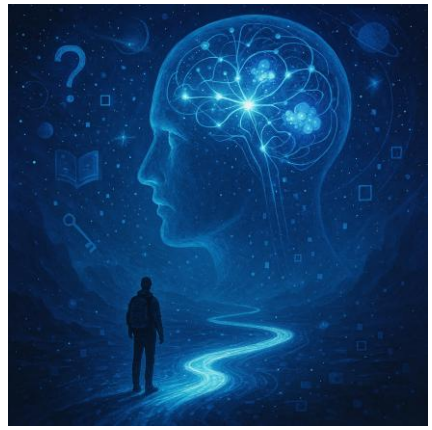
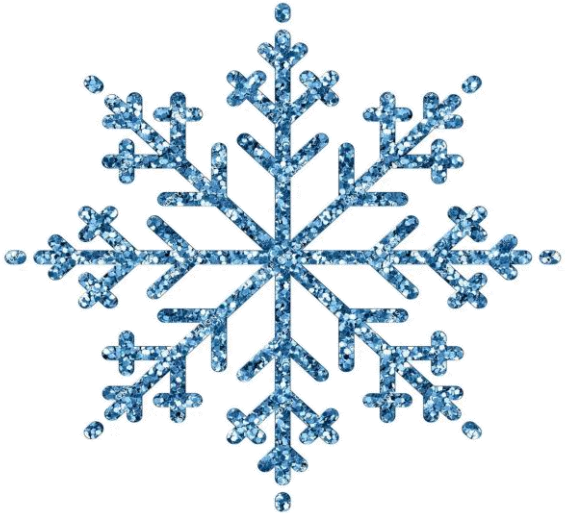
YEAR 10



BHA's Knowledge Quest

Autumn 2
(Nov - Dec)
2026-2027



Bristnall Hall Academy

How to use your

Knowledge Quest Booklet

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

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

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

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

MFL: 1 hour of vocabulary / listening / reading practice on Language Nut, every week and 30 minutes of learning vocabulary, ready to be quizzed in the following lesson.
History: 1 hour Seneca assignment set by class teacher, every week. Recap content using Knowledge Organiser and, when provided, complete practice exam questions.
Geography: 1 hour Seneca, each week. 1 x Core vocabulary booklet, using OMG revision across the year.
DT: Seneca - core knowledge recap, as well as flip learning resources, both printed and or on teams. Hospitality and Catering: Yr 11- revision workbook, revision tasks set on Teams. Re-cap content using Knowledge Organiser. Online 3D CAD program Year 10 term 1

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

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

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

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

Timetable

Use this page to copy out your lessons and room numbers

	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 2026-27 Term One

Autumn Term

	Monday	Tuesday	Wednesday	Thursday	Friday
Breakfast 7.45am – 8.30am	Start Right Club Library open	Start Right Club Library open Computer room access JSI Room 31 8am- 8.30am	Start Right Club Library open Computer room access JSI Room 31 8am- 8.30am	Start Right Club Library open Computer room access JSI Room 31 8am- 8.30am	Start Right Club Library open Computer room access JSI Room 31 8am- 8.30am
Lunch 12.45pm – 1.15pm	Yr 9 MUGA Yr 11 Library Yr 11 Rock Band- SWE- Room 36 Yr 7 Table Tennis Yr 7-10 Art Club EF Room 26	Yr 11 MUGA Yr 10 Library Yr 8 Table Tennis Yr 8 – Cyber Girls Competition - room 62 – JMole (Start OCT)	Yr 10 MUGA Yr 9 Library Y7-10 Singing Stars- SWE- Room 36 Yr 9 Table Tennis Yr 8 – Cyber Girls Competition - room 62 – JMole (Start OCT)	Yr 8 MUGA Yr 8 Library Yr 10 Table Tennis Yr 8 – Cyber Girls Competition - room 62 – JMole (Start OCT)	Yr 7 MUGA Yr 7 Library Yr10/11 Music Coursework catch- up SWE- Room 36 Yr 11 Table Tennis
Period 7 Monday Tuesday Thursday 3.30pm – 4.30pm	Year 11 Geography /History Intervention Yr 7 –10 Sparx Maths Club – EMU / RMI Room 10 Yr 7–10 Cooking Club MS/CC Room 45	Year 11 English and Math Intervention Yr 7 – 10 Contemporary Dance Club CG Dance Studio Yr 7 – 10 Digital Skills MCA Room 43 Yr 7–10 Crochet Club JWE Room 53	Year 11 Open / MFL Subject Intervention Week 1: **C Block** Week 2: **B Block** Yr 7–10 Chess Club XIS Rm 12 Yr7-10 Latin Club for Beginners AA Room 58 Yr 7–10 Crochet Club JWE Room 53/54	Year 11 Science Intervention Yr 7-10 Rep Theatre – Performing Arts Club Room 38 Yr 10 Rock Band SWE- Room 36 Yr7-10 Learn Russian RM Room 57	Y7-Y11 SEND Master Builder LOM Lower School Hall Y7-Y11 SEND BHA Mic Drop BKA/NBI Room 3 Y7-Y11 Dungeons and Dragons PCR Room 5
Wednesday Friday 2.35pm – 3.35pm	Term 1 full but sign up for term 2 available Yr 7 Football LSM/EBR Field Yr 7-10 Trampolining GHO Small Gym Yr 7 – 10 Table tennis ADA Large Gym Yr 7 – 10 Science Experimental Club JTA / SEL Room 48 Yr 7 – 10 Sparx Reader Club LOM/ADi Room 31 Yr 7- 10 Karaoke Club JRO Dance Studio	Yr 7 – 10 Beyond the Books- Reading Club FHU Room 24 Yr 7 – 10 Fantastic Films and Brilliant Books- Writing Reviews FBA- Room 23 Yr 8 Football WTH Field Yr 7-10 Netball GHO Large Gym Yr7-10 Basketball JSM MUGA Yr 7-10 Board Game Club KGO Room 38 SEND Cooking Club MS / CCR Room 45 Y10iMedia Skills Lab HA Room 10	Yr 7-10 Studio G- Tech Club SWS Room 43 Yr 7 – 10 The Forum- Debate and Ideas Society BED Room 38 Yr 7 – 10 The story Forge Creative Writing Club SBS Room 24 Yr 7 – 10 Uno Club QSM Room 23 Yr10 Science Intervention ASI Room 40 Yr 9/10 Football JSM/WTH Field Yr 7 – 10 Netball ADA MUGA Yr 7 – 10 Make a War Film Club DL Room 22 Yr 7 – 10 Homework Club KJO/JRE Room 15 with laptops Yr 7 – 10 Boards of Fame- Board game club MSH/NBI Room 55 Yr 7 – 10 WBA Multi Skills SJO Back Playground	Yr7-10 Latin Club Legacy Cohort AA Room 60 Yr10 Geography Intervention SHO Room 1 Yr 7–10 Girls Football ADA Field Yr 7–10 Trampolining GHO Small Gym Yr 7–10 Basketball JSM MUGA Yr 7–10 Table tennis WTH Large Gym Y7-10 Task Master, GEG Room 28 Y7–10 Boccia Ballers HCL/NBI Dance Studio SEND Art Attack CC/MS Room 3 Y10 Additional Reading Comprehension (Invite Only) Room 53, LOM/ADi	Y7-Y11 Friday Film Club Room 16 RBE
			Y10 Additional Literacy JPG Room 52 Y10 Computer Science - JMole – Room 62/10 (Invite Only) KS3/4 – Pilot School – Room 62 – J Mole/H Anderson (Limited Spaces) To launch later		

Academic	**Creative**	**Physical**
☐ All Intervention Classes or Coursework catch up ☐ Beyond the books reading club ☐ Chess Club ☐ Fantastic Films and Brilliant Books Review ☐ The Forum Debate and Ideas Society ☐ Homework Club ☐ Latin Club (Beginners and Legacy) ☐ Learn Russian Club ☐ Science Experimental Club ☐ Sparx Maths ☐ Cyber Girls Computing ☐ Task Master	☐ Digital Skills ☐ REP Theatre - Performing Arts ☐ Rock Band ☐ Studio G Tech Club ☐ Singing Stars Lunch Club ☐ Art Lunch Club ☐ Crochet Club Tue/Wed ☐ Cooking Club ☐ Make a War Film Club ☐ Dungeons and Dragons ☐ The Story Forge Creative Writing Club ☐ Friday Film Club ☐ Mic Drop ☐ Art Attack ☐ Masterbuilder The Big Build- Lego Club ☐ Boards of Fame – Board Game club ☐ Uno Club ☐ Task Master	☐ Contemporary Dance ☐ Football ☐ Trampolining ☐ Table Tennis ☐ Basketball ☐ Netball ☐ Boccia Ballers ☐ WBA MultiSkills ☐ Task Master

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

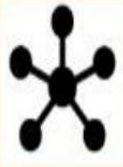
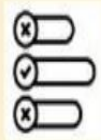
Use this page to record any homework this half term

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

Homework Log

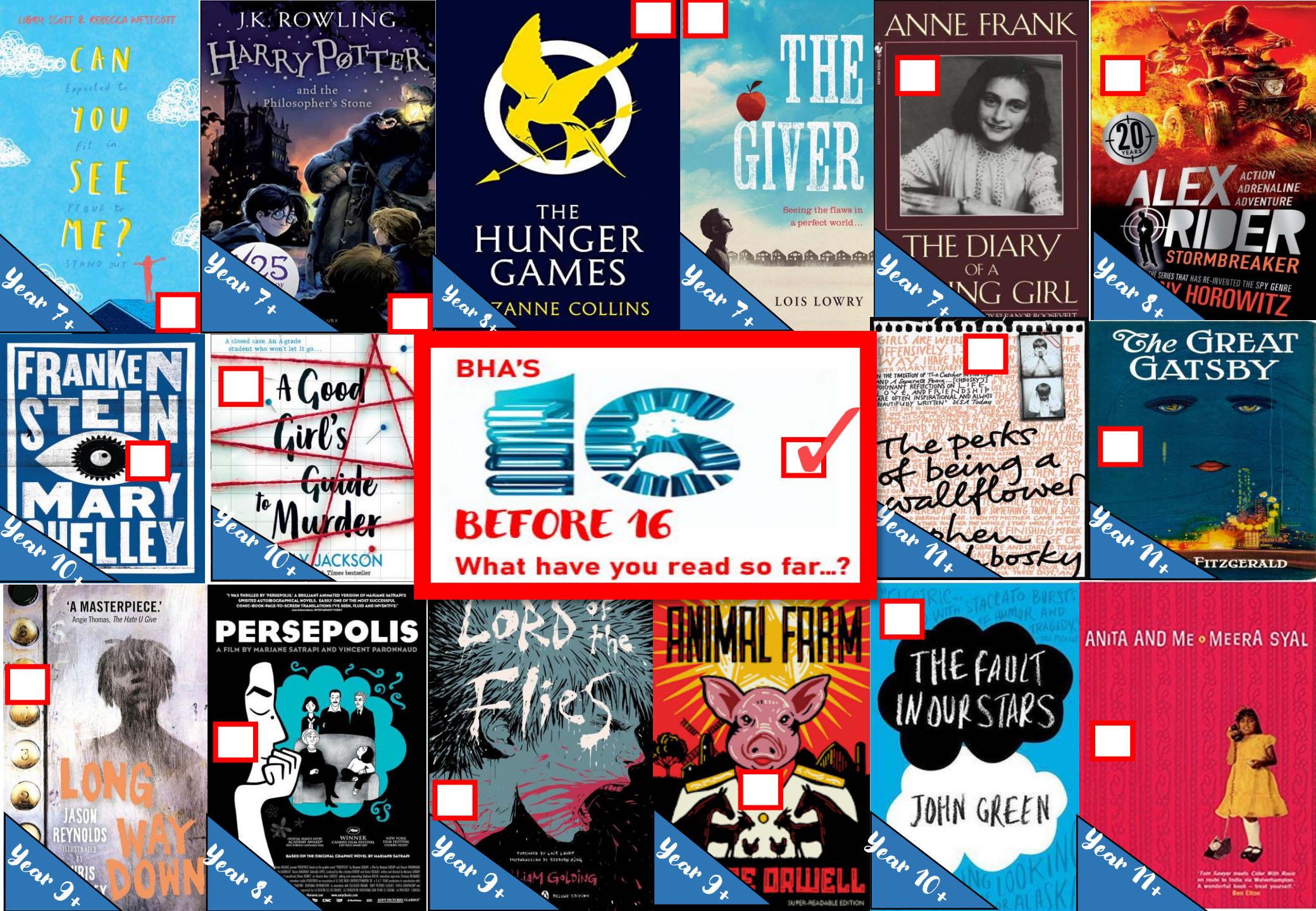
Use this page to record any homework this half term

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. 



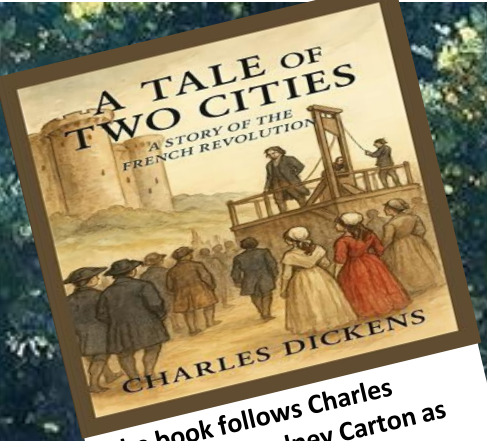
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Year 7+
Year 7+
Year 8+
Year 7+
Year 7+
Year 8+
Year 10+
Year 10+
BHA'S
BEFORE 16
What have you read so far...?
Year 11+
Year 11+
Year 9+
Year 8+
Year 9+
Year 9+
Year 10+
Year 11+

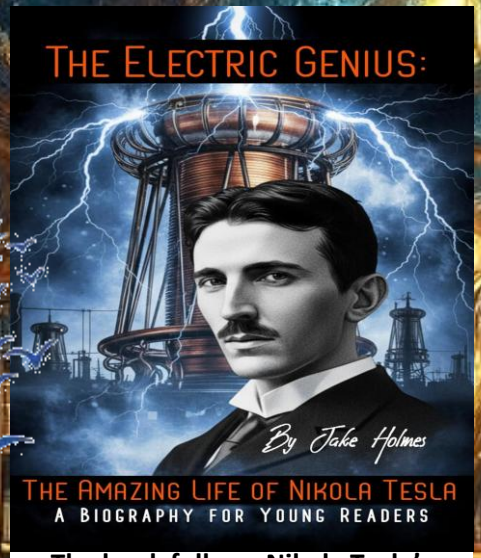
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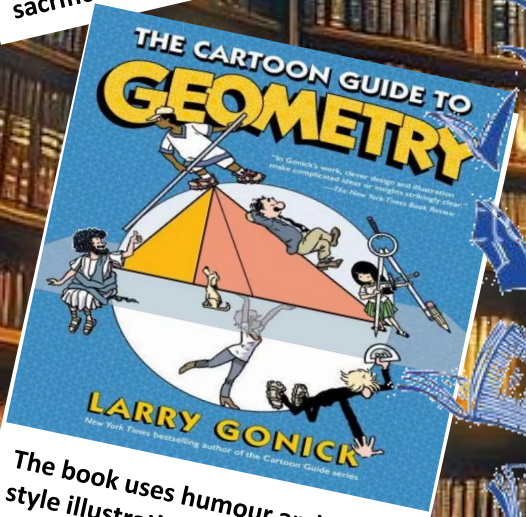
YEAR 10
Recommended Reading



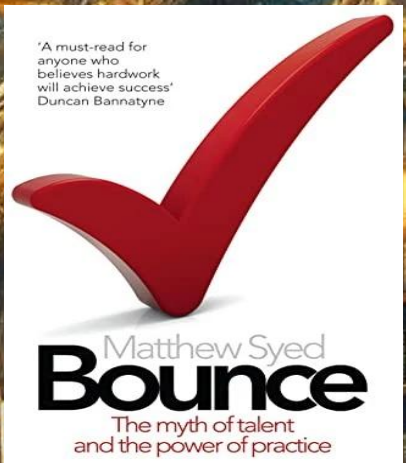
The book follows Charles Darnay and Sydney Carton as their lives become linked during the French Revolution, exploring themes of love, sacrifice and redemption.



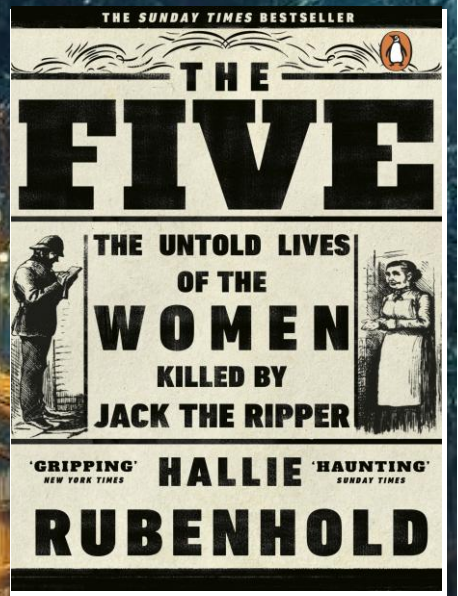
The book follows Nikola Tesla's journey from a curious young inventor to a pioneer whose revolutionary ideas changed the world.



The book uses humour and comic-style illustrations to explain key geometry concepts, from points and angles to triangles, similarity and the Pythagorean theorem. It makes complex mathematical ideas easy to understand through clear visual explanations and step-by-step proofs.



The book challenges the idea that success is based on natural talent. Drawing on research and real-life examples, Syed argues that excellence comes from dedication, deliberate practice and perseverance, showing how anyone can develop high levels of skill and achievement.



The book tells the true stories of the five women killed by Jack the Ripper, shifting the focus away from the murderer and onto the victims' lives. Through careful research, Rubenhold reveals their struggles, hopes and humanity, challenging long-held myths and giving these women their voices back.

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



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.

A to Z of...

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

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

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)

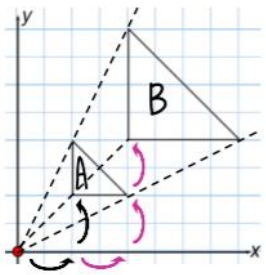
Positive scale factors (R)

Enlargement from a point

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

The shape is enlarged by 2

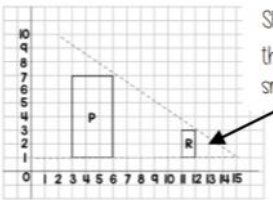
The distance from the point enlarges by 2



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

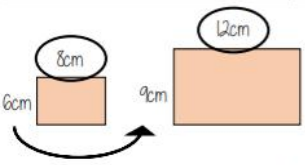


Scale Factor
Both sides on the bigger shape are 1.5 times bigger

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

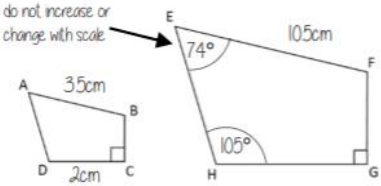
Scale Factor is the multiplicative relationship between the two lengths

Shape OBCD and EFGH are similar

Notation helps us find the corresponding sides

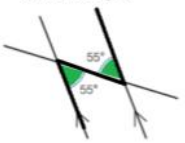
OB and EF are corresponding

Remember angles do not increase or change with scale



Angles in parallel lines (R)

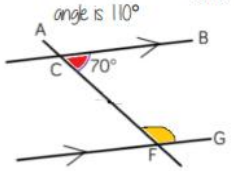
Alternate angles



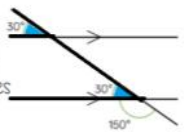
Because alternate angles are equal the highlighted angles are the same size

Co-interior angles

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



Corresponding angles



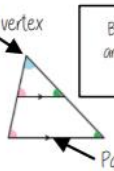
Because corresponding angles are equal the highlighted angles are the same size

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

Similar triangles

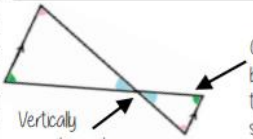
Shares a vertex

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

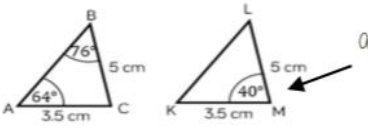


All the angles in both triangles are the same and so similar

Vertically opposite angles

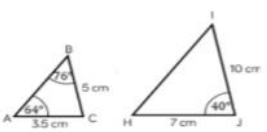
Congruence and Similarity

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...

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

$y = 3x + 5$

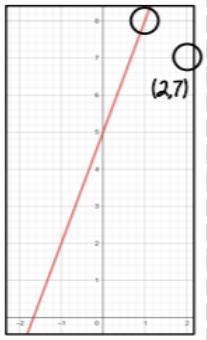
$8 = 3(1) + 5$

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

$x = 2y$

$x + y = 30$

Pair of simultaneous equations (two representations)

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

$x = 2y$

$x + y = 30$

$3y = 30$

$\div 3 \quad \div 3$

$y = 10$

$x = 20$

Solve graphically

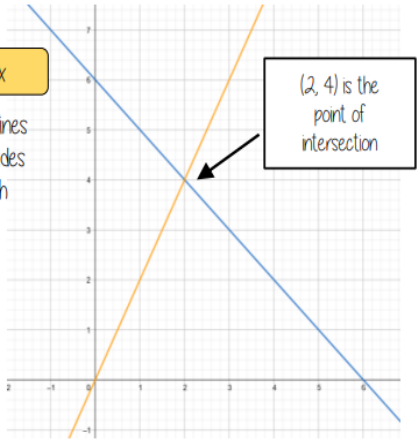
$x + y = 6$

$y = 2x$

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

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

Electricity – Foundation and Higher

Current and Circuit Symbols

Current: the flow of electrical charge.
Potential difference (voltage): the push of electrical charge.
Resistance: slows down the flow of electricity.

cell		closed switch		fuse	
resistor		ammeter	A	LDR	
battery		voltmeter	V	LED	
variable resistor		bulb		thermistor	
open switch		diode			

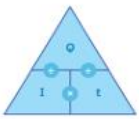
Charge

Electric current is the flow of electric charge. It only flows when the circuit is complete.

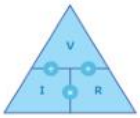
The **charge** is the current flowing past a point in a given time. Charge is measured in **coulombs (C)**.

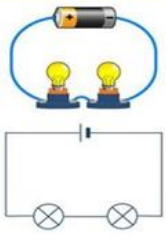
Calculating Charge

charge flow (C) = current (A) × time (s)
Q = It

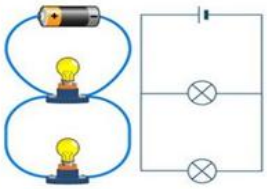


potential difference = current x resistance
V (V) = I (A) × R (Ω)



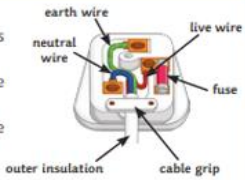


Series Circuit



Parallel Circuit

Electricity in the Home



AC – alternating current. Constantly changing direction - UK mains supply is 230V and has a frequency of 50 hertz (Hz).

DC – direct current. Supplied by batteries and only flows in one direction.

Cables – most have three wires: live, neutral and earth. They are covered in plastic insulation for safety.

Live wire – provides the potential difference from the mains.

Neutral wire – completes the circuit.

Earth wire – protection. Stops the appliance from becoming live. Carries a current if there is a fault. Touching the live wire can cause the current to flow through your body. This causes an electric shock.

Energy Transferred – this depends on how long the appliance is on for and its power.

energy transferred (J) = power (W) × time (s) **E = Pt**

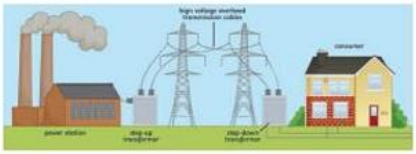
Energy is transferred around a circuit when the charge moves.

The National Grid

The National Grid is a system of cables and transformers. They transfer electrical power from the power station to where it is needed. Power stations are able to change the amount of electricity that is produced to meet the demands. For example, more energy may be needed in the evenings when people come home from work or school. Electricity is transferred at a low current, but a high voltage so less energy is being lost as it travels through the cables.

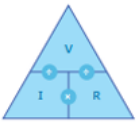
Step-up transformers – increase the voltage as the electricity flows through the cables.

Step-down transformers – decrease the potential difference to make it safe.



Resistance

voltage (V) = current (A) × resistance (Ω)
V = IR



Graphs of I-V Characteristics for Components in a Circuit

1. **Ohmic conductor**: the current is directly proportional to the potential difference - it is a straight line (at a constant temperature).
2. **Filament lamp**: as the current increases, so does the temperature. This makes it harder for the current to flow. The graph becomes less steep.
3. **Diode**: current only flows in one direction. The resistance is very high in the other direction which means no current can flow.



Required Practical

Investigating Resistance in a Wire

Independent variable: length of the wire.

Dependent variable: resistance.

Control variables: type of metal, diameter of the wire.

Conclusion: As the length of the wire increases, the resistance of the wire also increases.

Investigating Series and Parallel Circuits with Resistors

Independent variable: circuit type (series, parallel).

Dependent variable: resistance.

Control variables: number of resistors, type of power source.

Conclusion: Adding resistors in series increases the total resistance of the circuit. In a parallel circuit, the more resistors you add, the smaller the resistance.

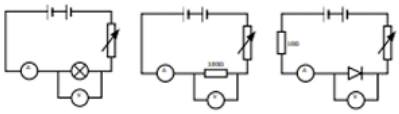
Investigating I-V Relationships in Circuits (Using a filament bulb, ohmic conductor, diode.)

Independent variable: potential difference/volts (V).

Dependent variable: current (A).

Control variable: number of components (e.g. 1 filament bulb, 1 resistor), type of power source.

Set up the circuits as shown below and measure the current and the potential difference.



Draw graphs of the results once collected.

Series Circuits

Once one of the components is broken then all the components will stop working.

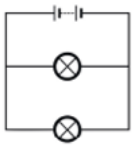
Potential difference – the total p.d. of the supply is shared between all the components.
$V_{total} = V_1 + V_2$

Current – wherever the ammeter is placed in a series circuit the reading is the same.
$I_1 = I_2 = I_3$

Resistance – in a series circuit, the resistance will add up to make the total resistance.
$R_{total} = R_1 + R_2$

Parallel Circuits

They are much more common - if one component stops working, it will not affect the others. This means they are more useful.



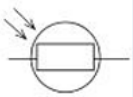
Potential Difference this is the same for all components.
$V_1 = V_2$

Current – the total current is the total of all the currents through all the components.
$I_{total} = I_1 + I_2 + I_3$

Resistance – adding resistance reduces the total resistance.

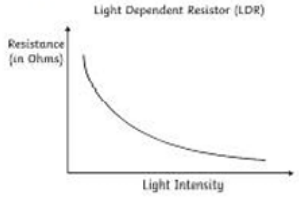
Circuit Devices

LDR – Light Dependent Resistor



An LDR is dependent on light intensity. In bright light the resistance falls and at night the resistance is higher.

Uses of LDRs: outdoor night lights, burglar detectors.

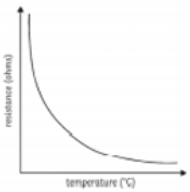


Thermistor



A thermistor is a temperature dependent resistor. If it is hot, then the resistance is less. If it becomes cold, then the resistance increases.

Uses of thermistors: temperature detectors.



energy transferred (J) = power (W) × time (s) **E = Pt**

Energy is transferred around a circuit when the charge moves.

energy transferred (J) = charge flow (C) × potential difference (V) **E = QV**

power (W) = potential difference (V) × current (A) **P = VI**

power (W) = current² (A) × resistance (Ω) **$P = I^2R$**

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



BRAIN DUMP

SPANISH GCSE ESSENTIALS (FOUNDATION)

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OPINIONS	
me encanta(n)	+ INFINITIVE OR + NOUN
me gusta(n)	
no me gusta(n)	
odio	
prefiero	

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

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

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

	PRESENT I play I am playing	PRETERITE I played	FUTURE I will play
jugar	juego	jugué	jugaré
ser	soy	fui	seré
haber	he	hube	habré
estar	estoy	estuve	estaré
tener	tengo	tuve	tendré
hacer	hago	hice	haré
ir	voy	fui	iré
comer	como	comí	comeré
ver	veo	vi	veré

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

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

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

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

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

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

OPINION STARTERS	
para mí	creo que
me parece que	pienso que

ADJECTIVES			
POSTITIVE		NEGATIVE	
barato/a	agradable	aburrido/a	terrible
fácil	bonito/a	fatal	feo/a
útil	tonto/a	difícil	inútil
genial	relajante	egoísta	malo/a
amable	fascinante	caro/a	duro

SPANISH GCSE ESSENTIALS (FOUNDATION)

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OPINIONS	
	+ INFINITIVE OR + NOUN

USEFUL EXPRESSIONS		
PRESENT	PAST	FUTURE
es		
hace		
hay		

INFINITIVE EXPRESSIONS	
I can	+ INFINITIVE
I want to	
You can	
You must	

NEGATIVES		
no	VERB	
no		
no		

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

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

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

INTENSIFIERS
mucho

FREQUENCY
todos los días

JOINING IDEAS
y - and

OPPOSING IDEAS
pero - but

OPINION STARTERS	
para mí	

ADJECTIVES			
POSTITIVE		NEGATIVE	

MFL

SPANISH GCSE ESSENTIALS (HIGHER)

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

SEQUENCERS
primero
para empezar
luego
despues
mas tarde
finalmente

CONDITIONALS	
si tuviera el dinero	+ CONDITIONAL
si fuera rico	
si tuviera la opción	
si pudiera	

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

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

	IMPERFECT I used to play	CONDITIONAL I would play	PERFECT/ PLUPERFECT I have/had played
jugar	jugaba	jugaría	he/había jugado
ser	era	sería	he/había sido
haber	había	habría	he/había habido
estar	estaba	estaría	he/había estado
tener	tenía	tendría	he/había tenido
hacer	hacía	haría	he/había hecho
ir	iba	iría	he/había ido
comer	comía	comería	he/había comido
llamarse	me llamaba	me llamaría	me he/había llamado

INFINITIVE EXPRESSIONS		
espero	I hope to	+INFINITIVE
suelo	I usually	
tengo ganas de	I want to	
voy a poder / podré	I will be able to	
estoy a punto de	I am about to	
acabo de	I have just	
tengo la intención de	I intend to	
en lugar de	instead of	
después de	after	
antes de	before	
es mejor	it is better to	
no se permite	it is forbidden to	

-ING		
estar + -ar = -ando -er = -iendo -ir = -iendo	estoy hablando	I am talking
	estaba hablando	I was talking
	estaré hablando	I will be talking

RELATIVE CLAUSES		
que + verb	that, which, who	el libro que lee es mío
lo que	what (an abstract idea)	lo que no me gusta

COMPARATIVES			SUPERLATIVES		
más	ADJECTIVE	que	el la los las	más	ADJECTIVE
menos		que		menos	
tan		como			

ADJECTIVES	
POSTITIVE	NEGATIVE
increíble	desagradable
maravilloso/a	estresante
entretenido/a	decepcionante
emocionante	raro/a
impresionante	ridículo/a
generoso/a	perezoso/a
afortunado/a	furiosos/a
divertido/a	doloroso/a
precioso/a	loco/a

SPANISH GCSE ESSENTIALS (HIGHER)

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OPINION STARTERS	
en mi opinión	

SEQUENCERS

CONDITIONALS	
si tuviera el dinero	+ CONDITIONAL
si fuera rico	
si tuviera la opción	
si pudiera	

JOINING	OPPOSING
por ejemplo	por otro lado
de manera que	aún si

SUBJUNCTIVES	
quiero que haga	
para que tenga	
cuando sea mayor	
a menos que pueda	
espero que haya	

	IMPERFECT I used to play	CONDITIONAL I would play	PERFECT/ PLUPERFECT I have/had played
ser			
ir			
estar			
tener			

INFINITIVE EXPRESSIONS		
espero		+INFINITIVE
suelo		
tengo ganas de		
voy a poder / podré		
estoy a punto de		
acabo de		
tengo la intención de		
en lugar de		
después de		
antes de		
es mejor		
no se permite		

-ING		
estar + -ar = -ando -er = -iendo -ir = -iendo		I am talking
		I was talking
		I will be talking

RELATIVE CLAUSES		
que + verb	that, which, who	el libro que lee es mío
lo que	what (an abstract idea)	lo que no me gusta

COMPARATIVES			SUPERLATIVES		
más	ADJECTIVE	que	el la los las	más	ADJECTIVE
menos		que		menos	
tan		como			

ADJECTIVES	
POSTITIVE	NEGATIVE

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Spanish Writing Mat (F)

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Time markers

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

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

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

Adjectives

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

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

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

OPINION STARTERS	
para mí	creo que
me parece que	pienso que

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

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

Opinions

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

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

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



Grade 7-9 Spanish WOW phrases

Spice up your 150 word and your speaking.





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

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Opinion phrases.

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

A range of adjectives.

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

A range of grammatical structures.

- Tener structures.

tener suerte – to be lucky (Ian tiene suerte porque va a Barcelona)
tener éxito – to be successful (Tengo éxito porque…)
tener miedo de – to be scared of (Tengo miedo de viajar en avion)
tener prisa – to be in a hurry (siempre tengo prisa por la mañana)

- Sin + infinitive (without)

sin perder un momento (without wasting a moment)
es mejor vivir sin fumar (it's better to live without smoking)
sin aprender los verbos irregulares el español resultará más dificil (without learning irregular verbs, Spanish would be more difficult)

- Antes de (before)

antes de coger el avion – before catching the plane.

antes de volver a casa – before going home

- Al + infinitive (on doing something)

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

- Después de (after doing something)

después de hacer mis deberes – after doing my homework.
después de charlar con mis amigos – after chatting to my friend.

- A pesar de – in spite of doing something

a pesar de hacer mis deberes, recibí un castigo ayer – despite doing my homework, I got a dention yesterday.
a pesar de trabajar bien en matemáticas, siempre saco malas notas – in spite of working hard in maths, I always get bad grades.

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

acabo de hacer mis deberes – I have just done my homework.
acabo de llegar de Barcelona – I have just arrived from Barcelona.
acaban de ganar cinco partidos – they have just won 5 matches.

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

estoy a punto de ir al cine con mis amigos ¡Qué guay! – I'm about to go to the cinema with my friends – how cool.
estaban en punto de salir cuando llegaron sus abuelos – they were just about to leave when their grandparents arrived.

- Desde hace/hace + time

estudio el Español desde hace 5 años – I have been studying Spanish for 5 years.
hace 5 años, fui a España por la primera vez – 5 years ago I went to Spain for the first time.

Use idiomatic expressions.

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

Extending your sentences (fancy connectives)

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

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

The Subjunctive

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

Introducing ideas

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

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

Name:

Tracker grid

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

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Week 1: Verbs

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

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

Teacher test score: ..... /20

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

Week 2: More verbs

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

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

Teacher test score: ..... /20

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

Week 3: Verbs of opinion

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

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

Teacher test score: ..... /20

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

Week 4: More verbs of opinion

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

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

Teacher test score: ..... /20

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

Week 5: Adjectives

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

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

Teacher test score: ..... /20

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

Week 6: More adjectives

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

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

Teacher test score: ..... /20

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

Week 7: Colours, shapes and materials

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

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

Teacher test score: ..... /20

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

Week 8: Comparisons

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

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

Teacher test score: ..... /2

Crime and Punishment (Why did new crimes emerge in the industrial period?)

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.

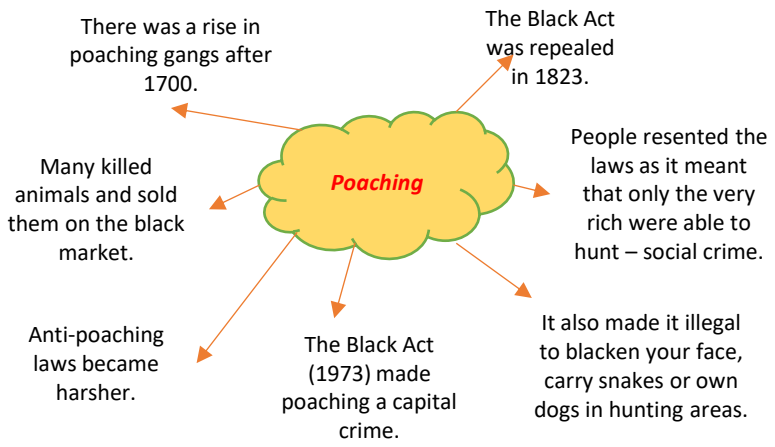
Repealed – made legal.

Import duties – taxes on goods being brought into the country.

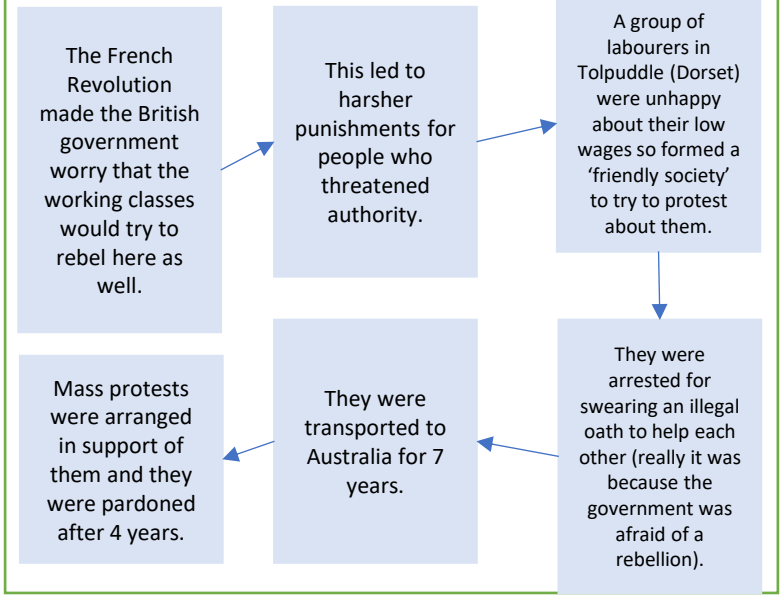
Unprofitable – people stopped making money.

Martyr – someone who suffers for their beliefs.

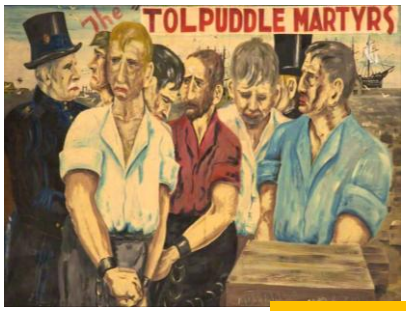
Was the law too harsh on poachers?



How threatening were the Tolpuddle Martyrs?







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:

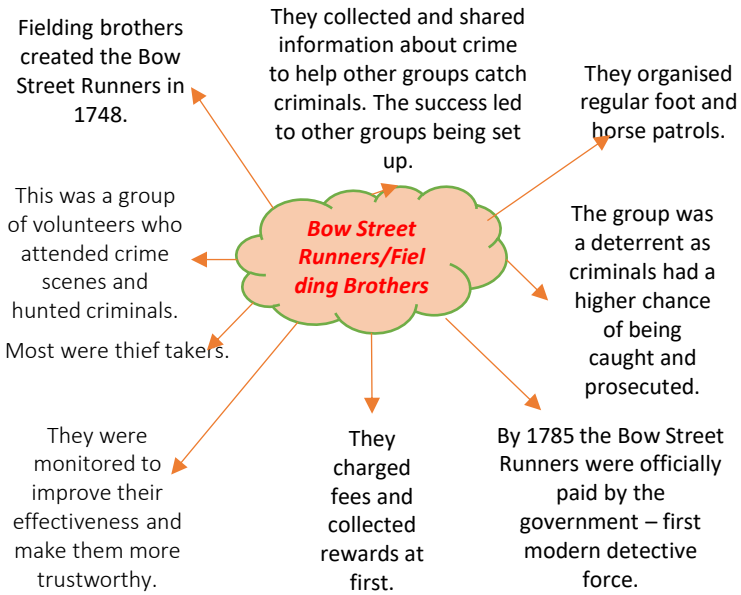
Home Secretary –government minister in charge of law and order.

Beat – area the officers would patrol.

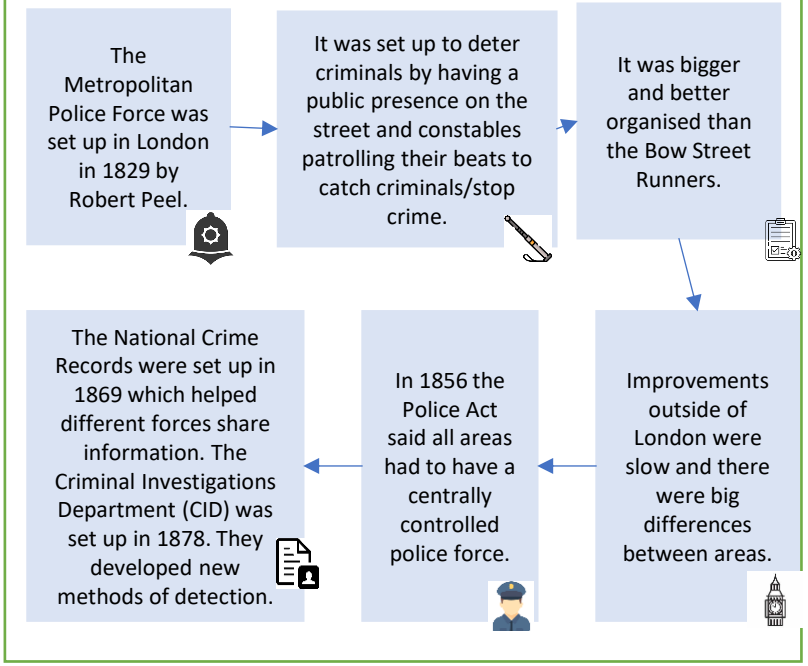
Centrally controlled – government controlled it.

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.

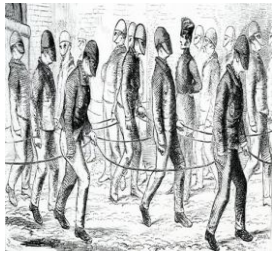
← Most convicts couldn't afford to return home after.

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 minutes 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.

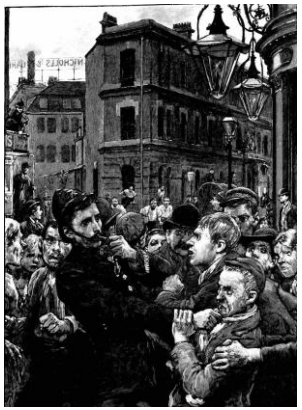
Orphans: Life expectance was low and so children would often be left to care for themselves.

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.



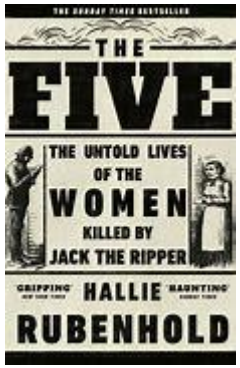
Gangs
Alongside individual petty thieves, large professional gangs of thieves and pickpockets operated.

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.

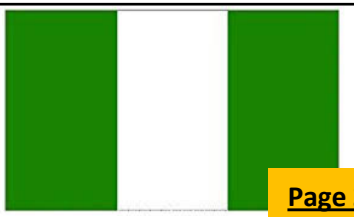
Effects of economic development on quality of life for the population





- 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.





Geog your memory/ Hi-story Lane

Use the LANES to recall key information about a particular topic, 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.

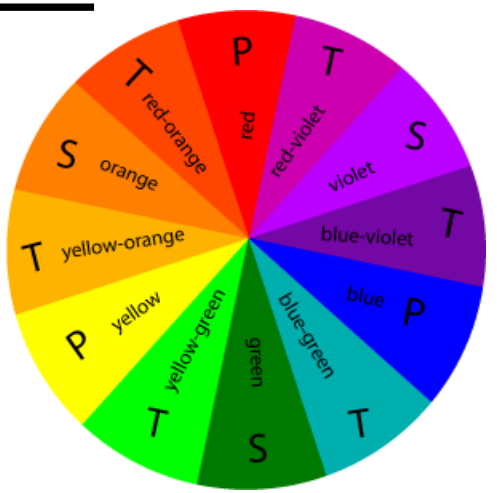
Acrylic Painting -Basics:



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





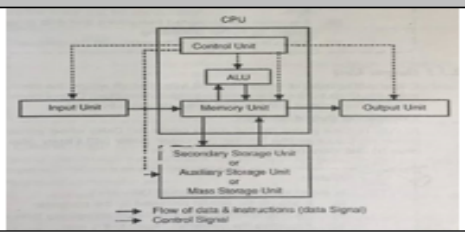
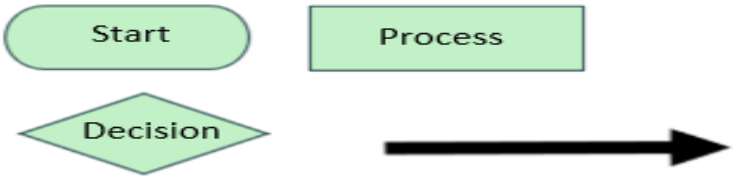
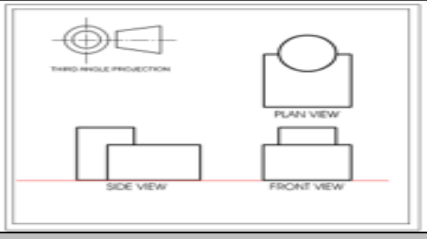
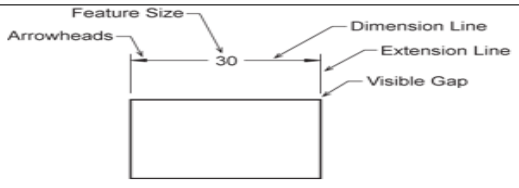


- LAYER (when dry\textures go on last);
- BLEND (when wet and with clean dry brush);
- CONSISTENCY (add the right amount of water to create correct thickness of paint for effect required);
- SMOOTH BLENDING (long slow brush strokes);
- PAINTERLY (Brush strokes to create textures\selected artist's style).

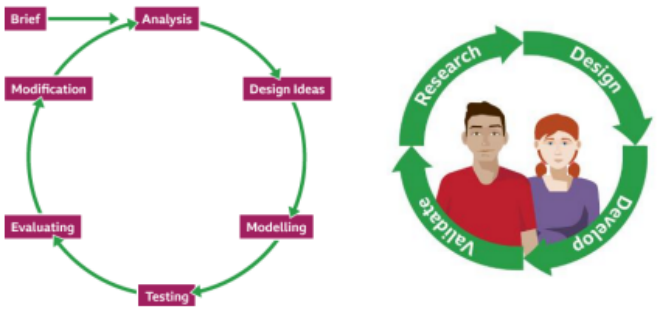
- Mix just the right amount of paint needed;
- Use the correct brush for the job (e.g. detail brush for small areas or detail\flat brush for blending\ large brush for large areas\dry bristle brush for textures).

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



Design Communication		
1	Isometric Drawing	**Isometric drawings** are a type of 3D representation of an object on a 2D surface, where all three axes (length, width, and height) are equally foreshortened.
2	Oblique Drawing	**Oblique drawing** is a simple type of 2D technical drawing used to represent 3D objects.
3	Orthographic Drawing	**An orthographic drawing,** also known as an orthographic projection, is a way to represent a 3D object in 2D by using multiple views.
4	Exploded View Drawing	**An exploded view drawing** is a technical illustration that shows the relationship and order of assembly of components within a product or system. Also known as an **assembly drawing.**
5	Free hand sketching	**Freehand sketching** is the art of drawing without relying on tools like rulers or stencils, using only your hand, pencil, and paper. Also known as a **concept sketch.**
6	Working Drawing	**Working drawings** are detailed, scaled technical drawings used in construction and manufacturing to guide the building or production process.
Diagram		
7	Block Diagram	 Diagram that shows in schematic form the general arrangement of the parts or components of a complex system or process, such as an industrial apparatus or electron circuit.
8	Flow chart Symbols	
9	3rd Angle Orthographic orientation	
Keywords Vocabulary		
10	Title Block	Figure 2 **Title block in compact form** Responsible dept. ABC 2 | Technical reference Patricia Johnson | Document type Sub-assembly drawing | Document status Released Legal owner | Created by Jane Smith | Approved by: David Brown | Title, Supplementary title Apparatus plate, Complete with brackets | AB123 456-7 Rev. A | Date of issue 2002-05-14 | Lang. en | Sheet 1/5 180 Figure 3 **Title block with person name fields on additional line** Responsible dept. ABC 2 | Technical reference Patricia Johnson | Created by Jane Smith | Approved by: David Brown Legal owner | Document type Sub-assembly drawing | Document status Released Title, Supplementary title Apparatus plate, Complete with brackets | AB123 456-7 Rev. A | Date of issue 2002-05-14 | Lang. en | Sheet 1/5 180
11	Dimensions	
12	CAD- Computer aided Design	Advantages • Competitively priced packages. • Drawings can be produced an amended quickly. • Most cad programs have online training to upskill. • Range of programs that are available internationally. Files can be shared easily. • CAD produces designs that can be rendered and viewed from a 360 degree.
		Limitations • Requires high processing capacity so IT needs to be high quality- expensive. • Initial training in complex programs is necessary. • Can be time consuming to produce initial designs. • Computers using the software are susceptible to software changes.

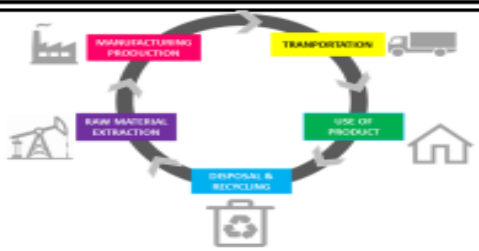
Engineering	Designing Processes	Year 10/11	R038

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

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

Engineering	Designing Requirements	Year 10-11	R038

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

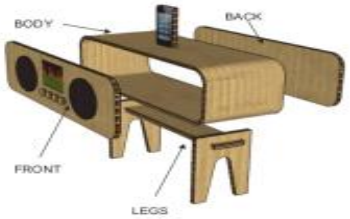
		Diagram
10	Supply Chains-	 **THE SUPPLY CHAIN** – is a **network** between a company and its suppliers to produce and distribute a specific product, and the **supply chain** represents the steps it takes to get the product or service to the customer. Left is an infographic to show the general supply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

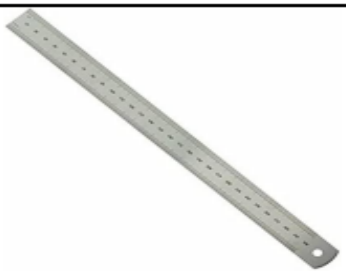
Keywords Vocabulary		
16	Tooling	Manufacturing equipment needed to produce a component, such as cutting tools, dies, gauges, moulds or patterns.
17	Deburring	Process to remove sharp or raised edges on a material caused by other processes.
18	Labour Costs	Costs associated with employees in a business,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

Engineering	Designing Requirements	Year 10-11	R038

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

Engineering	Evaluating Design Ideas	Year 10-11	R038

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

13	CAD Modelling		CAD software offers numerous advantages for modelling ideas, including improved accuracy, faster design iterations, better visualization, enhanced collaboration, and cost reduction. It enables designers to create precise 2D and 3D models, simulate designs, and easily make changes, leading to more efficient design processes and higher quality products.
14	Vernier Callipers		Vernier Caliper is a widely used linear measurement instrument with the least count of 0.02 mm. It is used to measure linear dimensions like length, diameter, depth. It is a basic instrument of measurement, consisting of two types of scale. The main scale and the Vernier scale can slide along the main scale. Two types of measurement we can do, the first one is through the external jaw (measure external dimensions) and another one is the internal jaw (measure internal)
14	Micrometer		External Micrometer is also known as Outside Micrometer or External Micrometer. It is used to check the outside diameter of the circle by the means of the accuracy of 0.01 mm or up to 0.001 mm.
15	Steel rule		A steel rule is a single piece linear measuring instrument. The steel scale indicates two units that are cm and inches, cm division on one side and inches, on another side.

Keywords Vocabulary		
16	**Subjective Evaluation**	Subjective evaluation refers to assessments or judgments based on personal opinions, feelings, interpretations, or preferences, rather than on objective facts or measurable criteria. It involves individual perspectives and can vary from person to person.
17	**Objective Evaluation**	Objective evaluation refers to assessments that are based on measurable, verifiable facts and data, rather than on personal opinions or biases. It emphasizes impartiality and consistency, aiming for judgments that would be similar regardless of who is making them .
18	**Summative Evaluation**	Summative evaluation is a method of assessment conducted at the end of a program, course, or project to measure its overall effectiveness and determine the extent to which objectives have been achieved.
19	**Ranking matrix**	In the context of design, a ranking matrix is a tool used to prioritize or rank different design options or features based on their importance or effectiveness according to specific criteria. It helps designers make informed decisions by systematically comparing and evaluating alternatives.
20	**Qualitative data**	Qualitative data is non-numerical information that describes characteristics and qualities. It focuses on concepts, opinions, and experiences, rather than numerical measurements or statistics. This type of data is often gathered through interviews, observations, and text-based sources, providing insights into the "why" and "how" behind phenomena.
21	**Quantitative data**	Quantitative data is numerical information that can be counted or measured, often used for statistical analysis to understand quantities, frequencies, and trends. It differs from qualitative data, which describes characteristics or qualities. Essentially, quantitative data provides numerical values that can be subjected to mathematical calculations and statistical analysis.

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











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.

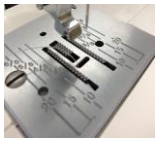
Free machine embroidery- this is where you drop the feed dogs into the machine and move the fabric freely as it stitches. It is creative and allows you to stitch freely – often called 'drawing with stitches'.


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








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

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






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.

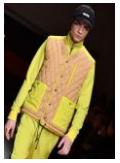




English quilting is the most common and popular type of quilting. This also uses 2 layers of fabric with a layer of wadding in between the 2 layers. Designs are stitched through the 3 layers, usually in lines to create a typical English quilted effect.





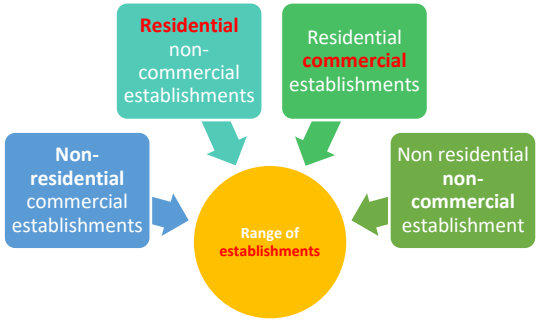







The structure of the hospitality and catering industry

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

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

3. Standards and ratings

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)

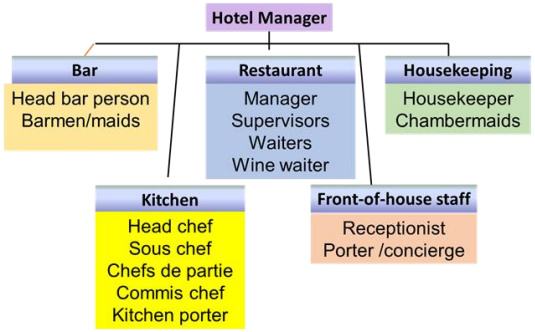
Environmental standards

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%

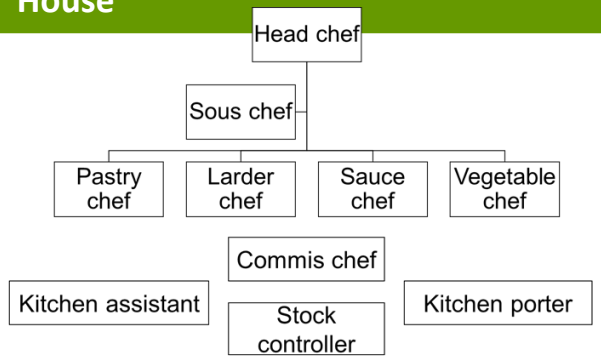
Extended reading
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4. Job roles in the industry

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

Full-time and part-time employees must have



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

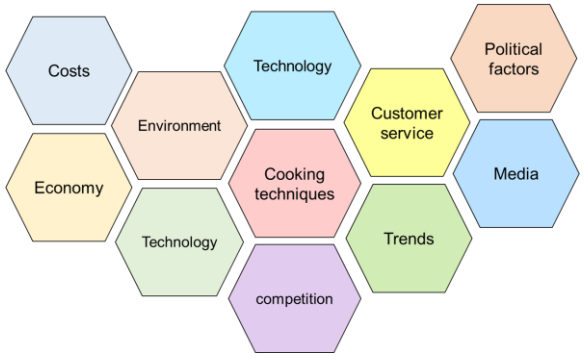
Adult workers are entitled to 24 hours off in each 7-day period and young workers (15-18) are entitled to 2 days in 7.
Adult workers are entitled to at least 20 minutes uninterrupted rest if their working day is longer than 6 hours.
Young workers are entitled to 30 minutes rest if their working day is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

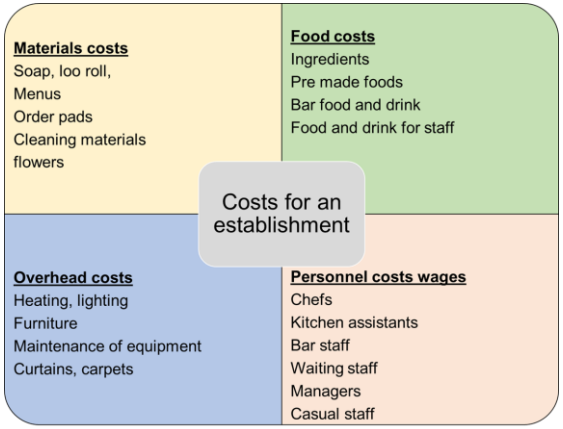
17. Factors affecting success



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

One, two, three...Knowledge Retrieval

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

Question/ Topic	1	2	3

TA2: Positive Effects the Media can Have in Sport

Increased Participation

- **Increased awareness:** studies have suggested that watching sport on TV may positively influence people to take part in a sport. People can build an interest and then this can increase participation rates.



- **Inspiring others to participate:** When the media cover sport it can inspire people to emulate the sports performers they have seen. Seeing sporting greats achieve success can inspire people to chase their own dreams.



- **Creating and adopting positive role models:** By being seen, heard or spoken about in the media sports performers often become an inspiration to others as they are deemed to be positive role models. Sports performers can also be positive role models due to their behavior and actions in their personal lives.



- **Breaking barriers to participation:** In promoting positive role models within media people can realize that the barriers which may have stopped them participating can be overcome. For example, people with disabilities playing adapted forms of a sport using modified equipment.



Raising the profile of the sport

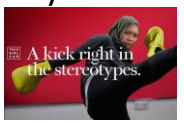
The media can share positive messages and raise the profile of sports, break down barriers and promote the health and fitness industry. The concept of maintaining a **healthy lifestyle** can be promoted through the media and the culture of those watching may be influenced to stay fit and healthy.



- **Sports initiatives** seek to increase participation and aim to achieve a specific goal such as to increase participation. **England Netball launched** the 'back to netball' campaign targeted at re engaging women and girls who had previously given up playing netball. In 2021 they reported that over 110,000 women had taken part in the campaign.



- **Promotion of an active, healthy lifestyle t**he media can use campaigns to promote an active and healthy lifestyle. Examples include:



- **This Girl Can** – lifelong benefits to sport and women/ girls. There have been some iconic This Girl Can Adverts (including an advert centered around women playing sport while on their period) and the first TV advertisement was in 2015.



- Sport England promotes the **'We Are Undefeatable'** campaign, inspiring those with a long-term health condition to believe they can still participate in physical activity.

YEAR 10 DANCE

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



Great dancers don't just perform steps – they develop their skills, make creative decisions and communicate meaning through movement.

REMEMBER
Practice with purpose. Take risks. Learn from you and others. Keep improving!

DEVELOPING PERFORMANCE SKILLS

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

1. PHYSICAL SKILLS

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



DEVELOP BY:

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

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

2. TECHNICAL SKILLS

Use dance technique and movement vocabulary with control and accuracy.



DEVELOP BY:

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

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

3. EXPRESSIVE SKILLS

Communicate ideas, emotions and meaning to your audience.



DEVELOP BY:

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

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

DEVELOPMENT OF MOVEMENT

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

1. ACTION

Change how the body moves.

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

TIP: Explore changes to create contrast.

2. SPACE

Change where the movement happens.

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

TIP: Use the space around you creatively.

3. DYNAMICS

Change the energy or quality.

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

TIP: Dynamics help show mood and intention.

4. RELATIONSHIPS

Change how the body relates to others.

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

TIP: Relationships build connection and meaning.

5. STRUCTURE

Change the order or organisation.

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

TIP: A clear structure helps your dance flow.

GROUP CHOREOGRAPHY: DEVICES AND STRUCTURES

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

CHOREOGRAPHIC DEVICES

Ways to make movement and choreography interesting.

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

CHOREOGRAPHIC STRUCTURES

The overall plan or shape of the dance.

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

TIP: Think about why you choose a device or structure – how does it help communicate your idea and engage your audience?

KEY POINTS TO REMEMBER

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



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

FACTORS AFFECTING GROWTH AND DEVELOPMENT

Growth and development are influenced by many factors throughout life. These factors can have positive or negative impacts on an individual.

FACTOR	POSITIVE IMPACT	NEGATIVE IMPACT
1. PHYSICAL Includes diet and nutrition, exercise, lifestyle choices (alcohol, smoking), genetics, physical and mental health, disability, sensory impairment.	• Good nutrition and regular exercise support healthy growth and strong bodies. • Good health increases energy, independence and life expectancy.	• Poor diet, lack of exercise, smoking or alcohol misuse can cause illness and poor development. • Disability or long-term illness can limit activities and independence.
2. SOCIAL Includes positive and negative relationships, social inclusion/ exclusion, opportunities, discrimination, bullying.	• Supportive relationships build confidence and self-esteem. • Being included and having opportunities helps develop skills and a sense of belonging.	• Bullying, discrimination or rejection can cause low self-esteem, stress and isolation. • Social exclusion can limit choices and opportunities.
3. EMOTIONAL Includes anxiety, fear, sadness/ happiness, grief, attachment, family security.	• Secure attachments and emotional support build confidence and resilience. • Feeling happy and safe improves mental well-being and helps coping skills.	• Anxiety, stress, sadness or grief can affect concentration, behaviour and relationships. • Lack of emotional support can lead to insecurity and mental health problems.
4. ECONOMIC Includes family income, employment, debts, bills, wealth, education, private/ public health providers (services).	• Good income and stable employment provide security and choices. • Access to quality education, healthcare and activities supports growth and future opportunities.	• Low income, unemployment or debt can cause stress and affect well-being. • Limited money can reduce access to education, healthcare and other opportunities.
5. CULTURAL Includes community, religion, race, gender identity, sexual orientation.	• Culture, beliefs and traditions give a sense of identity and belonging. • Community and religion can provide support, values and guidance.	• Discrimination, prejudice or pressure to conform can affect self-esteem and opportunities. • May lead to exclusion or unfair treatment.
6. ENVIRONMENTAL Includes housing needs and conditions, pollution (air, noise, light), neighbourhood, home environment.	• Safe housing, clean air and green spaces promote good physical and mental health. • A safe neighbourhood encourages outdoor play and socialising.	• Poor housing, pollution and noise can cause illness and stress. • Unsafe neighbourhoods can increase fear and limit activities.

KEY POINT: These factors often interact with each other. One factor can influence another, creating either positive or negative effects on growth and development.

A supportive environment in all areas helps individuals reach their full potential at every stage of life.

Quiz maker

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

1.	2.	3.
A ◯	A ◯	A ◯
B ◯	B ◯	B ◯
C ◯	C ◯	C ◯
D ◯	D ◯	D ◯

4.	5.	6.
A ◯	A ◯	A ◯
B ◯	B ◯	B ◯
C ◯	C ◯	C ◯
D ◯	D ◯	D ◯

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:

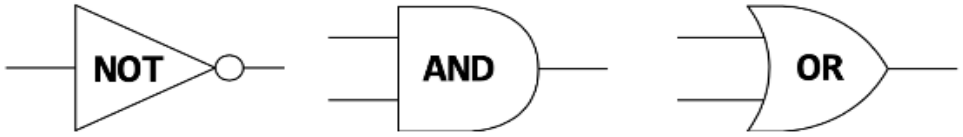
Information that is already available and can be used by the business in some capacity

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

Knowledge Organiser 9 : Algorithms

1. Computational Thinking

Abstraction	The process of removing unnecessary details and including only the relevant details.It is a method of computational thinking that focusses on what is important in problem solving
Decomposition	The process of breaking a complex problem down into smaller more manageable parts. Dealing with many different stages of a problem at once is much more difficult than breaking a problem down into a number of smaller problems and solving each, one at time.
Advantages of Program Decomposition	• Makes problems easier to solve. Different people can work on different parts of a problem at the same time… • …reducing development time. • Program components developed in one program can easily be used in other programs
Algorithmic Thinking	A way of getting to a solution by identifying the individual steps needed. By creating a set of rules, an algorithm that is followed precisely, leads to an answer. Algorithmic thinking allows solutions to be automated.

2. Input Processes and Output

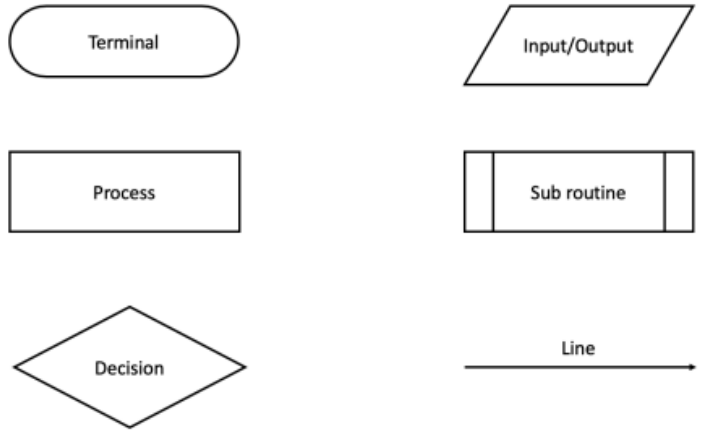
Inputs	• Anything which needs to be supplied to the program so it can meet its goals. • Often input by the user. • Consider an appropriate variable name and data type for the input.
Processes	• Consider what calculations need to be performed while the program is running. • Does data need to change formats or data types
Outputs	• Consider what your program need to output. • Consider what form this output need to take. • Consider an appropriate variable name and data type for any output

3. Structure Diagrams

- Structure diagrams illustrate problem decomposition.
- They can be used for developers to understand a problem to code and to share with users during systems analysis.
- They are produced using a method known as step-wise refinement.
- Break problem down using decomposition into ever smaller components.
- Some areas of the program will needed breaking down more than others.
- The lowest level nodes should achieve a single task.
- These can then be coded as a single module or sub-program.

3. Flowcharts, Pseudocode and OCR Reference Language

Flowchart	A method of representing the sequences of steps in an algorithm in the form of a diagram. Sometimes called a Flow diagram
Energy	2% of global energy consumption is used by data centres
Pseudocode	A text based alternative of representing the sequences of steps in an algorithm. Pseudo-code can be thought of as a simplified form of programming code.
OCR Reference Language	You must be able to read this but you can always use Python in your exams–but be precise



4. Types of Errors

Syntax Error	Syntax errors are errors which break the grammatical rules of the programming language. They stop it from being run/translated
Logic Errors	Logic errors are errors which produce unexpected output. On their own they won't stop the program running

5. Trace Tables

- A vital skill for understanding program flow and testing the accuracy of an algorithm for logic is called "Tracing Execution".
- Examine a printed extract of program code and running thorough the program.
- Take each line at a time and write out in a trace table the current state of each variable. Noting down any output the program produces.
- Each variable present in the program should have its own column in the trace table.
- A new row should be added under any column if the state of a variable changes.
- Trace tables are an excellent way to track down logic errors in a problem.

Knowledge Organiser 11 : Programming Fundamentals 1

1. Key Terms

Variable	A value stored in memory that can change while the program is running
Constant	A value that does not change while the program is running, and is assigned when the program is designed
Operator	A character that represents an action, e.g. "+" is a mathematical Operator
Assignment	Giving a variable or constant a value
Casting	Converting a variable from one data type to another
Input	A value that is entered into the program after the program has started running
Output	A value that produced by the program and either saved or displayed to the user

2. Correct Use of Data Types

Integer	A positive or negative whole number used when arithmetic will be required
Real / Float	A positive or negative decimal number
Character	A single alphanumeric
String	Multiple characters joined together [n.b. use this for credit card numbers]
Others	Some languages have others, e.g. date, picture…

3. The Three Basic Programming Constructs

Sequence	Executing one instruction after another
Selection	Program branching depending on a condition
Interation	sometimes called looping, is repeating sections of code. Condition controlled or count controlled

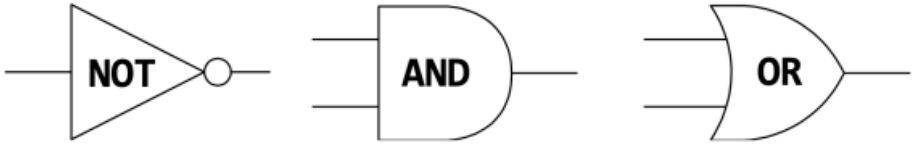
4. Common Arithmetic Operators

+	Addition
-	Subtraction
*	Multiplication
/	Division
^	Exponentiation
MOD	Modulus

5. Common Comparison Operators

==	Is equal to
!=	Is not equal to
<	Is lesser than
>	Is greater than
<=	Is lesser than or equal to
>=	Is greater than or equal to

5. The Common Boolean Operators



6. Basic String Manipulation (general)

string.length	Obtains the length of the string in characters
string.upper	Converts the string to uppercase
string.lower	Converts the string to lowercase
string.left(n)	Gets the left-most n characters of the string
string.right(n)	Gets the right-most n characters of the string
string.substring(a,b)	Gets b characters of the string starting at position a
ASC(char)	Returns the numerical ASCII value of char

Note : this is NOT the way things are done in any particular programming language. In particular Python does things differently

7. Basic File Handling Operations (OCR Reference Language)

myFile=open("…")	Open a file
myFile.close()	Close a file
myFile.readLine()	Read a line from a file
myFile.writeLine()	Write a line to a file
myFile=("…")	Create a new file
string.substring(a,b)	Gets b characters of the string starting at position a
A Workflow	myFile = open ("sample.txt") while NOT myFile.endOfFile() print (myFile.readLine()) endwhile myFile.write("Hello") myFile.close()

Note : this is NOT the way things are done in any particular programming language. In particular Python does things differently

1. Storing Data in Records

In Text Files	• Stored on the secondary storage (hard disk/SSD/flash). • Used to store data when the application is closed. • Useful for small volumes of data. E.g. configuration files. • Each entry is stored on a new line or separated with an identifier such as a comma or tab. • Can require a linear search to find/read data which is slow (if there is no order to the data or record structure). • Structured text files E.g. CSV, XML & JSON are popular for storing and exchanging data between applications
In Arrays and Lists	• Stored in RAM. • Used to store data when a program is running. • Useful for small volumes of data an algorithm is using. • Can be single or multi-dimensional allowing for tables of data to be stored. • Uses indexes to refer to data items. • Efficient algorithms or linear searches can be used to find data
In Databases	• Often stored on remote servers. • Often used to store data shared by many users, e.g. ticket booking system. • Data is stored in records and fields. • Uses advanced data structures to store data efficiently. • Uses very efficient algorithms to search and sort data executed on the servers. • More secure than text files. • The order of the fields in the database in independent of the code
Record Structure	• A collection of related fields. • A field is a variable. • Each field in a record can have a different data type. • Note the dot syntax when using records: record<dot>Field e.g. car1.Make

2. SQL

SELECT	which fields to be returned. * can be used to indicate all fields
FROM	which table. Databases can have more than one table, each with their own unique name
WHERE	records meet a condition. LIKE and % can be used as a wildcard
Example	SELECT name, age, iq FROM person WHERE name LIKE 'FIS%'

3. Arrays

Definition	An array is a series of memory locations – or 'boxes' – each of which holds a single item of data, but with each box sharing the same name. All data in an array must be of the same data type
Use	• Indexes usually start at 0 for the first data item (known zero indexed). • Arrays may be single or multiple dimensions. • Visualise dimensions as a column (single dimension) or table (two dimension) • In Memory two dimensional arrays are still stored in a linear fashion

4. Sub programs

Why Use them	• Larger programs are developed as a set of sub-programs called subroutines. • Structuring code into sub-programs makes the code easier to read and debug. • Each sub-program can easily be tested. • Sub-programs can be saved into libraries and reused in other programs
Functions	Functions return values and create reusable program components.
Procedures	Procedures create a modular structure to a program making it easier to read. They do not return values

5. Random Numbers

Deterministic	Programs that run on computer systems are deterministic – with exactly the same inputs they should produce exactly the same outputs.
Real World	Randomness is easy to produce in the real world – spinning a wheel, rolling a dice and so on are millennia-old techniques but producing the same randomness in a computer program is actually rather tricky
Computer	• Computers do not produce random numbers at all • They use complex mathematical techniques to produce a series of numbers that may appear random but are really only an approximation to randomness (called pseudo-random numbers) • We refer to them as random numbers anyway
OCR Reference Language	myVariable = random (1,6) will produce a random number between 1 and 6

Film Studies

This idea of Britishness was more prominent in Britain as a result of the London 2012 Olympics.



Skyfall marked the 50th anniversary of the film franchise.



Paper 2 Section C: Look and Style of

SKYFALL

SKYFALL 007

Dir. Sam Mendes

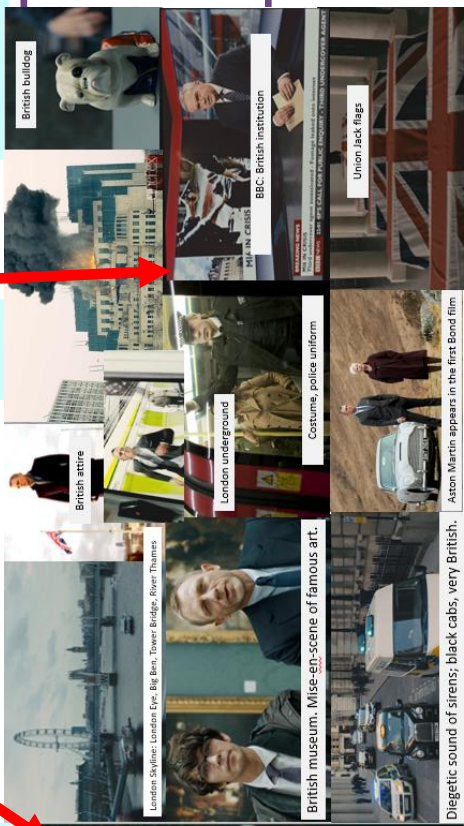
Analysis of style using film language

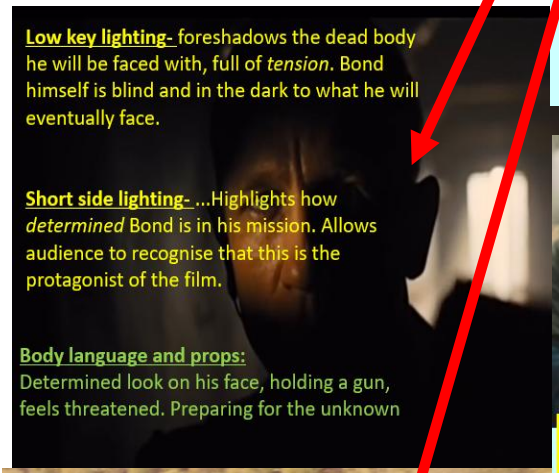
There are Many styles and looks reflected in Skyfall:

- Intriguing and Mysterious
- Updated and Modern
- Luxurious and Expensive
- Sexy and Classy
- Full of action
- Celebrates Britain
- Vulnerable and realistic characters

In order for you to discuss a style aspect of the film, you will need to refer to **film form/ film language** and explain how meaning is created.

Mise-en-scene	Cinematography	Sound	Editing
• Setting • Costumes/ props • Lighting/ colour • Performance • Gestures/ body language	• Framing • Camera shots/ angles • Shot size • Focus	• Diegetic/ non diegetic • Sound bridges • Sound effects • Ambient sounds	• Types of editing • Pace of editing • Special effects





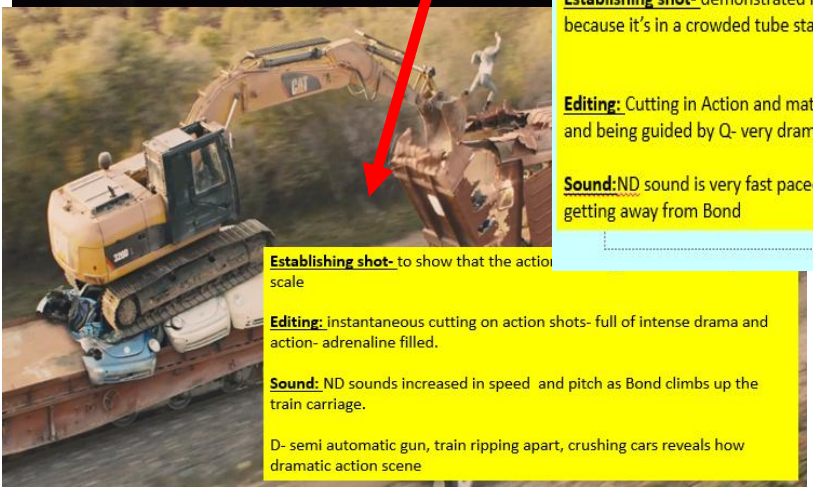




Low angle to show the lengths the villain is willing to go to escape Bond.
Establishing shot- demonstrated how full of adrenaline the scene is because it's in a crowded tube station

Editing: Cutting in Action and match cut effect shows that Bond is blind and being guided by Q- very dramatic, intense.

Sound: ND sound is very fast paced to reveal how quickly the villain is getting away from Bond

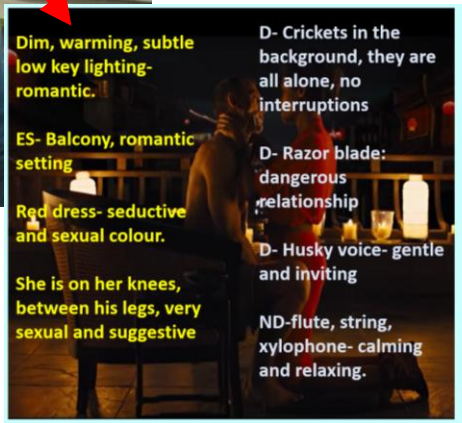


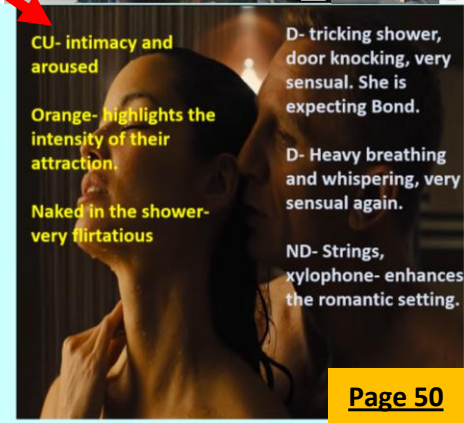
Establishing shot- to show that the action scale

Editing: instantaneous cutting on action shots- full of intense drama and action- adrenaline filled.

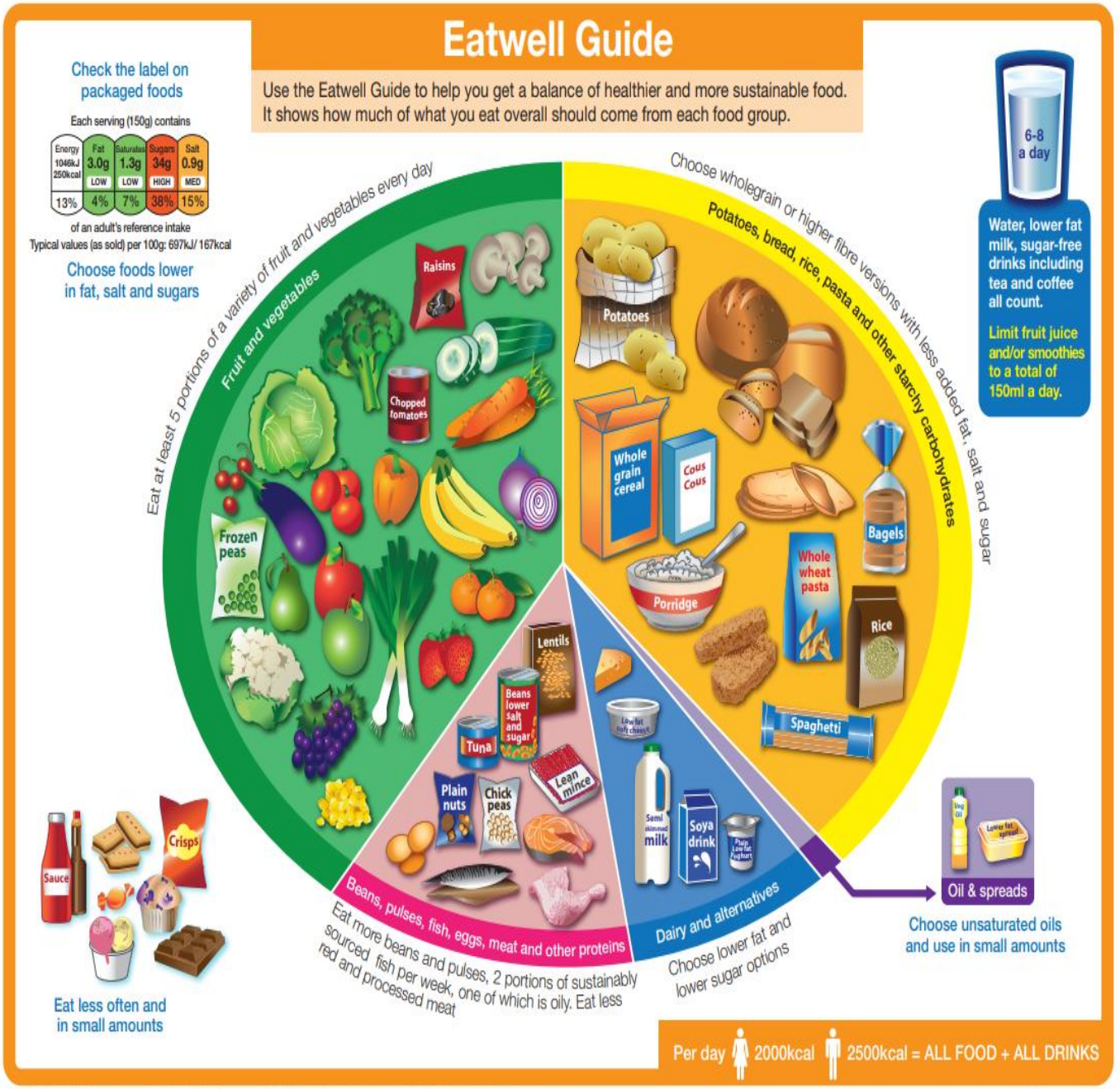
Sound: ND sounds increased in speed and pitch as Bond climbs up the train carriage.

D- semi automatic gun, train ripping apart, crushing cars reveals how dramatic action scene





Task 3: Nutritional needs of a child aged 0-5 years old



The Eatwell Guide shows the proportions of the main food groups that form a healthy, balanced diet:

- Eat at least 5 portions of a variety of fruit and vegetables every day
- Base meals on potatoes, bread, rice, pasta or other starchy carbohydrates; choosing wholegrain versions where possible
- Have some dairy or dairy alternatives (such as soya drinks); choosing lower fat and lower sugar options
- Eat some beans, pulses, fish, eggs, meat and other proteins (including 2 portions of fish every week, one of which should be oily)
- Choose unsaturated oils and spreads and eat in small amounts
- Drink 6-8 cups/glasses of fluid a day

If consuming foods and drinks high in fat, salt or sugar have these less often and in small amounts.



British Nutritional guidelines

Did you know that healthy eating habits developed in the early years can set a child up for good health in later life?

Children need a diet made up of foods from the 4 main food groups, in the right balance and in portion sizes just right for them.

Your child will need about this number of portions across the day from each food group:

- 5 -a-day Starchy Foods
- 5 -a-day (or more) Fruit & Vegetables
- 3 -a-day Dairy Foods
- 2 -a-day* Protein Foods

= 5532-a-day

*3 portions if child is vegetarian



If your child is eating well and over 5 years old, then encourage them to eat low-fat dairy products as they contain less saturated fat and can provide the same amount (if not more) calcium.

Have a fruit bowl that is accessible to encourage your child to eat fruit.

Vitamin C aids the absorption of iron from plant sources (see iron).

Offer a variety of different starchy foods – include wholegrain versions and potatoes with their skins on as they contain more fibre.

Your child should eat at least two portions of fish a week, one of which should be oily fish such as salmon, mackerel, trout or sardines. Oily fish contains long chain omega 3 fatty acids which are important for health (see long chain omega 3 fatty acids below).

Too much vitamin A may be harmful. If you think your child needs a supplement, make sure they are age specific and always consult a health professional before you do so.

Too much saturated fat can increase the risk of your child developing serious health conditions in later life such as heart disease. Replace saturated fats in your child's diet with unsaturated fats wherever possible.

British Nutrition Foundation

5532-a-day

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.

Planning Interactive Products

Purpose of a Mood board:

- Used to generate ideas for the look, colour and styles for a project
- Used by the designers of a project

Content of a Mood board:

- Images
- Logos
- Colours
- Text/fonts/styles/keywords
- Textures, fabrics and other materials
- Digital mood board may have sounds and video clips
- Annotations/labels

Purpose of a Mind map:

- Generate ideas quickly
- Develop and show links between different thoughts and ideas

Content of a Mind map:

- Central node with a main theme
- Nodes and sub-nodes
- Interconnecting lines and branches to link ideas together
- Text
- May include images

Purpose of a wireframe diagram:

- Plan the layout of a product to identify the layout and the assets which will be used.

Content of a Visualisation Diagram:

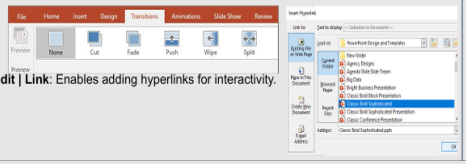
- Image/Movie frames
- Colour/colour schemes
- Text headings, text lines
- Layout/position
- Interactivity
- Annotations and labels providing more details

Adding Interactive Elements

Slide Master: Used to prepare background and font styles.



Transitions | Animations: Used to add visual effects and movement between slides.



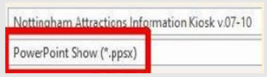
Edit | Link: Enables adding hyperlinks for interactivity.

Include video and audio: Supports embedding multimedia elements.

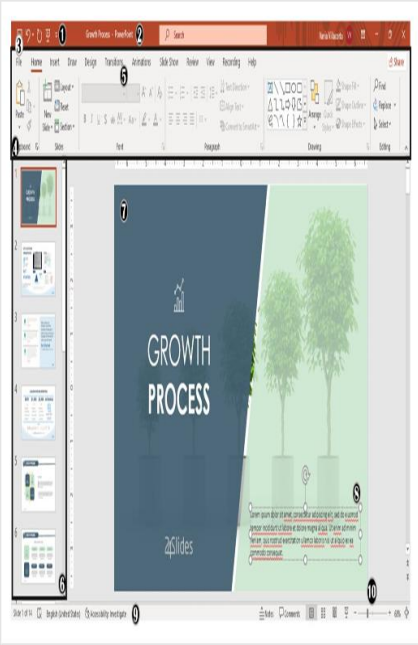


Maintain a consistent theme: Ensures a uniform design throughout with master slides

Export the final product: Allows saving as a suitable file type (e.g., PowerPoint Show *.ppsx).



Microsoft Powerpoint Presentation Features



PowerPoint Main Window

The first aspect to learn is PowerPoint Main Window. To facilitate the explanation, we've organized its main elements with numbers from 1 to 10:

1. **Quick Access Toolbar**: This toolbar allows you to customize commands so that you have them at hand. To do so, you only have to select it and go to "More commands."
2. **Title Bar**: This bar shows the name of your file and other "Suggested options," like Slide Master View. The options you get will vary depending on how you use the commands.
3. **File Tab:** You'll see the Home Menu (PowerPoint backstage) by selecting this tab. There you can create a new presentation, save it, print it, export it, and many other options.
4. **The Ribbon:** It's where PowerPoint tabs and tools are. These tools can also be called "commands" or "features".
5. **More Button or Down Arrow:** These arrows allow you to view more tools or layout options.
6. **Slides Pane:** This pane shows your slides in thumbnail size. Right-clicking each slide allows you to perform more actions. It's perfect for PowerPoint beginners!
7. **Slide:** It's PowerPoint's blank canvas and the frame that will be seen when presenting the file.
8. **Placeholders**: They are the dotted boxes that store your content.
9. **Status Bar:** This bar allows you to view the slide number, grammatical errors, speaker notes, and comments on your file.
10. **Zoom:** It allows you to enlarge or minimize your PowerPoint workspace. The range is 10 to 400%.

Design Principles

Accessibility – Making the product easier use with Language options, colours, fonts, icons.



House styles – The common layout, colours and mediums so audience recognise the brand.



Graphical User Interface – how the user interacts the visual layout, must make it as easy to use possible.



Websites: available on many platforms. Users can interact with touch screens, computer mice and voice commands.



Information Kiosks: available in real life locations. must be considered so a wide audience can use it.



Mobile Apps: available on smartphones and tablets.Touch screens will also use voice commands.



Adding Interactive Elements

Layout – where multimedia elements are positioned are used seeing familiar layouts of products. For example: logos on websites in the top left that go to the homepage.



Colour scheme – This should suit the purpose for the audience and the product. The house style will often feature a colour scheme. For example: green colours for a natural theme.



E-Learning Apps: available on platforms, so will use the same inputs as websites or mobile apps.



Video games: available on many platforms, some which are designed for them with their own peripheral. GUIs not always similar.



Reviewing Interactive Products

Methods of testing and checking

- Test plan
- Checklist
- Success criteria

Elements of interactive media to test/check

Testing input or behaviours

- to trying to break inputs
- testing by following navigation paths or by deliberately not

Functionality tests

- navigation
- interactivity
- inputs and outputs

Generate ideas quickly

- Develop and show links between different thoughts and ideas

Techniques to review the fitness for purpose of completed interactive digital media

Suitability for client requirements

- suitability of content
- accessibility

Review of audio-visual quality, aesthetics, appeal, interaction, and engagement

Constraints which limit the effectiveness of interactive digital media

Interactive digital media constraints

- Time
- Resources
- Hardware
- Software
- Skills

Interactive digital media improvements

- Overall style and design
- Quality
- Content and concept
- Animation/video
- Audio

Further development opportunities for digital media

Further developments

- scope
- additional multimedia elements
- more or different interactivity
- altering product type

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

THE KNOWLEDGE MAP

Visualise what you know

1. KEY VOCABULARY

2. KEY IDEAS

TOPIC

3. IMPORTANT FACTS

4. EXAMPLES

THE KNOWLEDGE MAP

Visualise what you know

1. KEY VOCABULARY

2. KEY IDEAS

TOPIC

3. IMPORTANT FACTS

4. EXAMPLES

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.