half Term 2

	Monday	Tuesday	Wednesday	Thursday	Friday
Breakfast 7.45am – 8.30am	Start Right Club Library open	Start Right Club Library open	Start Right Club Library open	Start Right Club Library open	Start Right Club Library open
Lunch 12.45pm – 1.15pm	MUGA Year 9 Library Year 11 Yr 7 Table Tennis LG Yr 7, 8, 9 Keyboard club- Room 36 SW	MUGA Year 11 Library Year 10 Yr 8 Table Tennis LG	MUGA Year 10 Library Year 9 Yr 9 Table Tennis LG All Years Vocal Group /Choir Room 36 SW	MUGA Year 8 Library Year 8 Yr 10 Table Tennis LG	MUGA Year 7 Library Year 7 Yr 11 Table Tennis LG
Period 7 Monday Tuesday Thursday 3.30pm – 4.30pm Wednesday Friday 2.35pm – 3.35pm	Year 11 Open / MFL Subject Intervention Week 1: **B Block** Week 2: **C Block** Year 9 football (Field) WT All years Chess Club – Room 9 MAG All Years Debate Mate Room 23 BED Sparx Maths Club – Room 15 DHY / RMI All years Table Tennis (Large Gym) NK	Year 11 Science Intervention All years Table tennis (Large Gym) GH All years Basketball (MUGA) WT- New Year 7 and other beginners Latin Club Room 60 AA Year 8 football (Field) JS All years Dance Club (Dance studio) CG All years *Hooked on Bristnall*	Year 11 English and Maths Intervention Year 7/8 Trampolining (Small Gym) KHA All years Table tennis (Large Gym) WT New Year 10 Football (Field) NK All years Dance Club (Dance studio) JR All years Board Game Club Room 55 AK All years The Rep Theatre – Performing Arts Club Room 16	Year 11 Geography /History Intervention Year 7 Football (Field) NK All years Legacy cohort Latin Club Room 60 AA All years Netball (MUGA) GH New Year 9/10 Trampolining (Small Gym) JS All years *The hook and pen society* Room 53 JW/LOM/ADI	All years Dungeons and Dragons (MB) Room 5 **Yr 10/11 Engineering** coursework catch up intervention- By invitation only LN **Yr 10/11Textiles** coursework catch up intervention- By invitation only NB/KWK
	All years Girl's Football (MUGA) JS/NW- New All years Task Master Room 28 GEG All years Science Club Lab 49 SAM/BHO/RHA Year 7 – 9 Masterchef Room 45 (limited to 15 pupils only) CCR/MSH/PCR **SEND** Reading Intervention ADI/LOM Room 2	Room 53 JW All years Beyond the Books (Reading Club) Room 24 FH All years Digital skills Room 30 MCA Year 10 Rock Band- Room 36 SW Basketfields Booster for Year 10 English Room 23 FBA Masterchef **(SEND)** Room 45 CCR/MSH/MCS **SEND** Y8 Reading Intervention ADI/LOM 33	All years Geography Club Room 2 SBW All years Ultimate Uno Club Room 23 QSM All years Scene Stealers Filmmaker Club Room 22 DLA All years Act Up! Drama Club Room 24 SBS Yr 10 GCSE Computer Science students only: Programming practicals Room 62 JM Yr 10 iMedia students only: coursework catch-up Room 10 HA All years- The Articulators Board game articulate for kids RBi/ROOM 38 Year 7, 8 ,9 Girls Football WBA **SEND** Social Society CCR/CST Room 1 **SEND** WBA Multisports/Football LK	All Years Graphics club KWK 43 Year 7,8,9 Music Rock Band- Room 36 TW Russian Language Club for beginners Room 58 RMI	
			SEND Homework Club – JRE/MPA Room 31 **SEND** Y10 Direct Instruction Lit – JPG Room 3		

Academic	Creative	Physical
☐ Task Master (will meet all parts of the diploma) ☐ Latin Club (new and legacy co horts) ☐ Chess Club ☐ Sparx Maths Club ☐ Geography Club ☐ Science Club Lab 49 ☐ Debate Mate ☐ 'Beyond the Books' Reading Club ☐ Russian Language Club for Beginners ☐ Any other subject intervention	☐ Task Master (will meet all parts of the diploma) ☐ Scene stealers film maker club ☐ Act up! Drama Club ☐ Ultimate Uno ☐ Hooked on Bristnall - Crochet club ☐ The hook and pen society ☐ The REP Theatre Performing Arts Club ☐ Board Game Club ☐ Dungeons and Dragons ☐ Graphics Club ☐ Digital Skills ☐ Rock Band ☐ Lunchtime keyboard cub ☐ Lunchtime vocal choir ☐ Masterchef ☐ The Articulators	☐ Task Master (will meet all parts of the diploma) ☐ Football ☐ Table Tennis ☐ Basketball ☐ Netball ☐ Trampolining ☐ Dance

Dates to remember this half term:

November

December

Attendance record

Week	Attendance %
Week 1	
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	

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		
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 Assignments:	Science Assignments:	History Assignments:	Geography Assignments:
Week 1				
Week 2				
Week 3				
Week 4				
Week 5				
Week 6				
Week 7				
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	
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

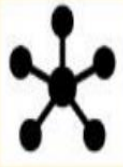
Use this page to record any homework this half term

Subject	**Date Due:**	**Additional Notes:**

Homework Log

Use this page to record any homework this half term

Subject	**Date Due:**	**Additional Notes:**

	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
1. Netherlands
2. Belgium
3. Luxembourg
4. Switzerland
5. Slovenia
6. Croatia
7. Bosnia and Herzegovina
8. Czechia
9. Slovakia
10. Austria
11. Hungary
12. Serbia
13. Moldova
14. North Macedonia
15. Albania
16. Cyprus
17. Lebanon
18. Guinea-Bissau
19. Guinea
20. Ghana
21. Togo
22. Benin
23. Cameroon
24. Equatorial Guinea
25. Rwanda
26. Cambodia
27. Panama
28. Malawi
29. Liechtenstein
30. Montenegro
31. Kosovo
32. Palestinian Territories
33. St. Vincent & the Grenadines
0 2,000 4,000 Miles
0 2,000 4,000 6,000 8,000 Kilometers
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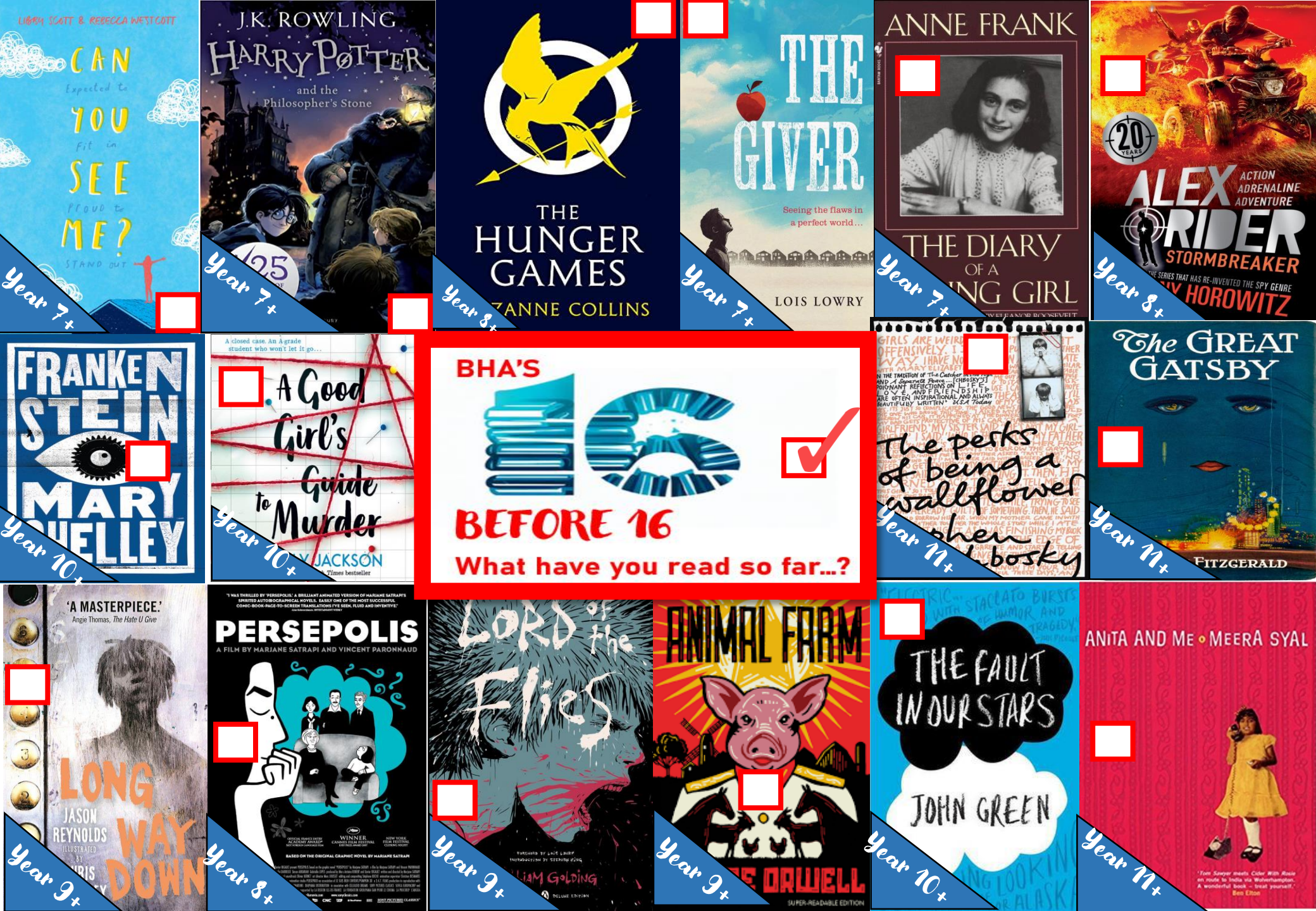
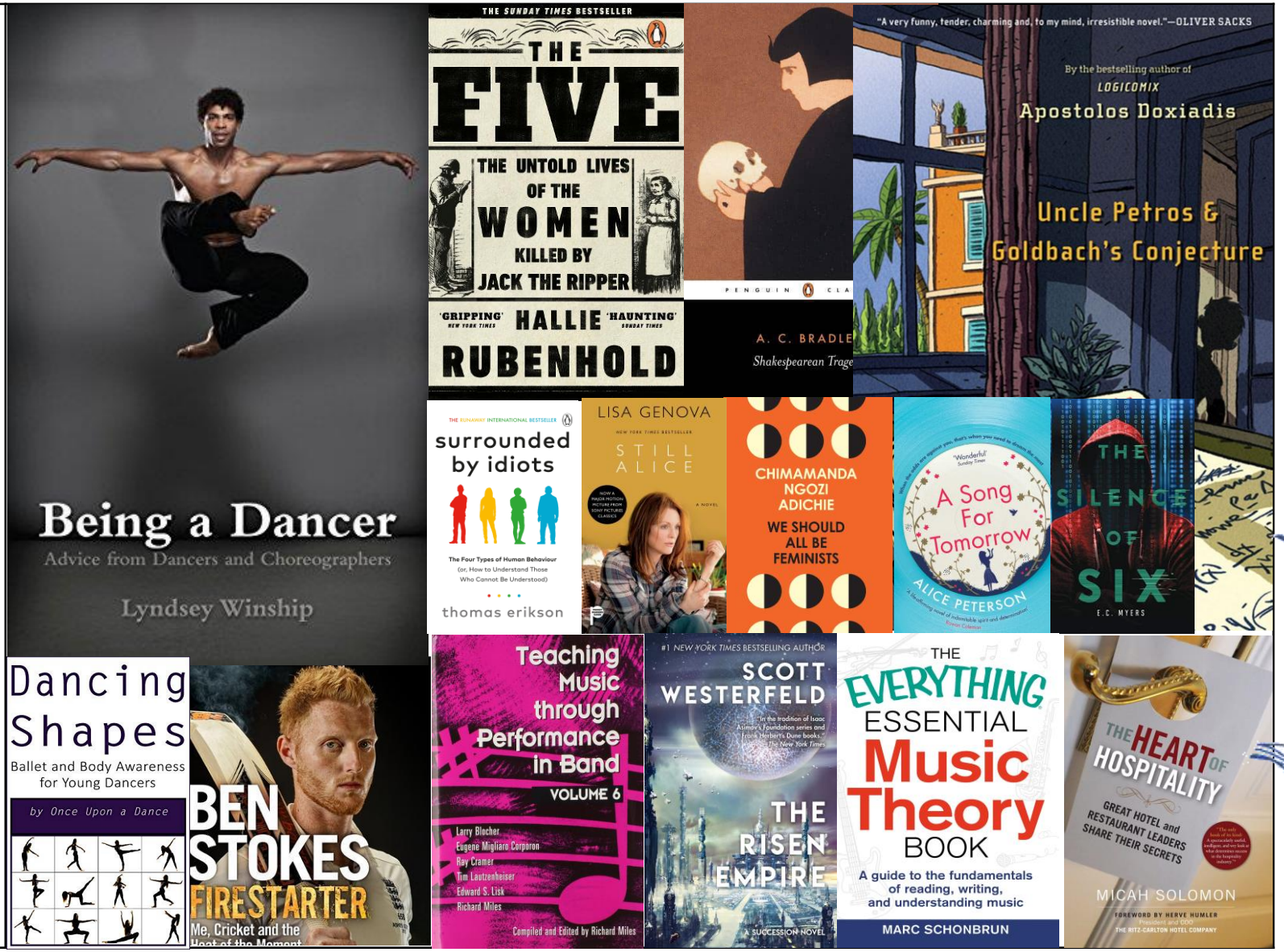

LIBBY SCOTT & REBECCA WESTCOTT
CAN YOU SEE ME?
Year 7+
J.K. ROWLING
HARRY POTTER
and the Philosopher's Stone
Year 7+
THE HUNGER GAMES
Year 8+
THE GIVER
Seeing the flaws in a perfect world...
LOIS LOWRY
Year 7+
ANNE FRANK
THE DIARY OF A YOUNG GIRL
Year 7+
20 YEARS
ALEX RIDER
ACTION ADRENALINE ADVENTURE
STORMBREAKER
Year 8+
FRANKENSTEIN
MARY SHELLEY
Year 10+
A closed case. An A grade student who won't let it go...
A Good Girl's Guide to Murder
Year 10+
BHA'S
BEFORE 16
What have you read so far...?
The perks of being a wallflower
Year 11+
The GREAT GATSBY
FITZGERALD
Year 11+
'A MASTERPIECE.'
Angie Thomas, The Hate U Give
LONG WAY DOWN
JASON REYNOLDS
Year 9+
PERSEPOLIS
A FILM BY MARJANE SATRAPI AND VINCENT PARONNAUD
Year 8+
LORD of the Flies
Year 9+
ANIMAL FARM
Year 9+
THE FAULT IN OUR STARS
JOHN GREEN
Year 10+
ANITA AND ME • MEERA SYAL
Year 11+

Contents page

Further Reading List

Year 10

Challenge yourself by reading these topic-related books!



LIT P1

English

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
- Generocity
- 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 generocity
- 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	

English

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/event	Critical Verb	Theme/concept/context
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.

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.

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.

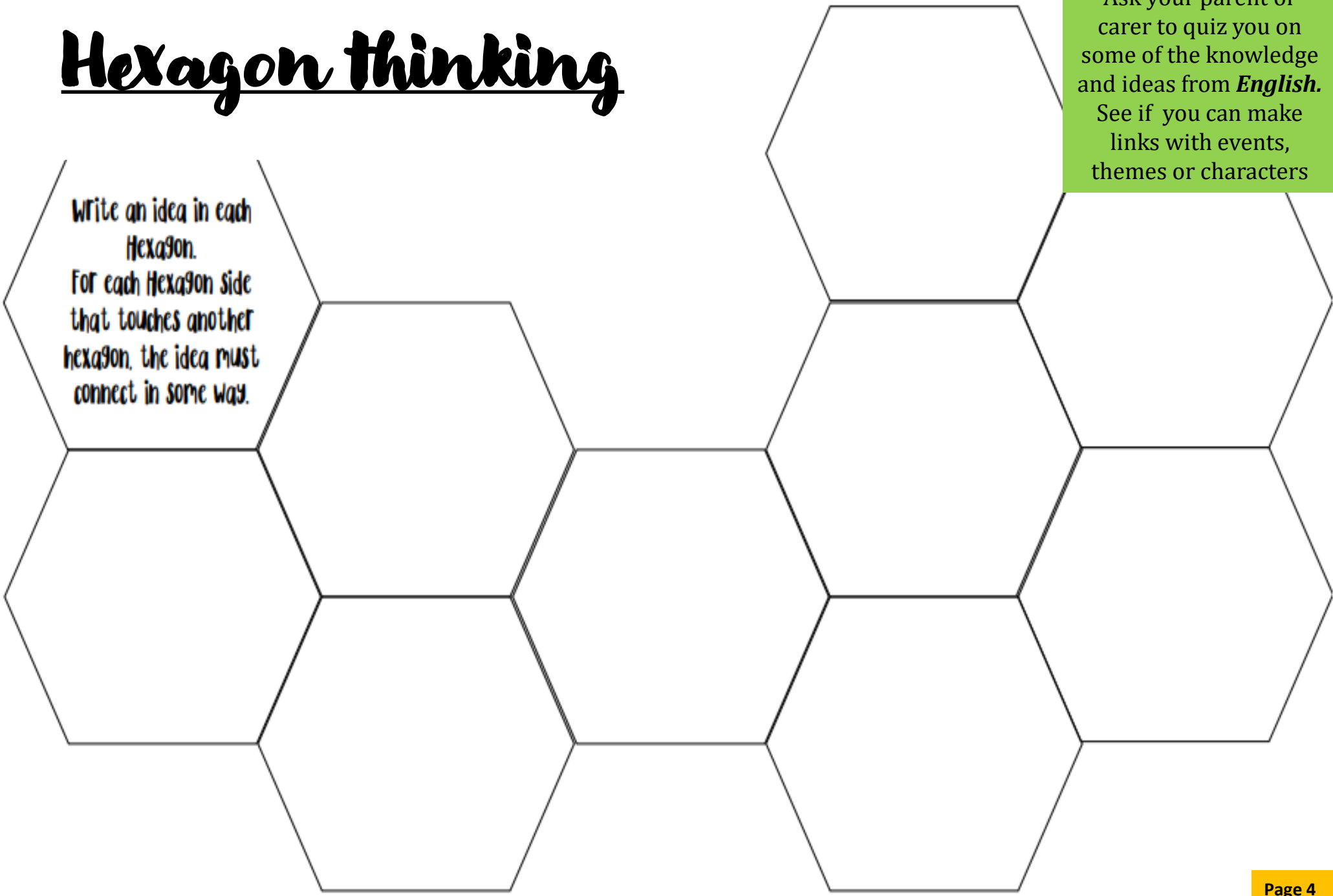
The Victorian era marked the beginning of the supernatural which has only grown with the passage of time. Between 1750 to 1950 the main focus in Britain was on religion and it was this focus on religion which was accompanied by several beliefs.

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.

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.

Hexagon thinking

Write an idea in each Hexagon.
For each Hexagon side that touches another hexagon, the idea must connect in some way.



Ask your parent or carer to quiz you on some of the knowledge and ideas from ***English.*** See if you can make links with events, themes or characters

YEAR 10 – SIMILARITY...

Maths

Congruence, similarity & enlargement

What do I need to be able to do?

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

- Enlarge by a positive scale factor
- Enlarge by a fractional scale factor
- Identify similar shapes
- Work out missing sides and angles in similar shapes
- Use parallel lines to find missing angles
- Understand similarity and congruence

Keywords

Enlarge: to make a shape bigger (or smaller) by a given multiplier (scale factor)
Scale Factor: the multiplier of enlargement
Centre of enlargement: the point the shape is enlarged from
Similar: when one shape can become another with a reflection, rotation, enlargement or translation
Congruent: the same size and shape
Corresponding: items that appear in the same place in two similar situations
Parallel: straight lines that never meet (equal gradients)

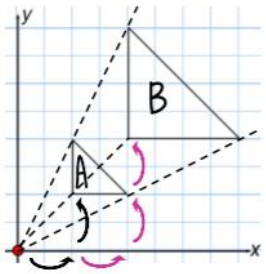
Positive scale factors (R)

Enlargement from a point

Enlarge shape A by SF 2 from (0,0)

The shape is enlarged by 2

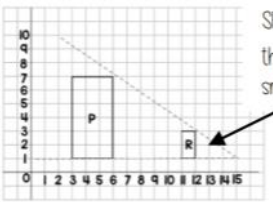
The distance from the point enlarges by 2



Fractional scale factors (R)

Fractions less than 1 make a shape SMALLER

R is an enlargement of P by a scale factor $\frac{1}{3}$ from centre of enlargement (15,1)

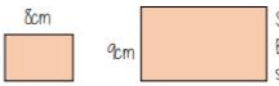


SF $\frac{1}{3}$ - R is three times smaller than P

Identify similar shapes

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

Similar shapes

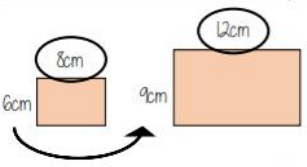


Scale Factor
Both sides on the bigger shape are 1.5 times bigger

Compare sides: 6 : 9 = 2 : 3 ; 8 : 12 = 2 : 3

Both sets of sides are in the same ratio

Information in similar shapes



x 1.5

Compare the equivalent side on both shapes

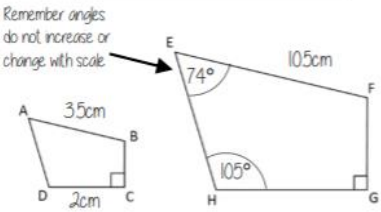
Scale Factor is the multiplicative relationship between the two lengths

Shape OBCD and EFGH are similar

Notation helps us find the corresponding sides

OB and EF are corresponding

Remember angles do not increase or change with scale



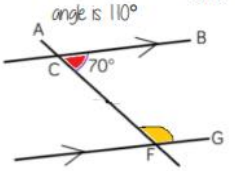
Angles in parallel lines (R)

Alternate angles

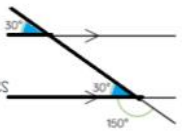
Because alternate angles are equal the highlighted angles are the same size

Co-interior angles

Because co-interior angles have a sum of 180° the highlighted angle is 110°



Corresponding angles



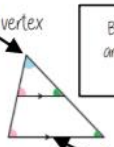
Because corresponding angles are equal the highlighted angles are the same size

As angles on a line add up to 180° co-interior angles can also be calculated from applying alternate/ corresponding rules first

Similar triangles

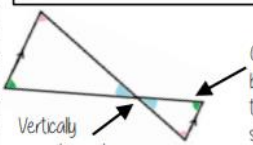
Shares a vertex

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



Parallel lines – all angles will be the same in both triangle

As all angles are the same this is similar – it only one pair of sides are needed to show equality

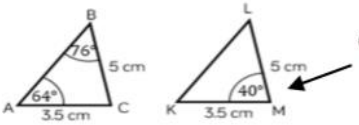


All the angles in both triangles are the same and so similar

Vertically opposite angles

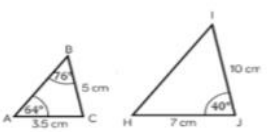
Congruence and Similarity

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



$A\hat{C}B = K\hat{M}L$

Because all the angles are the same and AC=KM BC=LM triangles OBC and KLM are **congruent**



Because all angles are the same, but all sides are enlarged by 2 OBC and HIJ are **similar**

Conditions for congruent triangles

Triangles are congruent if they satisfy any of the following conditions

Side-side-side

All three sides on the triangle are the same size

Angle-side-angle

Two angles and the side connecting them are equal in two triangles

Side-angle-side

Two sides and the angle in-between them are equal in two triangles (it will also mean the third side is the same size on both shapes)

Right angle-hypotenuse-side

The triangles both have a right angle, the hypotenuse and one side are the same

YEAR 10 — DEVELOPING ALGEBRA...

@whisto_maths

Simultaneous Equations

What do I need to be able to do?

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

- Determine whether (x,y) is a solution
- Solve by substituting a known variable
- Solve by substituting an expression
- Solve graphically
- Solve by subtracting/ adding equations
- Solve by adjusting equations
- Form and solve linear simultaneous equations

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 =
Substitute: replace a variable with a numerical value
LCM: lowest common multiple (the first time the times table of two or more numbers match)
Eliminate: to remove
Expression: a maths sentence with a minimum of two numbers and at least one math operation (no equals sign)
Coordinate: a set of values that show an exact position
Intersection: the point two lines cross or meet

Is (x, y) a solution?

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

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

This coordinate represents x=1 and y=8

$y = 3x + 5$

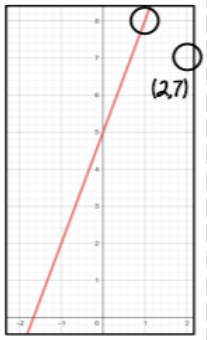
$8 = 3(1) + 5$

Os the substitution makes the equation correct the coordinate (1,8) **IS** on the line y=3x+5

Is (2,7) on the same line?

$7 \neq 3(2) + 5$

No 7 does NOT equal 6+5



Substituting known variables

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

Two different variables, two solutions

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

$3x + y = 14$

$3(4) + y = 14$

$12 + y = 14$

$-12 \quad -12$

$y = 2$

$x = 4$

Substituting in an expression

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

$x = 2y$

$x + y = 30$

Pair of simultaneous equations (two representations)

$x = 2y$

$x + y = 30$

$3y = 30$

$\div 3 \quad \div 3$

$y = 10$

$x = 20$

Solve graphically

$x + y = 6$ $y = 2x$

Linear equations are straight lines
The point of intersection provides the x and y solution for both equations

(2, 4) is the point of intersection

The solution that satisfies both equations is

$x = 2$ and $y = 4$

Solve by subtraction

$3x + 2y = 18$
$-\ x + 2y = 10$

$2x = 8$

$\div 2 \quad \div 2$

$x = 4$

$x + 2y = 10$
$(4) + 2y = 10$
$-4 \quad -4$
$2y = 6$
$\div 2 \quad \div 2$
$y = 3$

$x = 4$
$y = 3$

Solve by addition

$3x + 2y = 16$
$+\ 6x - 2y = 2$

$9x = 18$

$\div 9 \quad \div 9$

$x = 2$

$3x + 2y = 16$
$3(2) + 2(y) = 16$
$6 + 2y = 16$
$-6 \quad -6$
$2y = 10$
$y = 5$

Addition makes zero pairs

$= 16$
$= 2$
$= 18$

$x = 2$
$y = 5$

Solve by adjusting one

$h + j = 12$
$2h + 2j = 29$

No equivalent values

12
29

$2h + 2j = 24$
$2h + 2j = 29$

24
29

By proportionally adjusting one of the equations – now solve the simultaneous equations choosing an addition or subtraction method

Solve by adjusting both

$2x + 3y = 39$
$5x - 2y = -7$

$= 39$
$= -7$

Use LCM to make equivalent x OR y values
Because of the negative values using zero pairs and y values is chosen choice

$4x + 6y = 78$
$15x - 6y = -21$

Now solve by addition

$= 78$
$= -21$

Addition makes zero pairs

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.

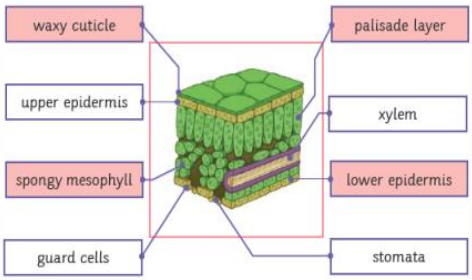
sunlight

carbon dioxide + water ⟶ oxygen + glucose

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.

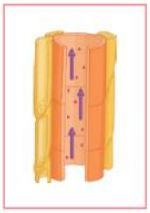
Root Hair Cells

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

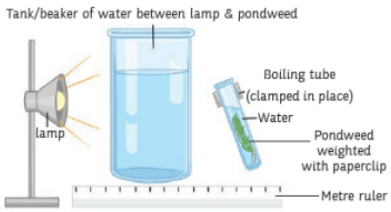
A **limiting factor** is something which stops the photosynthesis reaction from occurring at a faster rate. **Temperature**, **light intensity** and **carbon dioxide** level are all limiting factors.

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 20cm^3 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)

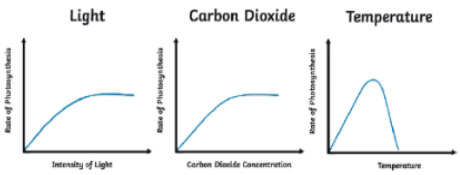
The limiting factor for the reaction will depend on the environmental conditions.

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 graph, 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.

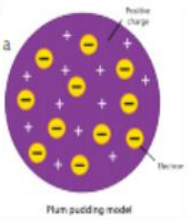
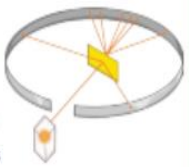
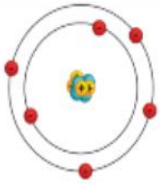
A paraffin heater can be used in the greenhouse to not only maintain a suitable temperature, but the by-product of the combustion off the paraffin is carbon dioxide.

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.

Atomic Structure Knowledge Organiser – Foundation and Higher

Science

Developing the Model of the Atom

Scientist	Time	Contribution
John Dalton	Start of 19th century	Atoms were first described as solid spheres.
JJ Thomson	1897	Thomson suggested the plum pudding model – the atom is a ball of charge with electrons scattered within it.  Plum pudding model
Ernest Rutherford	1909	Alpha Scattering experiment – Rutherford discovered that the mass is concentrated at the centre and the nucleus is charged. Most of the mass is in the nucleus. Most atoms are empty space. 
Niels Bohr	Around 1911	Bohr theorised that the electrons were in shells orbiting the nucleus.  Electrons Protons Neutrons
James Chadwick	Around 1940	Chadwick discovered neutrons in the nucleus.

Isotopes

An isotope is an element with the same number of protons but a different number of neutrons. They have the same atomic number, but different mass numbers.

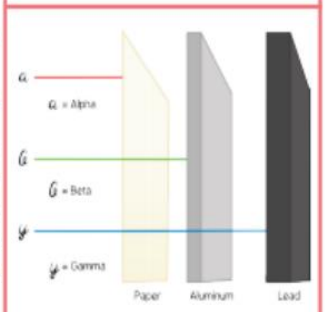
Isotope	Protons	Electrons	Neutrons
$^{1}_{1}H$	1	1	0
$^{2}_{1}H$	1	1	1
$^{3}_{1}H$	1	1	2

Some isotopes are unstable and, as a result, decay and give out radiation. Ionising radiation is radiation that can knock electrons off atoms. Just how ionising this radiation is, depends on how readily it can do that.

Beta

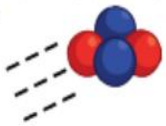
Beta radiation is a fast moving electron that can be stopped by a piece of aluminium. Beta radiation is emitted by an atom when a neutron splits into a proton and an electron.

$^{0}_{-1}e$



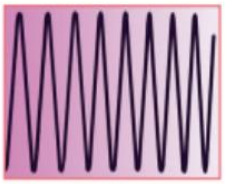
Alpha

Alpha radiation is an alpha particle emitted from the nucleus of a radioactive nuclei. It is made from two protons and two neutrons. They can't travel too far in the air and are the least penetrating – stopped by skin and paper. However, they are highly ionising because of their size.



Gamma

A gamma wave is a wave of radiation and is the most penetrating – stopped by thick lead and concrete.



Atomic Structure Knowledge Organiser – Foundation and Higher

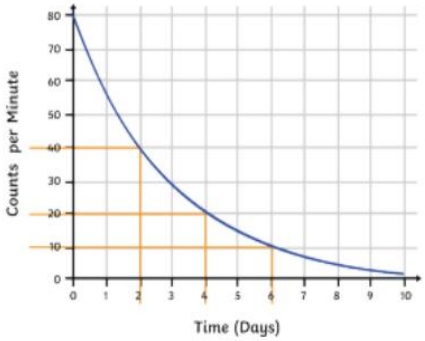
Half-life

The half-life is the time taken for the number of radioactive nuclei in an isotope to halve.

Radioactivity is a random process – you will not know which nuclei will decay. Radioactive decay is measured in becquerels Bq. 1 Bq is one decay per second.

Radioactive substances give out radiation from their nucleus.

A graph of half-life can be used to calculate the half-life of a material and will always have this shape:



Judging from the graph, the radioactive material has a half-life of two days.

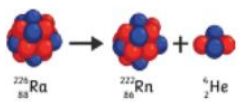
Irradiation

Irradiation occurs when materials are near a radioactive source. The source is sometimes placed inside a lead-lined box to avoid this.

People who work with radioactive sources will sometimes stand behind a lead barrier, be in a different room or use a remote-controlled arm when handling radioactive substances.

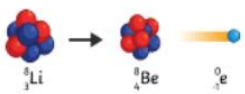
Alpha Decay Equations

An alpha particle is made of two protons and two neutrons. The atomic number goes down by two and its mass number decreases by four.



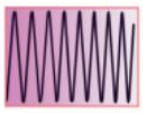
Beta Decay Equations

A neutron turns into a proton and releases a an electron. The mass of the nucleus does not change but the number of protons increases.



Gamma rays

There is no change to the nucleus when a radioactive source emits gamma radiation. It is the nucleus getting rid of excess energy.



Contamination

When unwanted radioactive atoms get onto an object, it is possible for the radioactive particles to get inside the body.

Protective clothing should be worn when handling radioactive material.

Alpha radiation is more dangerous inside the body. It is highly ionising and able to cause a lot of damage. Outside the body it is less dangerous because it cannot penetrate the skin.

Beta radiation is less dangerous inside the body as some of the radiation is able to escape. Outside the body it is more dangerous as it can penetrate the skin.

Gamma radiation is the least dangerous inside the body as most will pass out and it is the least ionising. Gamma is more dangerous outside the body as it can penetrate the skin.

Type of radiation	Nuclear symbol	Nature of the radiation	Charge	Ionizing power
Alpha	$^{4}_{2}He$	A helium nucleus of 2 protons and 2 neutrons	+2	Very high ionizing power, Low penetration
Beta	$^{0}_{-1}e$	High kinetic energy electrons	-1	Moderate ionizing power, moderate penetration with a smaller mass and charge than the alpha particle
Gamma Rays	$^{0}_{0}\gamma$	High frequency electromagnetic radiation	0	Low ionizing power, highly penetrating, interact dominantly with the electron shell of the atom

PARENT/CARER QUIZZES

Ask your parent or carer to quiz you on some of the knowledge from ***Maths*** and ***Science.*** Record your scores below and see if you improve each time.

Date	Subject	Score /10	Did you improve from last time?

MFL

Grade 9

phrases French

Reach for the stars

150 word wow phrases

Introducing ideas

il s'agit de – this is about/ to do with

quant à – as for

pour comble de malheur – to cap it all

étant donné que – given that

vu que – considering that

en raison de – in view of

il me semble que – it seems to me that

qu'on ne s'y trompe pas – let there be no mistake about it

à tort ou à raison – rightly or wrongly

grâce à – thanks to

à cause de – because of

en effet – indeed, in fact

tout d'abord – First of all

The Subjunctive

Il faut que (to have to) and bien que (although) are followed by the subjunctive

Il faut que j'aille – I have to go

Bien que je (ne) sois (pas) – although I am (not)

Bien que ce (ne) soit) – although it is (not)

Mes parents veulent que je fasse – My parents want me to do…

Autant que je sâche – as far as I know

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 bullet points – learn them off by heart. In your exam write them down when you are planning to make sure you include them in your answers

Opinions

ça m'amuse (used for something funny)

ça me plaît (used for general liking)

ça m'a plu – I enjoyed it

ce qui m'inquiète c'est... - What worries me is

ce qui m'inquiétait c'était – what I found worrying was

je n'en ai pas envie – I don't want to

j'apprécie (often used for comparing two likes)

je pense que - I think that

je crois que - I believe that

je dirais que I would say that

je suis d'avis que- I am of the opinion that

à mon avis – in my opinion

pour ma part – as for me

d'après moi/selon moi – according to me

quant à moi – In my opinion

j'ai l'impression que... – I get the impression that...

je dirais que - I would say that...

je dois avouer que... - I must admit that...

j'aurais dit/cru que - I would have said/believed that

je me suis rendu compte que - i realised that

d'un côté, j'aime ___ parce que..mais de l'autre côté, je n'aime pas ___ parce que - On one hand, i like __ because...but on the other, don't like___ because..

je ne crois pas que ce soit le cas – I don't believe that that's the case

çela peut être... - it can be...

A variety of adjectives

agaçant (annoying/irritating)

noiçif - harmful

décevant (disappointing)

délicieux (delicious)

divertissant (entertaining)

émouvant (moving)

cauchemardesque – nightmarish

réussi (successful)

ridicule (ridiculous)

superbe (impressive, in a large scale)

serviable - useful

inoubiable (unforgettable)

épouvantable – horrendous

Idioms (you only need 1 or 2)

Le revers de la médaille – on the other side of the coin

c'est le pied! – its great!

j'ai mangé comme quatre – I ate like a horse

les doigts dans le nez – hands down

je suis tombé sur les pommes – I fainted

ça me prend la tête – it bugs me

coûter les yeux de la tête – costs an arm and a leg

ce n'est pas ma tasse de thé – it's not my cup of tea

mon peché mignon – guilty pleasure

c'est n'est pas la mer à boire – it's not a big deal

ça ne mange pas du pain – it won't break the bank

Extending your sentence (Fancy connectives)

que/qui – which, that - use *que* if you are following with a pronoun eg. La Suisse est le pay **que je** préfère.

- Use *qui* if there is no pronoun eg. Mon frère**, qui est** grand.

ce que/ce qui – use at the beginning of sentences to express an opinion – Ce que j'aime c'est...

Ce qui est...

quand – when

pendant que – while

au moment où – at the point when

puisque – since

depuis que – since

comme – as

non seulement... mais de plus – not only...but also...

par exemple...ou bien – for example...or alternatively

par contre,... – on the other hand,...

d'ailleurs - Besides/Moreover/Furthermore

en fait,... - In fact,...

néanmoins - nevertheless

pourtant,... – however,...

dés que – as soon as

des fois - sometimes

du coup -therefore

de plus... - Furthermore...

A range of grammatical structures

Venir de + INF – to mean you have just done something.

Je viens de rentrer – I have just come back

Je venais de rentrer....quand elle est arrivée – I had just come back...when she arrived

si j'avais su... (+ conditional) - if i had known...

avant de (+ inf),... – Before (doing sth.),...

après avoir/être (+inf)... - After having (done something)...

quand j'étais...- when I was...

j'ai hâte de... - I cant wait

Week 1: Time phrases

French	Meaning	First guess	Checked in a dictionary	After learning	Reviewed
à l'heure	On time				
l'an (m)/ l'année (f)	Year				
après-demain	After tomorrow				
l'après-midi	Afternoon				
aujourd'hui	today				
avant-hier	The day before yesterday				
bientôt	Soon				
demain	Tomorrow				
dernier/dernière	Last				
en ce moment	At the moment				
en retard	Late				
hier	yesterday				
il y a (2 mois)	...ago (2 months)				
le jour/ la journée	The day				
le lendemain	The day after				
le matin	On The morning				
la nuit	At night				
prochain(e)	next				
le soir	On the evening				

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

Teacher test score: ..... /20

Re-test score: ..... /20

Week 2: Expressions of frequency

French		First guess	Checked in a dictionary	After learning	Reviewed
chaque	each				
d'habitude	Usually				
de temps en temps	From time to time				
déjà	already				
de nouveau	again				
en train de (faire)	In the process of				
encore une fois	Once more time				
une fois	once				
longtemps	longtime				
maintenant	now				
normalement	normally				
parfois	sometimes				
par mois	Per month				
par semaine	Per week				
quelquefois	sometimes				
rarement	rarely				
souvent	often				
toujours	always				
tous les jours	everyday				
tout de suite	Straigh away				

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

Teacher test score: ..... /20

Re-test score: ..... /20

Week 3: Opinions

French		First guess	Checked in a dictionary	After learning	Reviewed
absolument	Absoluly				
ça dépend	It depends				
ça m'énerve	It ennoys me				
ça me fait rire	It makes me laught				
ça me plaît	It pleased me/ i like it				
ça m'est égal	I am not bothered				
ça ne me dit rien					
ça suffit	enough				
croire	To believe				
espérer	To hope				
étonner	To be surprised				
franchement	Franckly				
(s')intéresser à	To be interested in				
(en avoir) marre	To be fed up of				
(moi) non plus	Me neither				
penser	To think				
peut-être	Maybe				
sembler	To seem				
supporter	To support				
vraiment	Really				

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

Teacher test score: ..... /20

Re-test score: ..... /20

Week 4: Adjectives

French		First guess	Checked in a dictionary	After learning	Reviewed
affreux/affreuse	awful				
agréable	Pleasant				
amusant(e)	fun				
barbant(e)	Boring				
beau/belle	beautiful				
cher/chère	Expensive/ dear				
chouette	cool				
compliqué(e)	complicated				
content(e)	happy				
désagréable	Unpleasant				
drôle	funny				
embêtant(e)	Annoying				
ennuyeux/ ennuyeuse	Boring				
facile	easy				
faible	weak				
formidable	Great/ formidable				
génial(e)	Great				
grave	serious				
habile	Abled				
intéressant(e)	Interesting				

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

Teacher test score: ..... /20

Re-test score: ..... /20

Week 5: More adjectives

French		First guess	Checked in a dictionary	After learning	Reviewed
inutile	Useless				
incroyable	unbelievable				
inquiet/inquiète	Worried				
joli(e)	beatiful				
laid(e)	ugly				
marrant(e)	funny				
mauvais(e)	bad				
merveilleux/ merveilleuse	marvalous				
mignon/ mignonne	cute				
moche	ugly				
nouveau/ nouvelle	new				
nul/nulle	rubbish				
parfait(e)	perfect				
passionnant(e)	Exciting				
pratique	pratical				
ridicule	ridiculous				
rigolo	funny				
sage	wise				
sensass	Great				
utile	Useful				

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

Teacher test score: ..... /20

Re-test score: ..... /20

MFL

Present Tense

Use: *to speak about what is happening now or regularly*
e.g. I watch films on Saturday evenings
How: *take away the infinitive ending (i.e. IR/RE/ER) and add the correct ending.*

	IR	RE	ER
1. Je	is	s	e
2. Tu	is	es	es
3. Il/Elle	it	-	e
4. Nous	issons	ons	ons
5. Vous	issez	ez	ez
6. Ils/Elles	issent	ent	ent

Examples in English:
- Usually, I go to the swimming pool with my sister.
- I like eating chocolate.
- Right now, I am drinking a coffee.

e.g.
Aimer ➡Aimer ➡Aim ➡Nous aim ➡Nous aim+ons = Nous aimons
Vendre ➡Vendre ➡Vend ➡Vous vend ➡Vous vend+ez = Vous vendez
Finir ➡Finir ➡Fin ➡Je fin ➡Je fin+is = Je finis

Perfect Tense – *Have...*

Use: *to speak about something that has happened in the past, but is now over. e.g. I have eaten/I ate a cheese sandwich for lunch.*
How: *use present tense 'avoir/être' as an auxiliary and add the past participle (with correct agreement if using être).*

1. Je **I**	ai	4. Nous **We**	avons
2. Tu **You**	as	5. Vous **You (pl.)**	avez
3. On **One**	a	6. Ils **They**	ont

1. Je **I**	suis	4. Nous **We**	sommes
2. Tu **You**	es	5. Vous **You (pl.)**	êtes
3. On **One**	est	6. Ils **They**	sont

Past Participle
ER – é
IR – i
RE - u

These verbs use Être
Devenir
Revenir
Monter
Rentrer
Sortir
Venir
Aller
Naître
Descendre
Entrer
Rentrer
Tomber
Rester
Arriver
Mourir
Partir

Agreements if using Être
Feminine – e
Plural - s

e.g.
Aimer ➡j'ai aimer ➡j'ai aimer ➡j'ai aim+é = j'ai aimé
Aller ➡ je suis aller ➡je suis aller ➡ je suis all+é = je suis allé(e)(s)

Imperfect Tense – *Used to...*

Use: *to speak about something that used to happen regularly in the past, but it is now over. e.g. I used to walk to school, but now I take the bus.*
How: *use present tense, third person plural minus –ons and add the correct ending.*

1. Je **I**	Present tense, third person plural (nous) minus -ons	**ais**	4. Nous **We**	Present tense, third person plural (nous) minus -ons	**ions**
2. Tu **You**		**ais**	5. Vous **You (pl.)**		**iez**
3. On **One**		**ait**	6. Ils **They**		**aient**

e.g.
Aimer ➡nous aimons ➡aim ➡on aim ➡on aim+ait = on aimait *one used to like*
Finir ➡nous finissons ➡finiss ➡ils finiss ➡Ils finiss+aient = ils finissaient *they used to finish*

Near Future Tense – *Going to...*

Use: *to speak about things in the very near future (this weekend, tonight)*
e.g. tonight I am going to watch a DVD
How: *use present tense 'aller' and add the infinitive.*

1. Je **I**	vais **am going**	4. Nous **We**	allons **are going**
2. Tu **You**	vas **are going**	5. Vous **You (pl.)**	allez **are going**
3. On **One**	va **are going**	6. Ils **They**	vont **are going**

Infinitive
Jouer – to play
Faire – to do
Manger – to eat

REMEMBER! The infinitive is the basic form of the verb, before it is attached to a person or time. In French, the infinitive always ends in –RE/-IR/-ER. This is what you find in the dictionary. Some examples in English include 'play', 'run', and 'sleep'.

e.g.
Je vais + jouer = I am going to play
On va + faire = we are going to do
Nous allons + aller = we are going to go

Simple Future Tense – *Will...*

Use: *to speak about will happen in the future. There is a nuance of certainty about this.* e.g. I will go to university and I will study law.
How: *use your infinitive (minus the final E for –RE verbs) and add the correct ending.*

1. Je **I**	Infinitive	**ai**	4. Nous **We**	Infinitive	**ons**
2. Tu **You**		**as**	5. Vous **You (pl.)**		**ez**
3. On **One**		**a**	6. Ils **They**		**ont**

e.g.
Je jouer + ai = I will play
Nous manger + ons = we will eat
Ils pourr + ont = they will be able to

Example in English:
- She will play hockey at university.

Conditional Tense – *Would...*

Use: *to speak about something that might happen in the future, but it is based on a condition.*
e.g. I would like go to university and I would like to study law.
How: *use your infinitive (minus the final E for –RE verbs) and add the correct ending.*

1. Je **I**	Infinitive	**ais**	4. Nous **We**	Infinitive	**ions**
2. Tu **You**		**ais**	5. Vous **You (pl.)**		**iez**
3. On **One**		**ait**	6. Ils **They**		**aient**

e.g.
Je jouer + ais = I would play
On manger + ait = we would eat
Ils écouter + aient = they would listen

Example in English:
- They would like to reduce car emissions.

Was Highway robbery really so serious?

	New crime of attacking travellers and forcing them to hand over their possessions.
	Trade increased so more people had to use the roads to move their goods.
	There were only a few banks so most people carried their money around with them.
	Country roads were isolated so it was easy to rob travellers.
	Thief takers were paid rewards but were often corrupt criminals themselves.
	It was a serious crime because it was violent.
	It became a capital crime in 1772 to be armed or in disguise on a public road.
	It decreased because of new mounted patrols on major roads.
	When people started using banks to store their money they stopped carrying it on roads

Why was smuggling so difficult to stamp out?

- The government introduced new import duties on goods like cloth, wine, spirits and tea.
- Smugglers brought these goods into the country and sold them on without paying the taxes.
- They could sell them cheaper than people who had paid the taxes so they made big profits.
- Smuggler gangs emerged (Hawkhurst Gang).
- The authorities found it difficult to stop – social crime.
- They worked at night when coastlines were un-policed.
- It stopped because the taxes were reduced so it became unprofitable.

Keywords:

Capital crime – crime that deserves the death penalty

Mounted patrols – officers on horseback

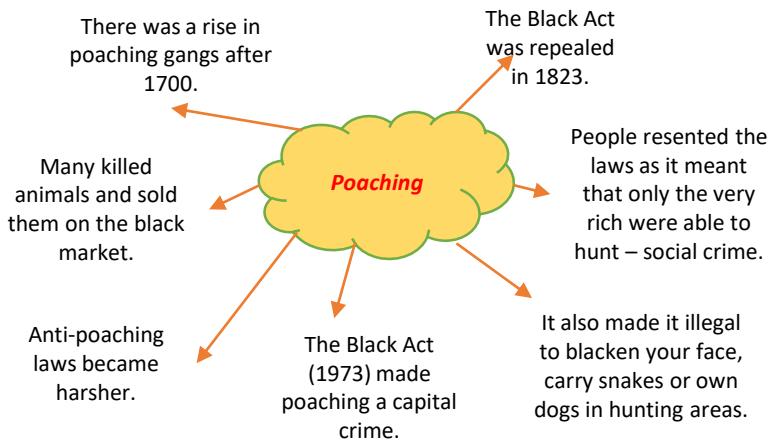
Repealed – made legal

Import duties – taxes on goods being brought into the country

Unprofitable – people stopped making money

Martyr – someone who suffers for their beliefs

Was the law too harsh on poachers?



How threatening were the Tolpuddle Martyrs?

The French Revolution made the British government worry that the working classes would try to rebel here as well.

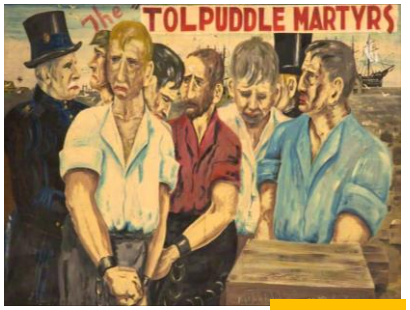
This led to harsher punishments for people who threatened authority.

A group of labourers in Tolpuddle (Dorset) were unhappy about their low wages so formed a 'friendly society' to try to protest about them.

They were arrested for swearing an illegal oath to help each other (really it was because the government was afraid of a rebellion).

They were transported to Australia for 7 years.

Mass protests were arranged in support of them and they were pardoned after 4 years.



Crime and Punishment (How much did law enforcement improve in the industrial period?)

How did policing stay the same as before?

	Parish constables still dealt with disorderly behaviour, petty criminals and beggars.
	Watchmen were responsible for protecting private property.
	Part-time soldiers were used to deal with rebellions or riots.
	Some towns had salaried constables or watchmen – people worried that they were too friendly with the criminals they were supposed to police.

Why was the MET force created?

	Some people worried that a professional force would limit their freedoms and cost too much.
	Robert Peel (Home Secretary) publicised rising crime rates and persuaded people of the need for a new police force.
	Taxes had increased meaning more money to fund an organised force.
	People feared violent crime and it had increased dramatically – they saw that a police force could stop this.
	People protested against low wages and unemployment so people feared a revolution.
	Rapid growth of towns had made constables and watchmen seem inadequate.

Keywords:

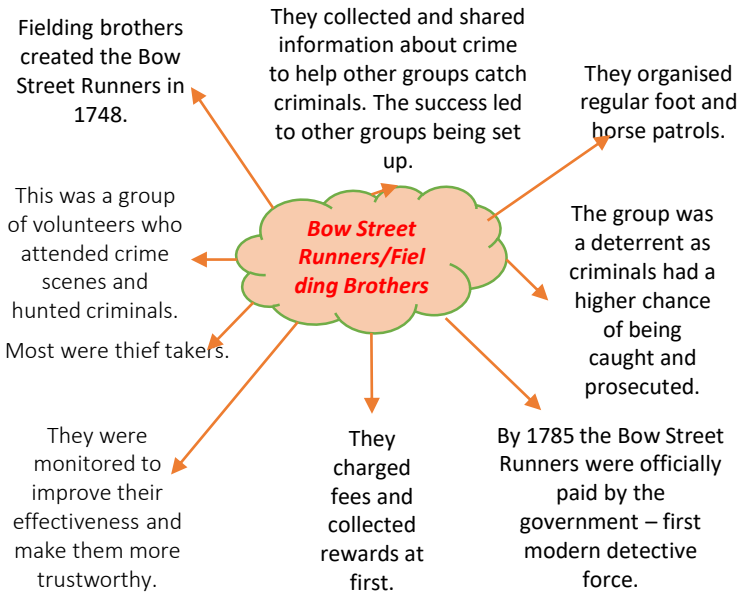
Home Secretary –government minister in charge of law and order

Beat – area the officers would patrol

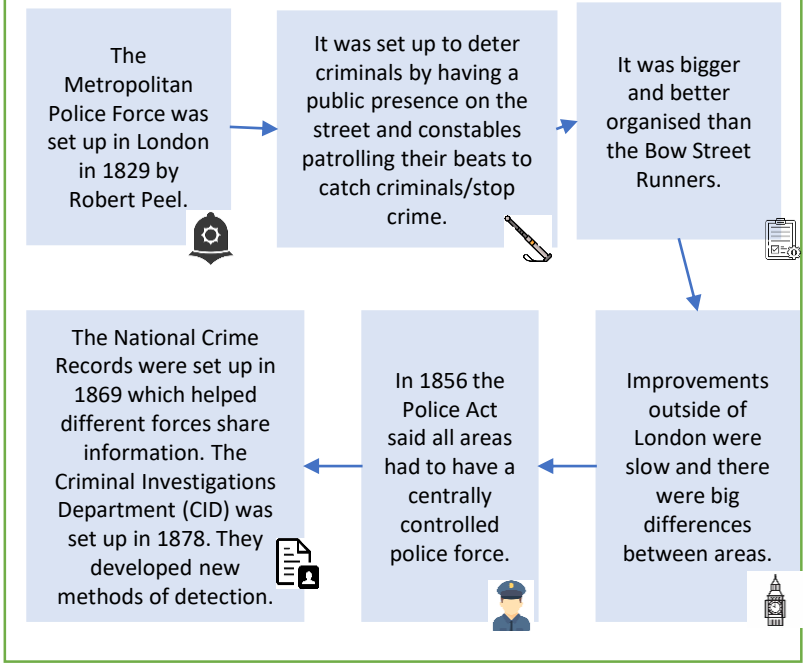
Centrally controlled – government controlled it

MET – Metropolitan Police Force (established 1829) by Robert Peel

How did policing begin to get better after 1700?



How did the police force develop?



Why did the Bloody Code end?

	By 1810, 222 crimes carried the death penalty but people were beginning to question it.
	Executions became public events that people were supposed to fear but instead they attracted huge crowds and had a carnival atmosphere.
	Crowds were often drunk and disorderly and treated the criminal as a hero.
	Large crowds also provided more opportunity for crimes like pickpocketing/prostitution.
	Reformers argued that this was inhumane and criminals should die with more dignity.
	Public executions ended in 1868 – they were carried out in private instead.

Who had the biggest impact on prison reform?

WHO?
John Howard investigated bad conditions in prisons and improved standards. He introduced wages for gaolers to stop exploitation of prisoners.

WHO?
Elizabeth Fry taught classes to prisoners to rehabilitate them. She also sought to give them more religious guidance. Her main focus was improving the lives of women and children.

WHO?
Robert Peel (Home Secretary and founder of the MET Police) passed the Gaols Act in 1823 which helped make prisons a suitable alternative punishment. Conditions were greatly improved to allow rehabilitation.

How did transportation change?

The American Revolution (1776) meant Britain had no authority to send their criminals to America.

→ Instead, they were transported to Australia.

→ This was seen as a more humane alternative to the death penalty and an effective deterrent.

This was introduced instead of building new prisons. Prisoners would also help to populate the colony and help Britain secure its ownership

← Convicts were held in hulks where conditions were harsh until they were ready to be taken to Australia.

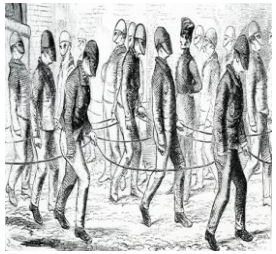
← Most convicts couldn't afford to return home after.

Transportation ended in 1868 for many reasons:

1. Australians believed that ex-convicts continued committing crimes and took jobs away from others.
2. Campaigners said that conditions were inhumane.
3. Australia was a desirable place to settle (especially after gold was discovered) so it no longer a deterrent to be sent there.
4. New ideas about prisons led to reform in Britain.

Keywords:

Bloody Code – time in which the death penalty is used as the main form of punishment
Convict – criminal transported abroad
Hulk – disused ships used as floating prisons
Treadmill – prisoners walked for 10 minutes before a 5 minute break for 8 hours per day
Prototype – new idea/design
Oakum picking – unravelling and cleaning old rope



How did prisons make people ill?

- Pentonville Prison was built in 1842 as a prototype to test the 'separate system'.
- Prisoners were kept apart in separate cells for 23 hours per day.
- It aimed to give them time to reflect and reform their behaviour without being influenced by other prisoners.
- It was a deterrent because the conditions were so harsh.
- Prisoners carried out deliberately boring and repetitive work like oakum picking.
- Even going to chapel or exercise was done in isolation.
- The solitary conditions and lack of human contact caused mental illness in many prisoners – there was a high rate of suicide.
- The 1865 Prisons Act enforced a strict regime of punishment including hard labour, hard fare and hard board.

Knowledge Organiser: Law and Order in Victorian Britain

Timeline:

British convicts sent to Australia for the first time	1717
Population starts to grow, along with the number of crimes being committed	1750
The first modern prison, Millbank, opened in London	1816
Sir Robert Peel creates the Metropolitan Police Force	1829
Most criminals were sent to prison rather than being executed	1848
Only four crimes are now punishable by death – murder, treason, arson and piracy	1861
Last public hanging in Britain takes place	1868
By this time, 239 separate police forces have been set up	1870
Criminal Investigations Department (CID) is set up in London	1877

Punishments:

Hanging – the most severe punishment for serious offences. At the start of the Victorian Period, executions were still carried out in public.

Transportation – An alternative punishment to hanging. Convicted criminals were transported to British colonies to serve their prison sentences.

Hard Labour – Prisoners would do hard work as their punishment. Hard Labour was often carried out in a prisoner's cell or under guard in silence.

Prison Hulks – They were originally used as holding prisons for people waiting to be transported, but a shortage of prisons meant they were used to house ordinary prisoners.

What was Whitechapel like in the 19th Century?

Overcrowded: Some houses would often have more than 3 families in.

Pollution: The wind carried smoke and gas fumes through the streets, *smog*.

Maze-like streets: These streets would get very dark as there was little street lighting.

Housing: Many people stayed in lodging houses temporarily.

Alcoholism: Alcohol was often cheaper and easier to access than water.

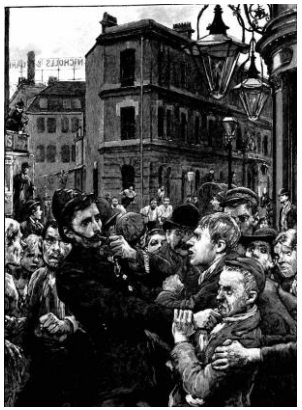
Orphans: Life expectance was low and so children would often be left to care for themselves.

Immigration: There was tension between different groups of people.

Problems in policing Whitechapel:

Prostitution
With very few jobs available to women, some turned to prostitution to survive. By 1888, approximately 1200 prostitutes, vulnerable to violence, worked in brothels or on the streets.

Alcohol
Drunkenness frequently fuelled violence. Many alcoholics turned to crime to feed their habit.



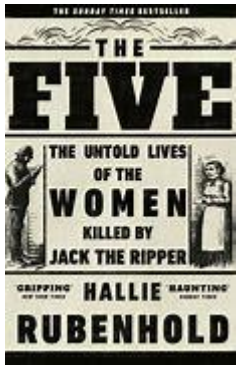
Gangs
Alongside individual petty thieves, large professional gangs of thieves and pickpockets operated.

Protection rackets
Gangs demanded 'protection money' to 'protect' people's businesses. Refusal led to property damage and violence. Fear of these gangs meant people very rarely reported them to the police.

Jack the Ripper:
Jack the Ripper is the name given to a serial killer who murdered at least 5 women in the Whitechapel area in 1888.

Victims:
- May Ann 'Polly' Nichols
- Annie Chapman
- Elizabeth Stride
- Catherine Eddowes
- Mary Ann Kelly

Scholarship:



Hallie Rubenhold is an author, social historian and historical consultant.

In November 2019, her book *The Five: The Untold Lives of the Women Killed by Jack the Ripper* (2019) won the £50,000 Baillie Gifford Prize for Non-Fiction.

Problems with the media:
- 300 letters sent to the newspapers by men claiming to be the murderer.
- Illustrations of the events dramatized things.
- They sensationalised the events to whip up emotions, particularly fear.
- Newspapers often ridiculed and mocked the lack of police progress.

Police methods used in the Jack the Ripper investigation:
- Following up direct leads from the public.
- Using evidence from post-mortems and coroners' reports.
- Setting up soup kitchens.
- Going undercover in disguise.
- Using bloodhounds as sniffer dogs.


LONDON DAILY POST
"JACK the RIPPER" CLAIMS 5th VICT
WOMAN BRUTALLY HACKED TO DEA
Scotland Yard Continues To Investigate Grisley Cr

Geography

Some LICS and NEEs are experiencing rapid economic development which leads to significant social, environmental and cultural change

Industrial structure	Relative proportion of the workforce in different sectors of the economy
International aid	Money, goods and services given by the government of one country or a multilateral institution to help the quality of life and economy of another country
Transnational Corporations (TNCs)	A company that has operations in more than one country

NIGERIA CASE STUDY

Location and Importance of the country regionally and globally

- West Africa, North of the Equator
- Largest population of Africa – 184 million
- NEE – 3rd largest manufacturing economy in Africa
- Largest economy in Africa
- By 2020 should be one of the top economies
- Youthful educated population – skilled workforce for manufacturing and services

Wider political, social, cultural and environmental context

- 1960 Gained independence from the UK
- 1967 – 1970 Civil war followed by 28 years of military government.
- 1998 - Now stable democratic government
- 500 ethnic groups – South is Christian (Igbo and Yuroba), North is Muslim (Hausa). Some ethnic boundaries broken by rapid urbanisation
- South is Tropical Rainforest (Cocoa and oil palm crops) and North is Savanna (Peanuts grown)
- Issues in the north with extremist group Boko Haram – want Sharia law and own government. 17,000 dead.

Changing industrial structure. Balance between different sectors of the economy

DANGOTE CEMENT

- 60% live on less than US$1.25 a day. Growing inequality
- GDP 2006 – US$110 billion, GDP 2015 US$560 billion
- Money earned from Services 52%, Manufacturing 7%, Oil and gas 14%, Agriculture 22%, Other 5%
- Nollywood – 3rd largest film industry in the world
- 70% employed in agriculture
- Rapid increase in telecommunications and retail
- Manufacturing increasing – processed food, leather, textiles, soap, detergents

How manufacturing can simulate economic development

Shell

- Oil found in 1950s. 14% GDP, 95% export earnings
- Produces 2.7% of world's oil which is higher quality than oil from the Middle East
- Overdependence on oil -- prices fell in 2015
- Oil processing led to chemical by products leading to growth in chemical industries such as soaps, detergents and plastics
- Dangote Cement (Nigerian company) has expanded into 13 countries in Africa
- All led to increased standard of living, FDI, jobs, taxes, multiplier effect, manufactured goods.
- Less imports needed and Nigerian TNCs have more influence in the region

Advantages and Disadvantages of TNCs

- Advantages : investment, jobs, expertise / skills, international links, new technology, multiplier effects, export revenues
- Disadvantages : leakage of profits, lower wage levels, environmental damage, can withdraw investment, exert political influences, poor working conditions, management jobs go to foreigners

NEE/LIC Case Study – Nigeria Knowledge Organiser

Role of TNCs in relation to industrial development

- Niger delta – oil. Royal Dutch Shell, Exxon Mobil, Chevron, Total and Agip
- Platforms and pipelines installed. Oil shipped to Europe and USA to be refined. Most profit leaked
- Nigerian National Petroleum Corporation – joint ventures with TNCS
- 40 TNCS – mostly UK, Europe and USA
- Damage to wetland and coastal ecosystems which people rely on

TNC Examples

Unilever

UNILEVER

- Anglo Dutch company – food, drinks and home items
- Since 1923 been making palm oil based soap and employs 1500 people
- High standards of employment and environmental stewardship
- Promoted improvements in health care, education and water supply

Shell

SHELL OIL

- Anglo Dutch company.
- Huge investment
- 65000 directly employed and 250,000 indirectly employed
- 91% of contracts with Nigerian companies
- Issues – oil spills, oil flares (toxic fumes), militant groups disrupting supplies, oil theft and sabotage

Changing political and trading relationships within the wider world

African Union

OPEC

CEDEAO ECOWAS

- Part of OPEC, African Union, UN, OCOWAS(Economic Community of West African States) and CEN-SAD (Community of Sahel Saharan States)
- Trading relationship with UK for over 300 years.
- Exports : oil, gas, rubber, cocoa and cotton
- Imports : machinery, chemicals, transport equipment, phones, rice and wheat
- Main imports from China and there is growing Chinese investment in Nigeria
- China Railway Construction Corporation building US$12 billion 1200km railway
- China invested US$10 billion in exploration and drilling a new oil field
- South Africa investing in business and banking
- American companies investing and operating here too – GE, Walmart, Microsoft

African Union

International Aid – types and impacts on the receiving country

- ODA – Official Development Assistance – can be multilateral (World Bank / IMF) or bilateral (from one country)
- Voluntary aid – can be short term emergency relief or long term development assistance
- 2009 – 2013 : 60 million mosquito nets distributed
- UK gives US$300 million year of aid
- Receives 4% of aid given to Africa
- Most successful projects are community based
- Problems include government corruption, government diverting money, donors have political influence, promoting commercial self interest

Environmental impacts on economic development

- Oil pollution
- Air pollution
- Water pollution
- Loss of habitats
- Destruction of forests
- Chemical waste
- Desertification
- Traffic congestions
- Squatter settlements
- Waste disposal

Effects of economic development on quality of life for the population

- Rated 152/187 countries in terms of HDI. Improving and is increasing quickly
- New jobs mean more income and increased quality of life
- Large differences between north and south; rural and urban; educated and uneducated
- Lack of access to safe water, sanitation and reliable electricity supply
- Oil wealth not used effectively.
- Overdependence on oil may become an issue as oil prices fall and new technology such as fracking develop
- Key challenges include continuing stable government, pollution of the Niger delta, tsetse fly affecting commercial livestock, desertification, religious conflict between north and south, Boko Harem extremist group

DUAL CODING

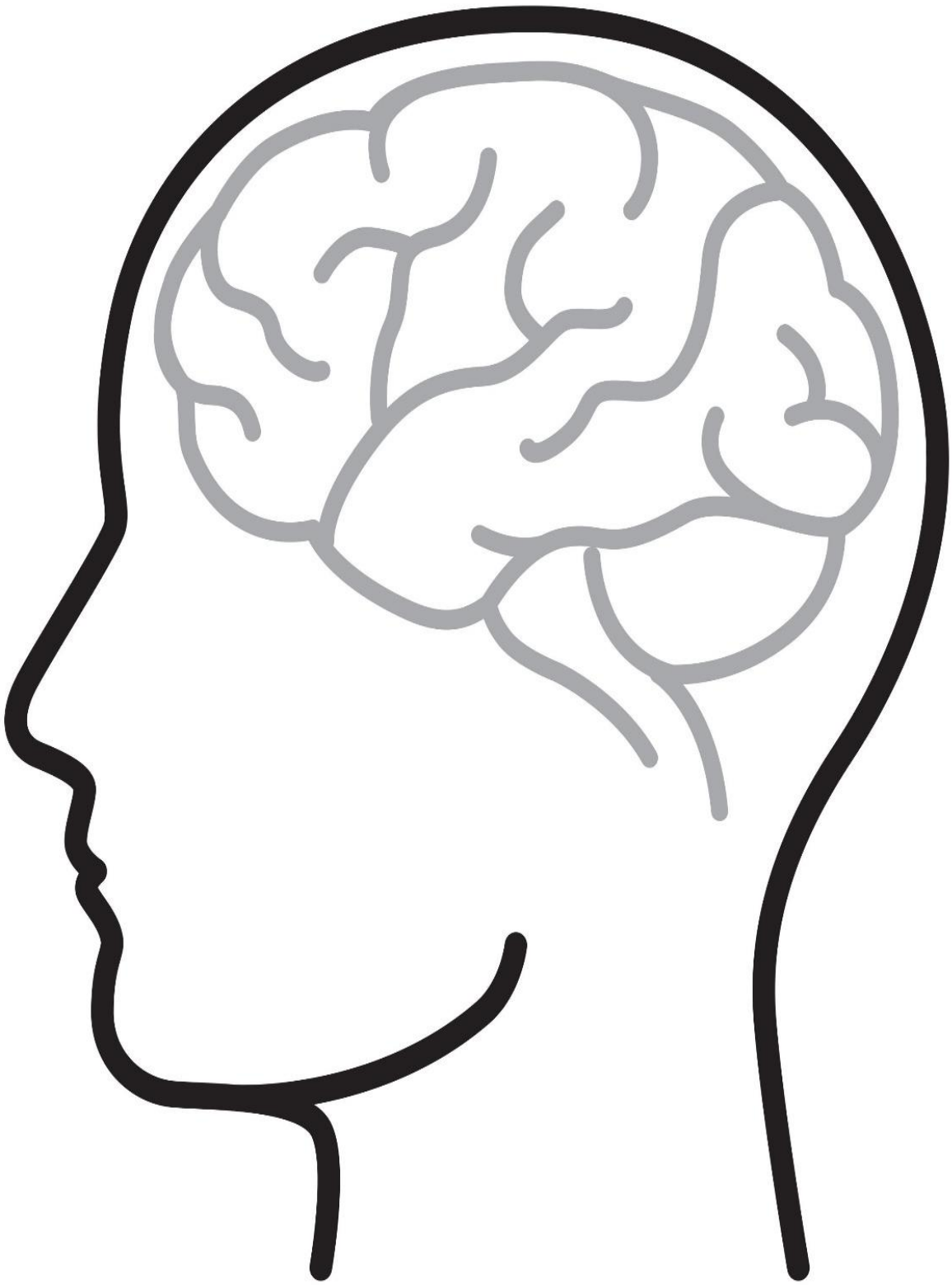
Based on some key knowledge from your ***History/ Geography*** knowledge organisers, can you assign different parts of this knowledge to images to help you remember this in the future? Consider your images carefully.

Image	Key Knowledge

Image	Key Knowledge

BRAIN DUMPING

Within the 'brain', add all of the knowledge you can remember from ***History/ Geography*** 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.

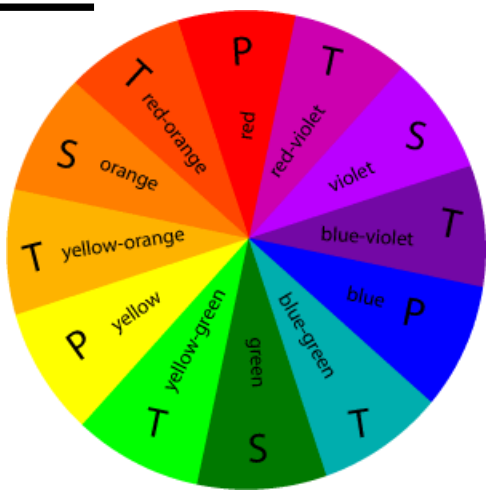


Geog your memory/ Hi-story Lane

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.

Acrylic Painting -Basics:

- Hold and move brush correctly (by the tip and upright);
- Don't overload brush with paint.

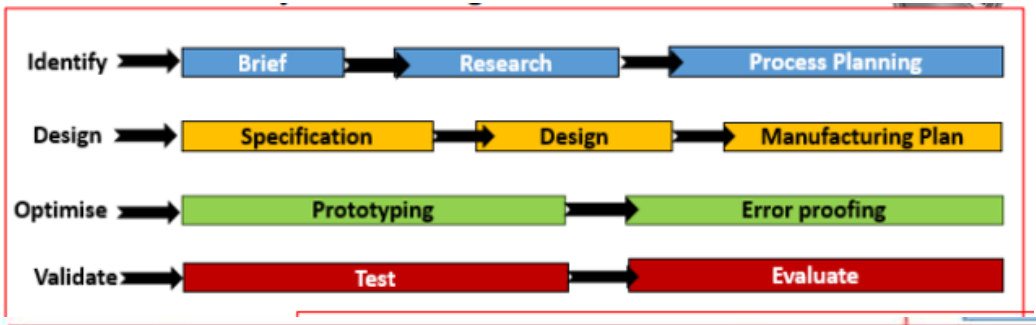


- LAYER (when dry\textures go on last);
- BLEND (when wet and with clean dry brush);
- CONSISTENCY (add the right amount of water to create correct thickness of paint for effect required);
- SMOOTH BLENDING (long slow brush strokes);
- PAINTERLY (Brush strokes to create textures\selected artist's style).

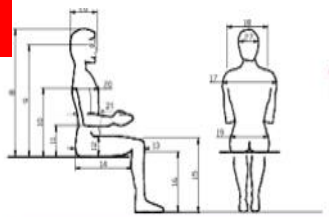
- Mix just the right amount of paint needed;
- Use the correct brush for the job (e.g. detail brush for small areas or detail\flat brush for blending\ large brush for large areas\dry bristle brush for textures).

- Use complimentary colours to create shadows (opposite each other on the colour wheel).
- Mix dark brown and dark blue to create a black tone.

DT: Engineering



- A **Design Brief** is a ***statement of how you are going to solve the Design Problem***.
- Research findings and Client feedback can be used to create a **Process Plan.**
- A **Design Specification** is a ***list of requirements your product has to meet in order to be successful.***
- After a Specification has been developed, the **designing** of the product will begin.
- Once the final design has been chosen, a **Manufacturing Plan** is then created.
- **Prototyping** is the creation of a **model or "mock-up"** of a product after the Design Process
- **Error Proofing** is ensuring that the product cannot be assembled or used in an incorrect way
- **Testing** and **Evaluation** happens because designers need to ensure the product is successful before being released, and is competitive with the market.



Anthropometrics is the ***study of measurements of the human body***
Ergonomics is the ***application of anthropometrics in order to make products and places efficient, comfortable and safe to use***

Technology Push is when *new developments in materials and technologies improve existing products/ create new ones*
Market Pull is when consumers demand improvements/new products. Often found by conducting market research →

Mass Production (High-Volume Production)
This is where large quantities of products are made (10,000s-100,000s)
There are often assembly lines (for the main product) and sub-assembly (for small pieces and components)

Continuous Production
This is when large quantities of products is produced (100,000s +)
However, unlike Mass Production this is **never ending** production e.g. power plants

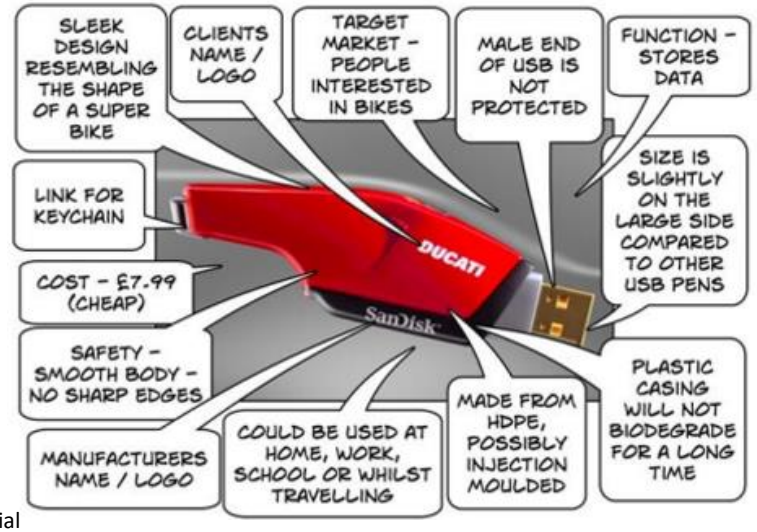
One-off Production
This is the manufacture of **one item**
This item can be custom made/ designed (bespoke manufacture)

Batch Production
This is where small quantities of identical items are made (10s-1000s)
To ensure all items are identical, jigs, moulds and templates to aid workers

Just-in-time production (JIT)
This is when products made to order, but can be used in conjunction with any other scale of production

Aesthetics – What the product looks like, style, colour etc;
Customer – Who is the target market, how it will appeal to them, what Anthropometrics/ ergonomics will be used;
Cost – cost to make, cost to sell;
Environment – where it will be used, is it sustainable;
Safety – how it will be safe to use, what standards and regulations it meets;
Size – what dimensions it will be, as well as components and parts;
Function – what the purpose of the product will be and what features it has;
Materials – what it is made from;
Manufacture- how it will be made.

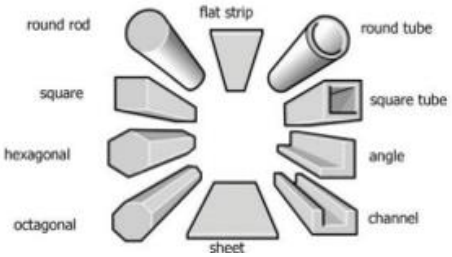
Product requirements are what a product has to meet/ must do.
Common requirements are:
- Features – *what makes a product unique and sellable*
- Performance – *how well it completes its function*
- Target Market – *how it appeals to its customers*
- Working Environment – *how it is suitable for where it will be used*
- Constraints – *what is must do or must not do*
- Ergonomics – *how its comfortable and safe to use*
- Lifecycle – *what environmental impact it makes (and how that can be reduced)*



Personal Protective Equipment

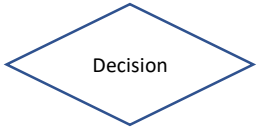
A stock form is when a raw material has been processed into a standard size, shape or form.

Stock Forms



Standard component is a usually an individual part, manufactured in thousands, to the same specification. These are often bought in bulk and saves companies money, rather than them making them themselves. The sizes are usually internationally recognised.

Flowcharts



Disassembly – when referring to hardware, disassemble is the process of breaking down a device into separate parts. A device may be disassembled to help determine a problem, to replace a part, or to take the parts and use them elsewhere.

Planned consideration

When manufacturing, the following should be considered:

- Standard components
- Stock forms
- Supply chains
- Durability and maintenance
- Product safety
- Cost and budget

Aesthetics – What the product looks like, style, colour etc;
Customer – Who is the target market, how it will appeal to them, what Anthropometrics/ ergonomics will be used;
Cost – cost to make, cost to sell;
Environment – where it will be used, is it sustainable;
Safety – how it will be safe to use, what standards and regulations it meets;
Size – what dimensions it will be, as well as components and parts;
Function – what the purpose of the product will be and what features it has;
Materials – what it is made from;
Manufacture- how it will be made.

Modelling is used to test:


Scale


Proportion


Function

Types of modelling


Virtual


Physical

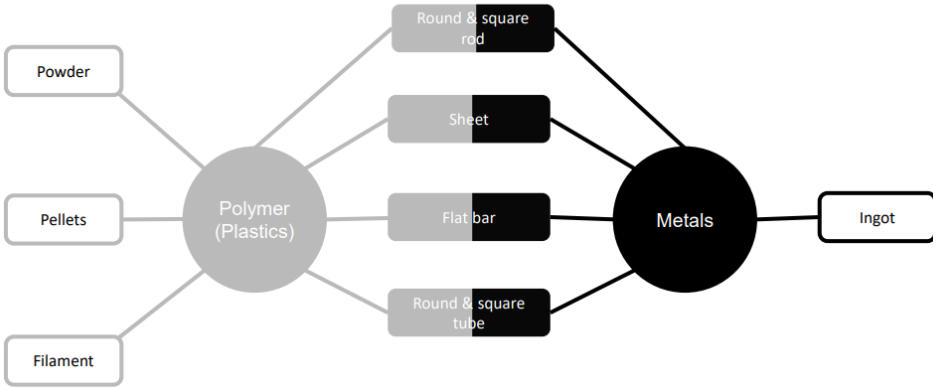
Evaluation of model

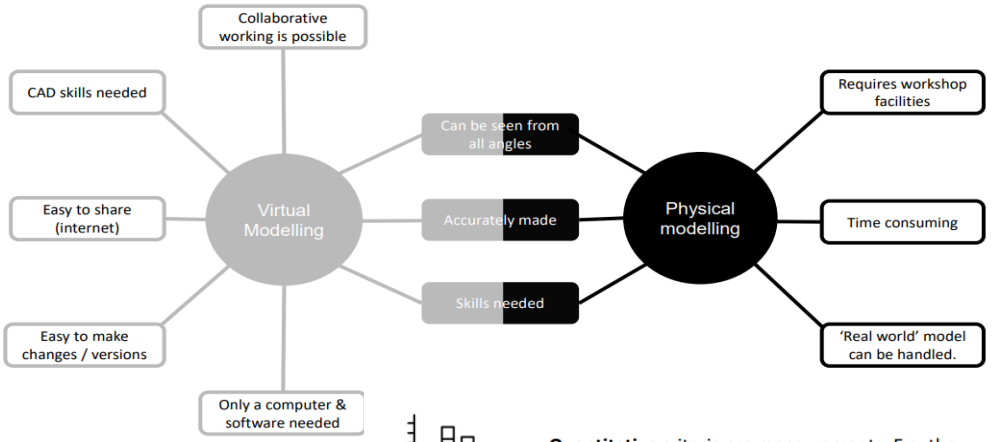
All models or prototypes are compared with the design **brief** and **specification**.

In **iterative** design, this leads to an **improved design** which is then modelled.

Wasting	Shaping	Forming	Joining	Finishing	Assembly
					
Changing shape by removing material	Forming a shape by moulding or laying up composites.	Changing shape by deformation.	Permenant or temporary fixing.	Creating a surface finish for technical or aesthetic reasons.	Adding components together into a single product.

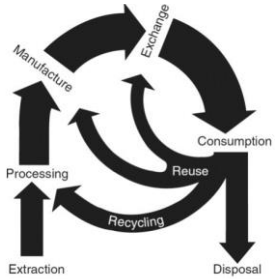
Polymers and metals have some stock forms in common.
Other materials have their own standard stock forms.

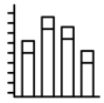




Circular Economy

In a circular economy, products, components and materials are reused and recycled instead of being thrown away





Quantitative criteria are measurements. E.g. the amount of memory in a phone or the capacity of a battery.

Qualitative data are based on opinions, impressions and points of view. E.g. how comfortable a handle should be or how attractive a bath tap must be.

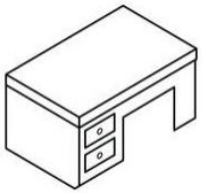
Needs criteria are essential and must be included in a design. E.g. an emergency stop button on a machine.

Wants are criteria that are not essential but desirable. E.g. 1950s aesthetic styling on a food mixer.

	Buildings	Capital cost
	Equipment	
	Workers	Labour cost

Isometric

A formal 3D style drawing.



Start at the corner all lines projected back at 30◦

Oblique

Another 3D style that is less realistic that isometric.

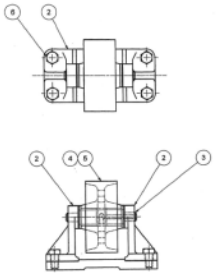
Start with front 'face' then project back at 45◦

Freehand sketching

An informal style used to communicate ideas quickly.

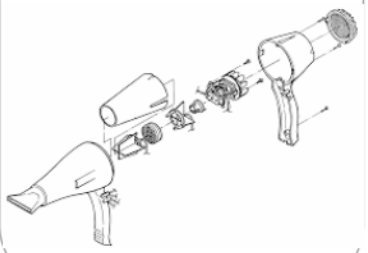
Assembly Drawings

Drawings that show all components assembled together.



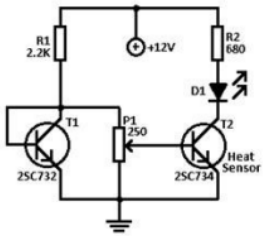
Exploded views

A type of assembly drawings that shows space between parts.



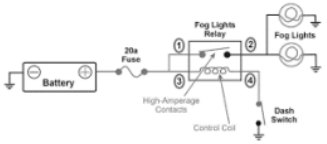
Circuit Diagram

Used to show how electronic components are connected in a circuit.



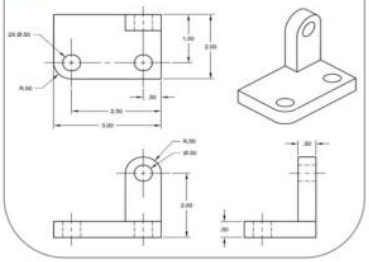
Wiring Diagram

Shows how connections should be made within larger electrical systems.



Orthographic drawing

A formal style of 2D drawing usually used to show dimensions. Drawn to scale.

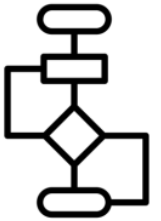


Block diagrams

A diagram of a system showing how stages relate to each other.

Flowcharts

Used to show a decision making process.



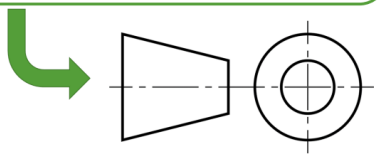
Working Drawings

Outline		Tolerance	
Centre Line		3rd Angle	
Dimension Line		External Thread	
Hidden Detail		Internal Thread	
Projection		Knurl	
Leader Line		Blind Hole	
Diameter	∅	Chamfer	
		Countersink	
		Through Hole	

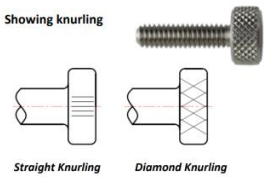
Across Flats	AF
Centre Line	CL
Diameter	DIA, D and Ø
Drawing	DRG
Material	MATL
Square	SQ

Title block example

Title:	Desk lamp base	**Date:**	19/1/23	**Drawn by:**	P Miles
Scale:	1:1	**Version:**	3	**Tolerance:**	± 0.2 unless stated otherwise
All dimensions in millimetres					



Showing knurling



Straight Knurling *Diamond Knurling*

A/F	Across flats
CL	Centre line
Ø	Diameter
DRG	Drawing
MATL	Material
SQ	Square

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.









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:

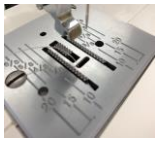
Free machine embroidery- this is where you drop the feed dogs into the machine and move the fabric freely as it stitches. It is creative and allows you to stitch freely – often called 'drawing with stitches'.


Embroidery ring

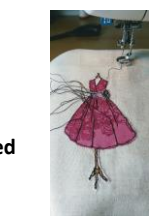

Embroidery foot


Machine embroidery thread


Interfacing is used on the back of most fabrics to stabilise it for this technique


Feed dogs to be dropped to allow the fabric to be moved freely



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.

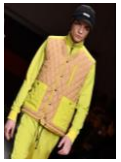



Italian quilting also uses 2 layers of fabric – designs are stitched through the layers in parallel narrow lines. Italian wool is then threaded through the stitched lines to create padded lines.

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.

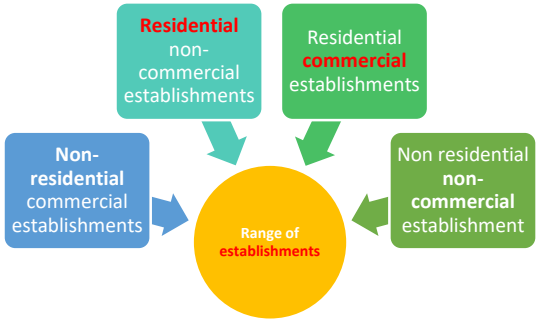




The structure of the hospitality and catering industry

1. Types of Provider



Establishment	Service provided	Examples
Commercial residential	Accommodation, house keeping, food, beverages, conference or training facilities	Hotels, guest houses, campsites, bed and breakfasts, holiday parks, farmhouses
Commercial non-residential	Food and beverage to eat in or take away, areas to sit to eat and drink	Restaurants, cafes, tea rooms, coffee shops, fast food outlets, pubs and bars, street food and pop up restaurants, mobile vans
Non-commercial residential	Accommodation, food and beverages	Hospitals, care homes, prisons, armed forces, boarding schools, colleges, universities.
Non-commercial non-residential	Food and beverages	Canteens in offices, day-care centres, schools and nurseries, charity food suppliers, for example soup kitchen

2. Suppliers

Types of Food Service

Fast Food- made to order, quick digital display.
Vending- No staff needed. Hospitals and leisure centres
Transported- Airline, train. Drinks/snacks trolley.
Restaurant or bistro- Waited service. From a menu with individually priced items.
Street food- Markets and festivals. Vendors focus on one type of food.
Coffee shops- order at till. Some sandwiches and baked goods. A growing market.
Cruise ships- Large restaurants with a wide choice of foods.

Hospitality at non-catering venues

Contract Caterers

provide:

- food for functions such as weddings, banquets and parties in private houses.
- prepare and cook food and deliver it to the venue or cook it on site.
- They may also provide staff to serve the food, if required.
- Complete catering solutions for works canteens etc

wjec cbac **Unit 1 The Hospitality and Catering Industry**
LO1 Understanding the environment in which hospitality and catering providers operate
AC 1.1 The structure of the hospitality and catering industry

3. Standards and ratings

Hotel and Guest house standards

Hotels and guest houses are often given a star rating. Star ratings help customers to know what services and facilities they can expect at a hotel or guest house. The quality of the service provided is rated on a scale of one to five stars

Food hygiene standards

The Food standards agency runs a scheme with local authorities where they score businesses on a scale from zero to five to help customers make an informed choice about where to eat. The rating is usually displayed as a sticker in the window of the premises. The scores mean:

Restaurant standards

The three main restaurant rating systems used in the UK are Michelin stars, AA Rosette Awards and The Good Food Guide reviews:

Michelin stars are a rating system used to grade restaurants for their quality:
One star is a very good restaurant
Two star is excellent cooking
Three stars is exceptional cuisine

AA Rosette Awards score restaurants from one (a good restaurant that stands out from the local competition) to five (cooking that compares with the best in the world)

The Good Food Guide gives restaurants a score from one (capable cooking but some inconsistencies) to ten (perfection)

Environmental standards

The Sustainable Restaurant Association awards restaurants a one-two-three-star rating in environmental standards. To achieve this the restaurant has to complete an online survey about sourcing, society and the environment. It is then given an overall percentage for environmental standards:
One star: 50-59%
Two star: 60-69%
Three stars: more than 70%

Extended reading

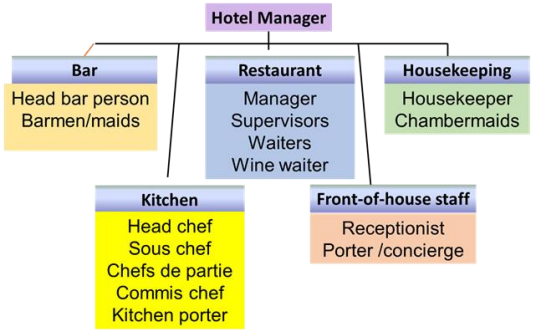
Exam question

Video links

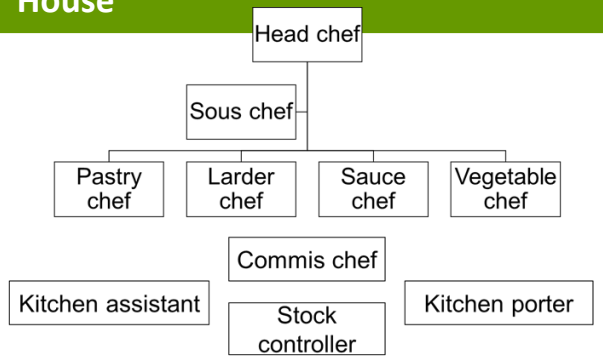
Revision Techniques

4. Job roles in the industry

Staff structure in a hotel



5. The Kitchen brigade- Back of House



Most large establishments could have **chefs de partie** in the following areas:

- **Sauce chef-** Le Saucier
- **Pastry chef-** Le Patissier- baked goods and dessert
- **Fish chef-** Le Poisonnier
- **Vegetable chef-** L'entremetier
- **Soup chef-** Le Potager
- **Larder chef-** Le garde manger- cold starters and salads
- The **commis chef** or assistant chef is a chef in training
- The **kitchen porter** washes up and may do basic vegetable preparation
- The **stock controller** is in charge of all aspects of store keeping and stock control.

6. Front of House roles

Reception
Receptionist: meet customers and direct them to the correct person or place; they manage visitor lists and booking systems
Porter/ Concierge; assist hotel guests by making reservations, booking taxis and booking tickets for local attractions and events.

Restaurant and bar
Restaurant manager (Maître d'Hote): The restaurant manager is in overall charge of the restaurant,; they take bookings, relay information to the head chef, complete staff rotas, ensure the smooth running of the restaurant
Head waiter (ess): Second in charge of the restaurant,. Greets and seats customers, relays information to the staff, Deals with complaints and issues referred by the waiting staff.

Waiting staff Serve customers, clear and lay tables, check the customers are satisfied with the food and service. May give advice on choices from the menu and special-order foods

Wine waiter- Le sommelier: Specialises in all areas of wine and matching food, advises customers on their choices of wine, Wine waiters serve the wine to the customer and can advise customers on their choices as well

Bar staff serve drinks and take food orders , wash up, clear tables, change barrels and fill shelves.

Baristas make and serve hot and cold beverages, in particular different types of coffee such as espresso, cappuccino and latte.

wjec cbac
Unit 1 The Hospitality and Catering Industry
LO1 Understanding the environment in which hospitality and catering providers operate
AC 1.1 The structure of the hospitality and catering industry

7. Average salaries in the hospitality and catering industry

Role	Average Salary
Hotel Management	£37,310
Head executive chef	£36,613
Pastry chef	£30,530
Housekeeper	£24,055
Receptionist	£21,596
Porter	£17,718
Waiting and bar staff	£16,735
Kitchen staff	£16,556

8. Training

Level	Types of training
Key stage 4 school courses	Level ½ Vocational award in Hospitality and Catering
Post 16-19	Colleges offer many courses for those leaving school after Year 11, for example: • Certificate in Hospitality and Catering Level 1 • Certificate in Introduction to Culinary Skills Level 1 • Diploma in Introduction to Professional Cookery Level 1 • Diploma in Hospitality and Catering Level 2 • Diploma in Professional Cookery Level 2
Universities	Universities offer degree, HND and HNC courses in subjects such as: • Catering • Hospitality • Culinary Arts • Hotel management • Food and beverage service
Apprenticeships	These provide both work experience and training
In-house training	On-the-job training provided by the organisation you work for

9. Personal attributes

Job Role	Desirable Attributes
Waiter/waitress	Attentive listener, good memory, clear communicator, diplomatic, calm and assured, high level of focus and attention, multitasker, can work in a team, physical stamina, courteous and polite, hardworking.
Receptionist	Professional, positive attitude and behaviour, clear communicator, helpful, an work in a team, courteous and polite, can learn skills quickly, calm, composed, approachable.
Housekeeper	Physical stamina, tactful, diplomatic, calm, courteous and polite, good memory, can work in a team.
Head Chef	Organised, able to accept criticism, physical stamina, creative, attention to detail, can handle highly stressful situations, passion for food and cooking.
Commis chef	Attentive listener, clear communicator, can work in a team, passion for food and cooking, physical stamina, creative.

Extended reading
Exam question
Video links
Revision Techniques

Working conditions across the hospitality and catering industry

1.3 Working conditions across the hospitality and catering industry

Employers want to employ most workers when they have busy times

Busy times of year:	Days of the week	Time of day
• Christmas	• Friday	• Lunchtime
• Tourist season	• Saturday	• Afternoon
• School holidays	• Sunday	• Dinner time
• Mothers day	• Pay day	• (breakfast)
• valentines		

10. Working hours

- Hospitality and Catering jobs tend to be long hours, early starts for breakfast in a hotel to late nights for dinner in a restaurant.
- Staff will still get 2 days off a week, but it will be quieter days instead of the weekend
- Shifts could be 6-3. 11-6. 3-11 or other hours.
- Monthly salaried staff may not have set hours eg Head Chef who might work from early morning to late night every day

11. The national Minimum Wage

	Rate from April 2022
National Living Wage	£8.91
21-22 Year Old Rate	£8.36
18-20 Year Old Rate	£6.56
16-17 Year Old Rate	£4.62
Apprentice Rate	£4.30

12. Contracts of employment

1. a written statement of employment or **contract** setting out their duties, rights and responsibilities
2. the statutory minimum level of paid holiday 28 days for full time workers
3. a pay slip showing all deductions, e.g. National insurance, tax . Earning above £166 a week
4. the **statutory** minimum length of rest breaks- one 20 min break for 6 hrs worked
5. Statutory Sick Pay (SSP) £94.25 pw for 28 weeks (some may get full wages for a limited amount of time)
6. Maternity, paternity and adoption pay and leave-90% of earnings for 6 weeks then ££148.68 for next 33 weeks

Casual staff / Agency staff

- work for specific functions and can be employed through an agency.
- They do not have a contract or set hours of work.
- They are needed at busier times of the year e.g., at Christmas or for weddings, New year's eve

Temporary staff

- Employed for a specific length of time such as the summer tourist season or the month of December.
- Temporary staff have the same rights as permanent staff for the duration of their contract.
- Temporary staff employed for longer than 2 years become permanent by law

Zero Hours Contract

This type of contract is between the employer and a worker, where the worker may sign an agreement to be available to work when they are needed, but no specific number of hours or times to start or end work are given. The employer is not required to offer the person any work and the worker is not required to accept the work.

13. Remuneration

Remuneration is a term used for the reward that people receive from working somewhere. It includes their basic pay, plus extra money t top u their income from:

- **Tips and gratuities-** money given to someone by a customer as a way of saying 'thank you' for good service
- **Service charge-** a percentage added to the customer's bill to reward the employees who have provided the customer with a service
- **Bonus payments and rewards-** given by some employers as a way of rewarding hard work throughout the year and helping make the business successful.

It is quite common for all he tips, gratuities and service charges to be divided equally amongst all the workers in, e.g., restaurant. This is known as a tronc arrangement, and the person who works out and distributes the extra money is known as a 'troncmaster'.

14. Paid annual leave

- All workers are entitled to 28 days paid leave annually
- **no** legal right for employees to be given Bank and Public Holidays. Most hospitality staff would work these days

To calculate holiday entitlement,
Multiply the full-time entitlement (28 days) by the number of days worked and divide by the number of days full-time staff work
Entitlement for 3 days a week: 28 x 3/5 = 16.8 days

15. Compulsory Rest Breaks

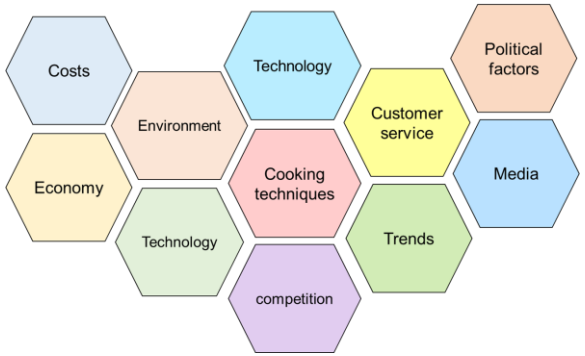
Adult workers are entitled to 24 hours off in each 7-day period and young workers (15-18) are entitled to 2 days in 7.
Adult workers are entitled to at least 20 minutes uninterrupted rest if their working day is longer than 6 hours.
Young workers are entitled to 30 minutes rest if their working day is over 4.5 hours long.

Factors that affect the success of Hospitality and catering providers

16. Reasons for failure

1. **A saturated market** – there is a fine line between competition & too many for the number of customers
2. **General business incompetence** – 46% of business fail due to lack of business knowledge
3. Lack of **capital** – not enough money to get through the first few months
4. **Location –** either not enough people walk past (foot-fall) live & work nearby
5. **Quality of life** - most restaurateurs work 60 hours a week – not the glamorous life they thought
6. **Lack of industry experience** – most successful restaurateurs tend to have previous industry experience
7. **Failure to create a good enough brand –** They did not incorporate the 12 Ps of restaurant branding,(Place, Product, Price, People, Promotion, Promise, Principles, Props, Production, Performance, Positioning and Press)
8. **Name of the restaurant is too long-** A restaurant with a name that is brief, descriptive and attractive is more likely to succeed.
9. **Lack of differentiation** -the brand is not different enough
10. **Poor financial controls** – Main costs – labour and food exceeded 60% of sales

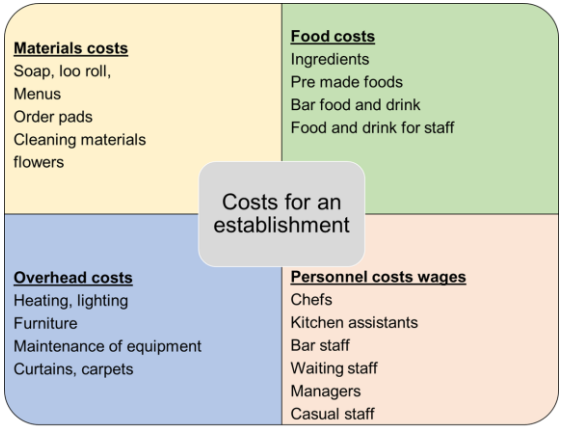
17. Factors affecting success



Costs - need to make a profit. Consider cost of everything you buy and selling price.
- Material - Anything involved in making product
- Labour - Costs of staff
- **Overheads** - Anything not connected with making products

Economy - when the economy slows down, business have lower sales as consumers eat out less because they have less disposable income
Environment – 3 R's, packaging, food waste, global warming, carbon footprint, clean eating
Technology - Using technology to improve service, delivery and stock control – touch screen customer ordering, EPOS systems, stock management, apps for delivery services
Emerging and innovative cooking techniques – sous vide, clean eating, steaming, new restaurants,
Customer demographics and lifestyle – delivery services Facebook Twitter
Customer service–customer satisfaction – free Wi-Fi, order online
Competition - Low-cost food (£1 menu, coffee McDs espresso v Starbucks)
Trends healthy food options, pop-up bars, cafes and restaurants, cronut, clean eating, low carb, good fats,
Political factors - Increasing regulations – from government due to health issues, Brexit, use of migrant labour, migrants – ethnic foods
Media - Strong global brand, Good community reputation – children's charities / Ronald McDonald House, celebrity chefs, celebrity endorsements, MasterChef,

18. Costs for an establishment



19. Costing a recipe

Costing recipes

In order to calculate selling price and profit for dishes you need to calculate the recipe cost

Ingredient cost = $\frac{\text{Pack cost}}{\text{Pack weight}}$ X weight used

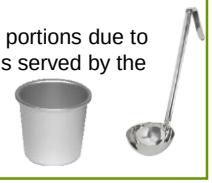
Divide by the number of portions made for the portion cost

Selling price

Selling price = $\frac{\text{Portion cost}}{30}$ X 100

20. What is portion control?

- Portion control is the amount of each menu item that is served to the customer.
- It depends on the type of customer, the type of food served,
- some foods are served in very small portions due to the high cost of the item e.g., caviar is served by the teaspoon



Extended reading

Exam question

Video links

Revision Techniques

A to Z of...

Based on your ***OPTION SUBJECT***, recall any key information from the current topic you have been studying.

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		

Unit R185 – Performance and Leadership in Sports Activities

Task 1 – Key components of performance Topic
Your task is to participate in sessions for both of your chosen activities, in order to develop your own ability.
You must:
• Demonstrate the key components of performance for at least **one school term**, in your two activities
• Demonstrate the ability to develop your own skills in BOTH activities
• Ask your teacher to complete a Teacher Observation Record for this task.

Add your individual stats from competitive games.

Date	Level of competition	Role/position/ events	Notes
Week 1	PE lesson	Drills and game	-Passing drills focusing on chest, bounce and overhead pass. -3vs1 overloaded games. -Conditioned games where you had to make a set number of passes before shooting.
Week 1	Extra- curricular (lunch time)	Shooting practice	-Free play to practice shooting. -Focus on follow through and waving good-bye to the ball on release. -Shooting games/competitions against other students.
Week 1	PE lesson	Drills and game	-Dribbling with a focus on using the weaker hand. -Lots of ball handling with no defenders. -1vs1 drills. -Conditioned game, no more than 3 passes forcing us to dribble more.
	Schools fixture	Played Centre	-Beat Shirelands 28-24. -I scored 12 points.
Week 1	Extra- curricular (after school)	Tournament Playing Centre	-Finished second from 6 teams. -Played as center throughout games. -Focus on rebounds under my basket. -I won at least 80% of my rebounds.
Week 2	PE lesson	Drills and game	-Footwork focusing on pivoting to create space. -Pivoting drills follow the commands on my teacher. -Focus in games to receive the ball and pivot to always first basket. -Also attempting to use a feint pivot step to create space.
Week 2	Extra- curricular (after school)	Tournament Playing Centre	-Finished first out of four teams. -Played centre and concentrated on my attacking rebounds. -Struggled at times and only won around 50% of attempted rebounds in attacking key. -I was too flat footed.
Week 2	PE lesson (core PE)	Drills and game	-Lay-ups, focus on scoring a lay-up under pressure. -1vs1 situations. -Driving at the basket and drawing foul. -Played as a forward and scored two lay-ups in game situations.
Week 2	Extra- curricular (lunch time)	Shooting practice	-Free play to practice shooting.

Year 10 Dance

Plan for an effective performance

- What is the purpose of the performance?
- Describe the theme or idea behind the performance.
- Research the social and historical influences behind your idea/theme.
- What do you want the audience to learn and experience from watching your dance?
- Are you performing your choreography for a specific occasion?
- Where will the performance take place?
- Who is your intended audience?
- How many dancers do you require?
- Do you have any previous experience or interest in connection with the idea/theme that will benefit you in the process?
- What style of dance would be appropriate to use and why?

RELATIONSHIPS – WAY in which dancers move with other dancers e.g. lead and follow, mirroring, action and reaction, accumulation, complement and contrast, counterpoint, contact, formations.
ACTIONS – WHAT a dancer does e.g. travelling, turning, elevation, gesture, stillness, use of body parts, floor-work and the transference of weight.
DYNAMICS – HOW the dancer moves e.g. fast/slow, sudden/sustained, acceleration/deceleration, strong/light, direct/indirect, flowing/abrupt.
SPACE – WHERE the dancer moves e.g. pathways, levels, directions, size of movements, patterns, spatial design.

Ideas to create a motif:

DRAWING - Think of a word associated with your theme and spell out each letter using different leading body parts. Try and use different body parts and link the letters together to develop your motif using RADS.

PICTURE – Find a picture that links / represents your theme and create movement based on the photo. Use the colours / shapes and lines in the picture to recreate and develop into movement.

OBJECT – Use an object linking to your theme to create movement. Dancing with the object as a prop or creating movement based on your interpretation of the object (how would the object move – think of the dynamics you would use).

POEM – Find a poem based on your theme and use it to create movement based of the words (look at the structure of the poem and the timing / rhyme – how could you show this using RADS)?

MUSIC – A piece of music to show your theme. Using the lyrics, emotions, timing and dynamics in the music to create movement to show your theme.

Planning/aims of the activity:

- The purpose
- Timescales
- Resources needed
- Safety
- Communication
- Appropriateness
- Methodology
- Demonstration
- Group work
- Individual contribution
- Feedback methods

Delivering a creative activity:

- Introduce the activity
- Aims
- Content
- Settle the individual
- Supervise the activity
- Encourage participation
- Intervene when necessary
- Provide support
- Maintain safety
- Keep to timescales replenish resources/materials
- Collect feedback

Evaluation

- How to
- Use feedback
- Self-reflect
- Review strengths and weaknesses
- Communication skills
- How you encouraged them
- Suggest improvement
- What would you do differently, why?

Useful sentence starters:

The impact is...
As explained by …
This is important because...
In reflection…
Overall…
I think that …
Their needs would be met by...
This is suitable because...
The benefit is...
The advantages is...

Furthermore
As well as
Another essential point
Consequently
Firstly, . . . secondly, . . .
thirdly, . . . finally, . . .

Roll-a-dice Revision

Based on your ***OPTION SUBJECT***, create questions for each square on the grid. Once you're done, take it in turns to roll two dice and answer the corresponding questions.

	1	2	3	4	5	6
1						
2						
3						
4						
5						
6						

Market Segmentation and Market Research

Marketing? The action of promoting and selling products or services, including market research and advertising.

Market research is a **vital** part of any business success and involves **finding out information about the market in which the business operates.**

Reasons to carry out market research:

- To reduce risk when starting a new business or bringing out a new product or service
- To understand the market – customers' needs and wants
- To promote the organisation
- To aid decision making
- To gain customers views and understand their needs
- To inform product development

Market segmentation is when customers are grouped together because they have similar **buying habits.**

Methods used to segment the market:

- Age
- Gender
- Occupation
- Income
- Geographical Area
- Lifestyle

Benefits of Market Segmentation:

- Ensures customer needs are matched and met
- Potential for increased profit/profitability
- Increased customer retention
- Allows for targeted marketing
- Potential for increased market share

Primary research is:

Research carried out by the business to meet a specific need or answer a specific question

Methods to carry out primary research:

- **Interview**
- **Observations**
- **Questionnaires**
- **Surveys**
- **Focus groups**
- **Consumer trails**

Primary research is information that has not been collected before

Types of **customer feedback techniques** available to business start-ups:

- Social media/online communities with reviews and comments
- Online surveys
- Customer comment cards
- Comments made to staff members
- Telephone/email surveys
- Email contact forms

Qualitative research is research that uses **open questions** and asks people for their opinions and beliefs.

Quantitative research is based on numerical data e.g. closed questions that can be added up and the results shown in

Secondary research is:

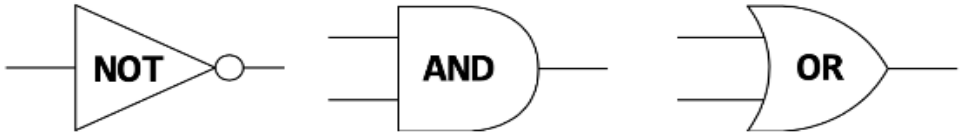
Information that is already available and can be used by the business in some capacity

Methods to carry out secondary research: Competitor websites, government statistics, books, magazines, newspapers

Market research companies such as **Mintel** sell research materials to businesses. Examples include Mintel's reports of cause marketing, marketing to sports fans and sports and energy drinks. Before purchasing this information, a business should consider the likely usefulness of the material.

Knowledge Organiser 14 : Boolean logic, Programming Languages and IDEs

1. Logic Gate Symbols



~A A ^ B A & B A v B A | B

2. Truth Tables

A	NOT A
0	1
1	0

A	B	A AND B
0	0	0
0	1	0
1	0	0
1	1	1

A	B	A OR B
0	0	0
0	1	1
1	0	1
1	1	1

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.

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.
Complier 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 beed to share the original source code. • Speed of execution is slower because the code 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

TA2: Stages and types of play

Types of play	Definition
Solitary Play	Playing alone
Parallel Play	Playing alongside others
Associative play	Some playing with each other
Co-operative play	Playing with someone else

Types of play	What is it?	Examples
Manipulative Play 	This involves children using their hands, (fine motor skills) for example to move, turn or screw things to make them fit.	· Puzzles · Mark making (drawing/ painting/ writing) · Shape sorters · Threading beads · Craft activities
Co-operative play: 	Play which takes account of others actions within their play together; sharing, group play e.g. shop keepers and customers, or games that have rules to follow.	Board games · Circle games (here we go round the mulberry bush/ the farmers in his den) · Playground games (what's the time Mr Wolf?) · Imaginary role play (dressing up/ toys/ teddies/ tea sets) · Imaginary play with small world toys (cars/ farm set/ dolls house)
Solitary play: 	Where the child plays alone, in their own space, exploring and experimenting with objects.	· Imaginary play (role play/ small world play) · Puzzles · Books · Video/ computer games
Physical play: 	Play that involves gross motor skills, the muscles and moving around, such as football or a climbing frame	· Ball games · Running/ jumping/skipping/ hopping/ crawling etc. · Playground equipment (slides/ swings), Ride– on– toys and bikes · Push and pull toys · Dancing
Creative play: 	Where children experiment with materials, collage, painting, music, imagination.	· Music and dance · Mark making (painting/ drawing/ writing) · Making models · Sand and water play · Stories and imaginary play

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 of 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. pizzicato/arco/col legno for strings).*
Sound Production	Describes how sound is produced either on a musical instrument *e.g. via vibration*, 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. reverb, delay, phaser etc).* Musical instruments and the voice can also produce special effects by being played or performed in a particular way *(see Playing Technique above).*
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. the clarinet and many brass instruments.*

- ✓ 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 BARLINES.
- ✓ A DOUBLE BARLINE 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 DUPLE METRE:
- ✓ Two beats to a bar Dance music such as MARCHES, the TANGO and IRISH REEL often use simple duple 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.

R085 – Developing a Multi-Page Website – L03

1: Remember the Scenario!

At the start of this unit you would have been given a **scenario** or **client brief** that outlines what needed to be done for the **Website** and who it should be aimed at. The first part of the review should go back over the **client requirements** and **target audience** and you should give a brief overview of what they were and whether you think your Website meets the full requirements and is suitable for the target audience. These points can then be expanded on when discussing the strengths, weaknesses and improvements.

2. Strengths

The **strengths** of a document are anything that makes it suitable or effective for its **purpose**. Some common examples of strengths to look out for are in your Website are:

- Does it meet the requirements of the client?
- Is it suitable for the target audience suggested?
- Do all of the links on the **navigation** bar work
- as intended?
- Are the **assets** used in the website of **high quality**?
- Is the placement of text, images, videos, sounds, maps suitable?
- Does it match up with the proposed **design?**
- Is there no horizontal scrolling?

Is it **consistent**? Do the logo, banner, navigation bar and **colour scheme** remain in the same place on each page?

3. Weaknesses

The **weaknesses** of a document are anything that does not make it suitable or effective for its purpose. Some common examples of weaknesses to look out for in your website p are:

- It fails to meets some parts of the client requirements.
- It is not suitable for the target audience.
- The links are broken and do not take you to the
- suggested pages.
- The assets used in the website are of poor quality.
- The placement of text, images, videos, sounds and maps are poor and may distract the reader from the focal point of the website.
- It does not match with the proposed design due to issues with using the software.

It is not consistent and the logo, banner, navigation bar and colour either change each page or move around too much.

There is horizontal scrolling.

4: Improvements

Once you have picked out some of the weaknesses you will then need to suggest how to **improve** those weaknesses.

An improvement is anything that would make the Comic Strip more suitable for its purpose and target audience.

When writing your suggestions for **improvement** follow the steps below:

- Choose one of the weaknesses you may have
- already mentioned.
- Make sure you have said why it is a weakness in relation to the client requirements purpose and target audience.
- Suggest how to improve based on that weakness.
- Explain how it would make the document better for the purpose, client requirements and target audience.

Examples

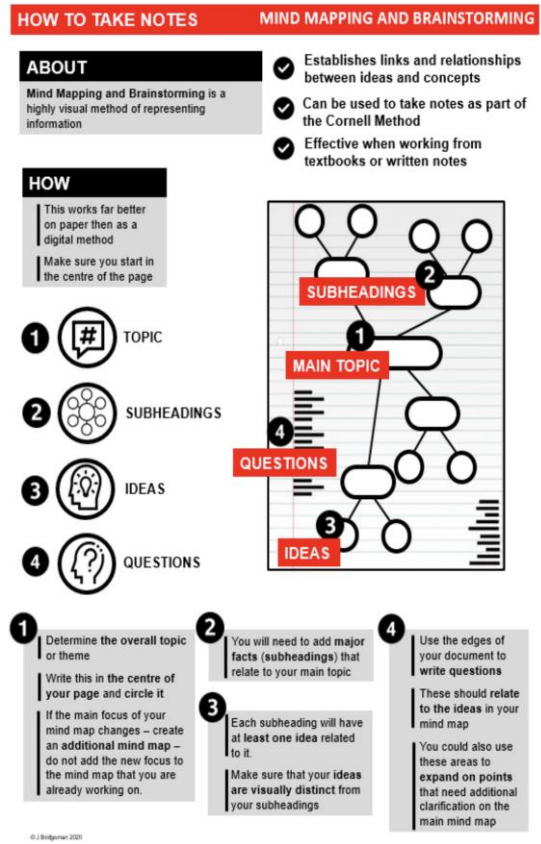
The client stated that my website should include at least five pages, this part of the criteria that the client set was easy to follow and I have fully achieved the creation of these five pages. The navigation of my website is efficient and effective as I have linked it to internal pages and all the links function correctly. I particularly like my logo as I believe that it fits in with the colour scheme correctly and I like the font of the text on my logo. To improve my website, I could rearrange the layout of images and text on the Acts page because it currently has odd looking spaces between the images and the text looks like it is squashed in the middle unintentionally since it is much smaller than the images. This would make the user more likely to stay on the website because it looks better. I could also change the colour scheme to incorporate some green or blue to help it fit the eco theme (trees, sky, plants etc), and therefore help the branding and image left in the user's mind

Examples

The use of colour in my website is a vital item to get right because it is one of the main things you see when you open a website. Green is one of the main colours in the website because it represents nature and energy. Green helps to add to the Eco theme and the festival. Also blue was include which represents the sky and open spaces, like the festival. This was successful because it added to the website feel and met the brief. I think that I ticked all the boxes outlined in the Client Brief and used suitable pictures, videos, sounds and other interactive elements to engage that wide target audience. I would be interested in surveying the users of the EcoFest website over the coming months to gauge their opinion of the site and improve the site based on their feedback. This would improve the site greatly because getting real life feedback would help streamline the experience of using the site.

MIND MAPS

Mind maps are a great way to revise key information. Have a read through the information on your ***OPTION SUBJECT*** and then use the information below to help you create mind maps.



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

My BHAmazing vocabulary, written in sentences:

1.

2.

3.

4.

5.

6.

7.