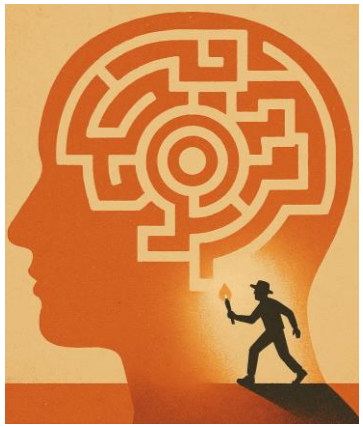
YEAR 11



BHA's Knowledge Quest

Autumn 1
(Sept - Oct)
2025-2026

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 Sparx 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.

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

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										

Dates to remember this half term:

September

October

Attendance record

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

Sparx Check!

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

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

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

Seneca Check!

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

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

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

Language Nut Check!

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

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

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

Independent Study Check!

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

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

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

_____

_____

_____

_____

_____

Homework Log

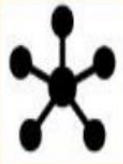
Use this page to record any homework this half term

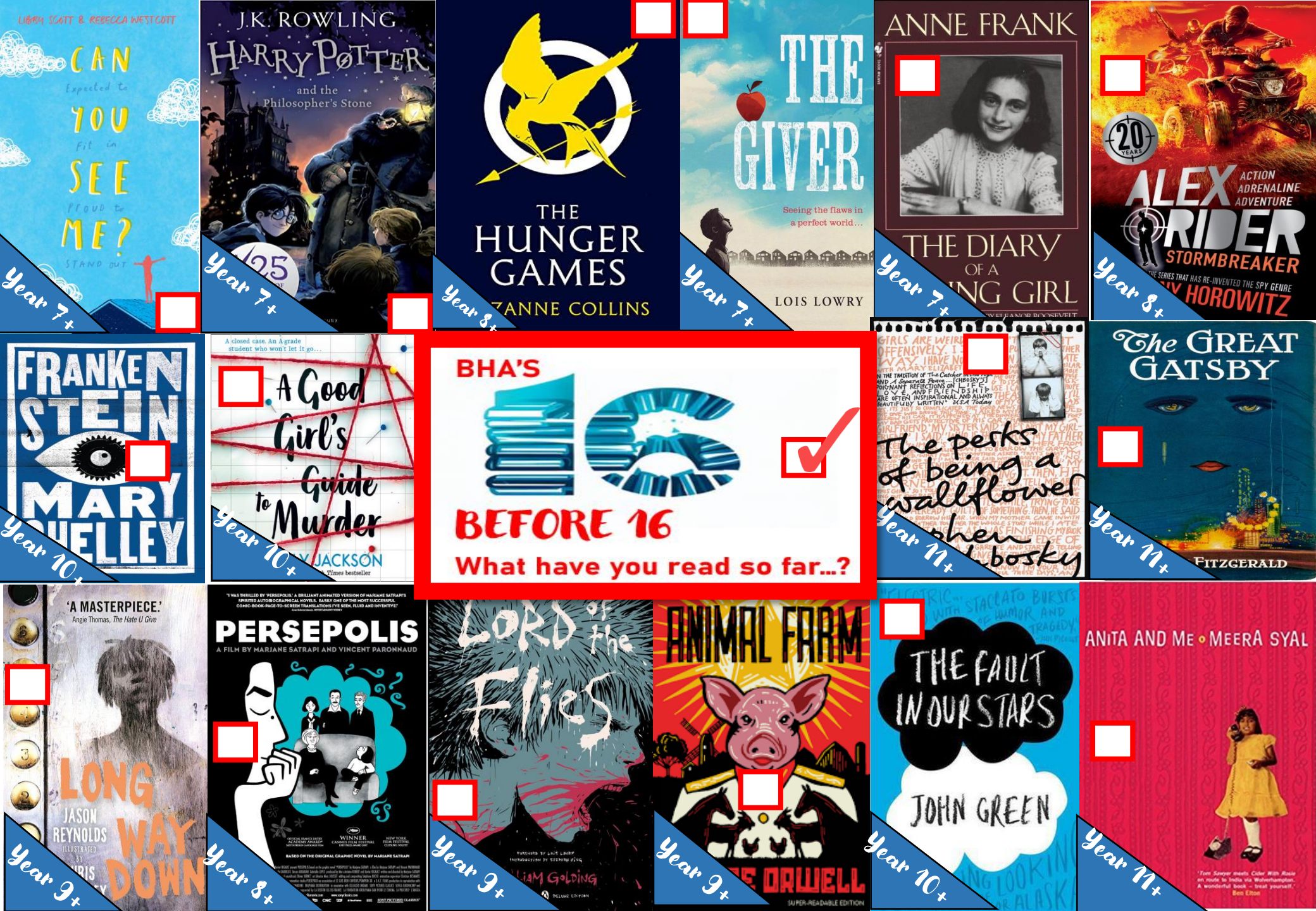
Subject	**Date Due:**	**Additional Notes:**

Homework Log

Use this page to record any homework this half term

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

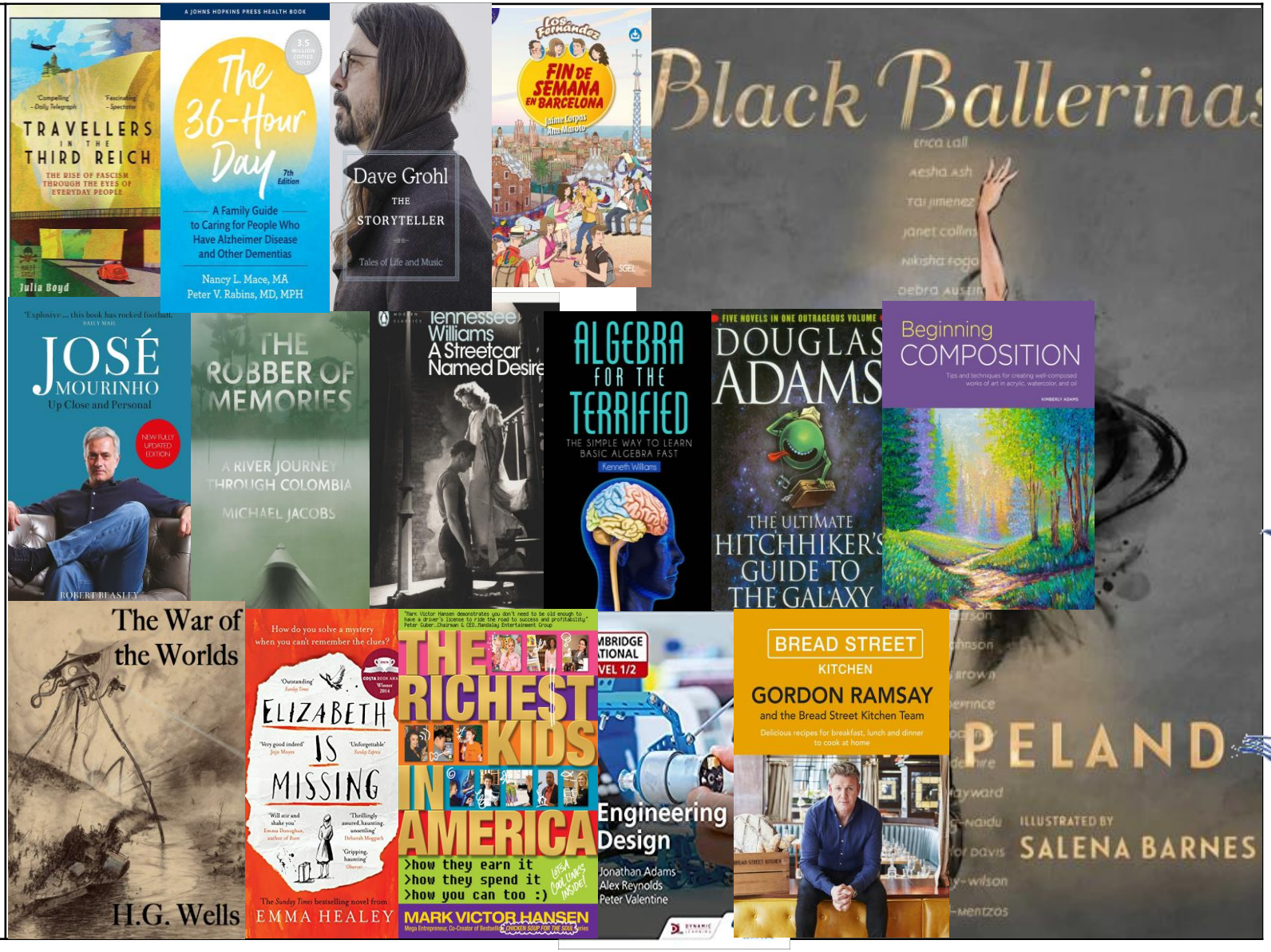
	Look, Cover, Write, Check	Definitions to Key Words	Flash Cards	Self Quizzing	Mind Maps	Paired Retrieval
Step 1	Look at and study a specific area of your knowledge organiser. 	Write down the key words and definitions. 	Use your knowledge organiser to condense and write down key facts and or information 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. 


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

Contents page

Further Reading List

Year 11



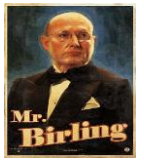
Challenge yourself by reading these topic-related books!

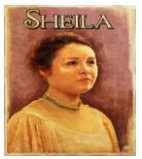
Act summary

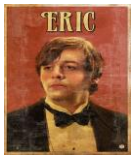
Act 1	The Birling family are celebrating the engagement of Sheila Birling to Gerald Croft. Inspector Goole arrives and tells them a young woman has committed suicide. The audience learns that Arthur Birling (the patriarch of the family) sacked the young woman (Eva Smith) but he is unremorseful. Sheila then got Eva sacked from her next job at a clothes shop due to being jealous. We then learn that Eva changed her name to Daisy Renton. Gerald is startled when he hears this name.
Act 2	We discover that Daisy was Gerald's mistress for some time but Gerald broke things off and turned her out. Sheila hands Gerald back the engagement ring. The Inspector questions Mrs Birling and Sheila forcefully encourages her mother to be honest and open. Eva/Daisy turns to the charity Sybil runs when she needs support for her unborn child. Mrs Birling shows no remorse, instead she says the girl tried to use the Birling name. She condemns the father of the child. Erica enters at this point.
Act 3	Eric confesses to having sex with Eva/Daisy when he was drunk. He reveals how he stole money from his father's company to support Eva and her unborn baby. The Inspector reminds the Birling family of their social responsibility and then leaves. Gerald returns and tells the family that the Inspector is a 'hoax.' The older generation and Gerald rejoice. Sheila and Eric are shocked that the others haven't learnt anything. A phone call at the end reveals a woman has committed suicide and an inspector will be visiting soon…

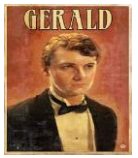
Themes – A theme is an idea or message that runs throughout a text.

Responsibility	All the family are forced to reflect upon their behavior towards Eva Smith/Daisy Renton and consider how responsible they are for her death. Some characters accept **responsibility** and feel **guilt**. On the other hand some are unwilling to accept any. *'We are members of one body. We are responsible for each other.' The Inspector's final speech.*
Social Class	Class **defines** each character in the play. There is a clear **hierarchy** in the class system that causes **oppression** of the lower class. The actions of the upper class directly **impact** on those below. *'If you don't come down sharply on some of these people, they'd soon be asking for the earth.' Mr. Birling.*
Gender	Throughout the play there is evidence that a woman is to be seen and not heard. The males hold a lot of **power** at the start. Eric's and Gerald's treatment of Eva/Daisy as an **object**. Young women challenge this (Sheila) and by the end **stereotypes** are beginning to be broken. *'...not only something to make 'me look prettier - but - well, a sort of sign or token of their self-respect.' Mr. Birling discussing women.*
Conflict among generations	Priestley uses age to show the **different attitudes** in society at the time. The older characters represent **outdated** ways of thinking; Sybil and Arthur believe in only looking after themselves. The younger characters represent a move towards caring about others in society. *'You're beginning to pretend now that nothing's really happened at all.' – Eric speaking to his parents.*









Context

J.B Priestley: The writer of the play and a social commentator who has a **social conscience**. A popular figure and keen supporter of social reform. He fought in World War I and saw the effects it had on the working class. During the 1930s he became an activist, campaigning about the effects of social inequality in Britain.

Pre and Post-War: Before WW1, there was an air of complacency that a war would actually break out, despite there being numerous strong hints. There were strong distinctions between upper/lower classes and women were subservient to men. After the WW2, the class distinction had been greatly reduced. Women had formed a more valuable and respected place in society. There was a greater desire for social reform.

Capitalism: Capitalism is where businesses aim to make money and a country's trade is owned by private companies/people. It is generally considered the opposite of socialism. Priestley deliberately criticizes the **selfishness** of this system and wants a fairer society. **Birling personifies this.**

Socialism: Socialism is an approach to economic and social systems that is characterized by social ownership, democratic control, and high levels of **equality.** They're generally concerned with ensuring that **inequalities between wealth and class are erased**. In the play, the **Inspector harbors socialist views.**

Social and Moral Responsibility: Attitudes towards social and moral responsibility changed rapidly in the time between when the play was set (1912) and the time when it was first performed (1946). In 1912, the general attitude of those with social and economic sway was towards looking after oneself and one's family. By the mid-1940s, however, Clement Attlee's Labour party won a landslide election, reflecting a wave of enthusiasm towards communal responsibility for everyone in society.

Titanic: RMS Titanic the largest British passenger ship at the time. It was a symbol of **progression** within society. It sunk in 1912 after striking an iceberg. It was one of the deadliest maritime disasters of the modern period and sent shockwaves around the world. It was supposed to be the pinnacle of comfort and safety and was frequently labelled **'unsinkable'.** However, during the disaster it was discovered that there wasn't enough lifeboats and the lower-class passengers were last to be given the chance of escape. Consequently more of these passengers died. It is worth remembering that Arthur holds the arrogant views of that many others did of the Titanic before it met its demise.

Genre and Conventions

Well-made play: This is a popular type of play from the 19th Century where all the events **build up to a climax**. It is primarily concerned with events that happened before the play. The plot is normally **intricate** and **complex**.

Morality play: This would be a play that **taught** the audience lessons that linked to the **seven deadly sins** where characters that committed these sins are **punished**.

English

Assessment Objectives

AO1: Response to question and use of quotations;

AO2: *Analysis of writer's methods using terminology and the exploration of the effects on reader;*

AO3: *Context and links to genre/themes;*

AO4: *Vocabulary and SPAG.*

Main Characters – Consider why Priestley included these characters. What is their purpose in the play? What might they personify?

Arthur Birling is the **patriarch** of the Birling family. His success in his business means his family live in the upper-middle class. He believes in **capitalistic** principles and rejects socialist beliefs. He considers Sheila's engagement **good for business.**
'And I'm talking as a hard-headed, practical man of business. And I say there isn't a chance of war.'

Sybil Birling is often described as being a **'cold'** character and is her husband's **'social superior.'** She is more concerned in ensuring her family does not '**lose face**.' She also serves in a charity committee that's aims are to assist women who need help.
'She was claiming elaborate fine feelings and scruples that were simply absurd in a girl in her position.'

Sheila Birling is the first character to **accept responsibility** and show **remorse**. She is **childish** at the start of the play but grows in **maturity.** Sheila takes on the role of the **inspector**, holding her family to account, once he departs.
'That's what I meant when I talked about building up a wall that's sure to be knocked flat.'

Eric Birling: Eric works for his father and has a drinking problem as he spends his time getting **'squiffy.'** He is **'half shy-half assertive.'** Only once all of his issues have been revealed are his family force to address his issues. He stands by his sister, Sheila, at the end.
'I don't know - really. Suddenly I felt I just had to laugh.'

Gerald Croft is the fiancé of Sheila and comes from a prosperous, well-know family. The Inspector criticizes Gerald's affair with Daisy but suggests Gerald is the least culpable for her death. Gerald goes out of his way to save his skin at the end suggesting his **capitalistic views** are entrenched and **will not learn** from his mistakes.
'The girl saw me looking at her and then gave me a glance that was nothing less than a cry for help.'

Inspector Goole is an **omniscient** character that seems to know all the answers before interviewing each character. He is in **command** of the situation despite others trying to put him off. He acts a **Priestley's mouthpiece.**
'He creates at once an impression of massiveness, solidity and purposefulness.'

Eva Smith/Daisy Renton is a young, working class woman, who is very important to the play, yet we never meet her. Her gruesome death is used to exploit the harsh treatment of the lower classes.

Edna is the Birling's maid and the only working-class character we see on stage.

Critical Verbs

Priestley wrote because he was influenced by what was going on in the world he was living in. Society, religion, politics, family and personal experiences and beliefs will all have impacted on **what** Priestley 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
Priestley	uses	Arthur Birling the Birling's home the death of Eva Smith	to advocate to criticise to celebrate to warn to teach to expose to personify	the need for more social responsibility in a post-war society.

Symbols and Killer Quotations

'As if we were all mixed up together like bees in a hive - community and all that nonsense.'
- Simile exploring the Edwardian social structure.
- Bees produce honey. Is Priestley saying the product of socialism is 'sweet'?

'Unsinkable, absolutely unsinkable.'
- Like Mr. Birling's narrow-minded views? He won't be swayed and his views are 'unsinkable.'
- Microcosm of society on board.
- Society is doomed to 'sink' if people don't change.
- Dramatic irony.

'She'd swallowed a lot of strong disinfectant. Burnt her inside out, of course.'
- Disinfectant is used to clean and eradicate germs.
- Eva/Daisy being seen as something needed to be 'cleaned' from society. Is this how she sees herself by the end of her encounters?
- Link to the 'fire' mentioned in the Inspector's final speech?

The unborn child.
- Would 'merge' two classes together.
- He would be a Birling and the 'future' of the family. What does it say about their future?
- Impact on the innocent in society. Doomed from the start?

'Fire, blood and anguish.'
- Divine retribution.
- Foretelling the war. Does the Inspector know that the audience has not changed?
- Hell? Punishment for sins.

Threshold Concepts

Time Theories.
Dunne believed we could begin to see forward in time through our dreams. We could look at our present actions and see the consequences of them. These would allow us to change.
Ouspensky believed that when we die we re-enter our life once more from the beginning. We are born again to the same parents and continue to repeat all the events of our life as before. We can escape repetition by improving ourselves and leading better lives.

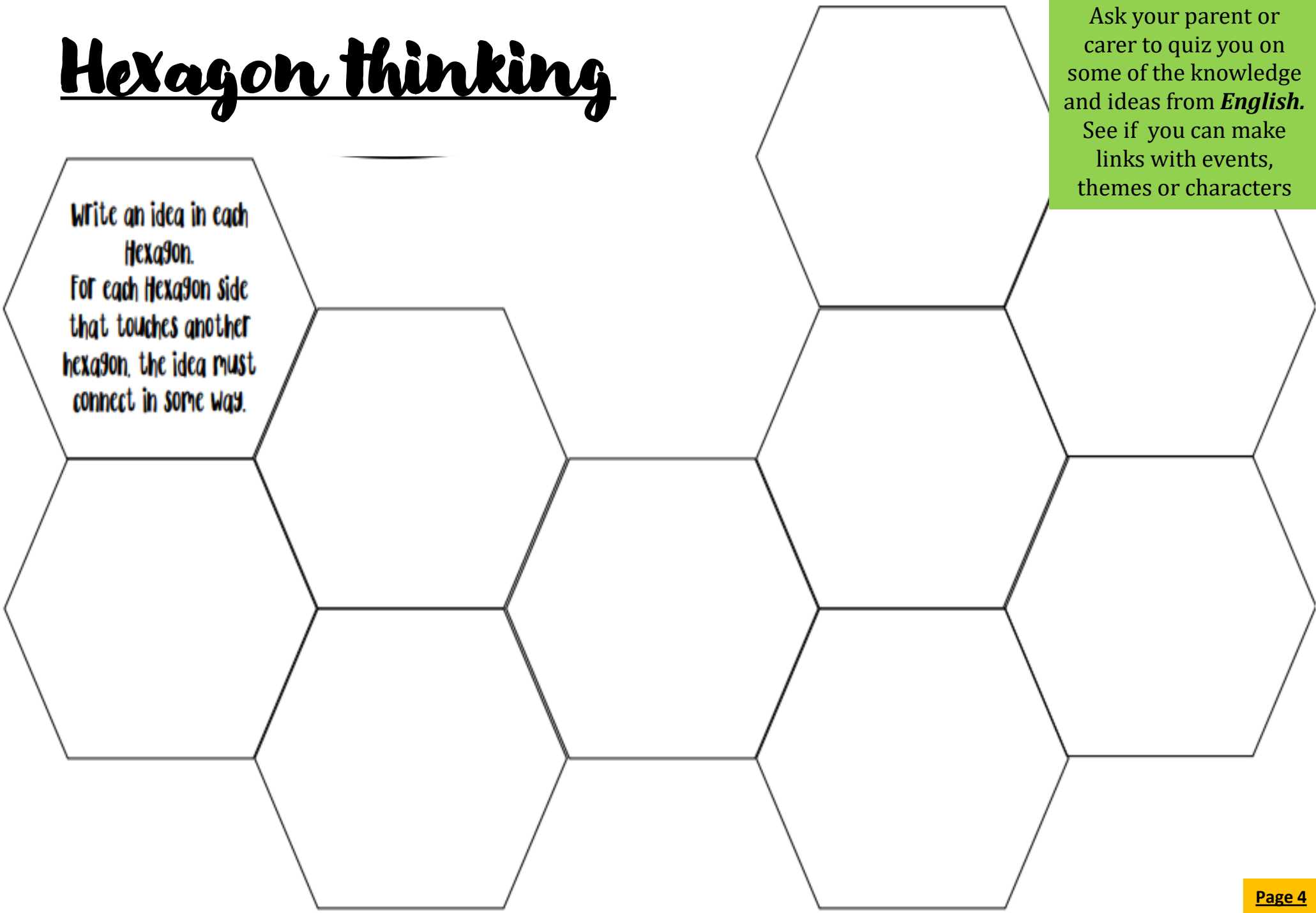
Seven Deadly sins and virtues
Each character represents one of the sins (pride, lust, gluttony, sloth, avarice, wrath, envy). Eva/Daisy shows more virtues than the Birlings do.

Representation of women
Suffragettes (violent and aggressive) and suffragists (peaceful) were political groups focused on achieving power for women and the right to vote.
Consent to sex is something Eva/Daisy doesn't seem to give during her encounter with Eric. Priestley doesn't not class this as a sin for Eric. Raises questions about **misogyny** in society.

Social conditioning
Social conditioning is the sociological process of training individuals in a society to respond in a manner generally approved by the society in general and peer groups within society. The social context that Mr and Mrs Birling grew up in, is not that different to that of their children Eric and Sheila, yet JB Priestly had the latter two reform by the end of the play.

Hexagon thinking

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



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

Maths

NUMBER SKILLS

What do I need to be able to do?

You should be able to:

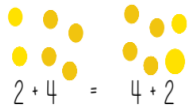
- Understand properties of addition and subtraction
- Understand properties of multiplication and division
- Use formal methods of addition and subtraction for integers
- Use formal methods of multiplication and division for integers
- Add and subtract directed numbers
- Multiply and divide directed numbers
- Understand and use order of operations with positive and negative integers

Key Words

- Commutative: changing the order of operations does not change the result
- Associative: when you add or multiply you can do so regardless of how the numbers are grouped
- Inverse: the operation that undoes what was done by the previous operation
- Subtract: taking away one number from another
- Negative: a value less than zero
- Debit: money that leaves a bank account
- Credit: money that goes into a bank account
- Integer: a whole number
- Product: multiply terms
- Operation: a mathematical process

Addition

Addition is commutative



2 + 4 = 4 + 2

The order of addition doesn't change the result

Addition is associative

6 + (3 + 4) = (6 + 3) + 4

It doesn't matter how you group the numbers

Formal written method:

	H	T	U
	3	4	2
+	1	4	9
	4	9	1
		1	

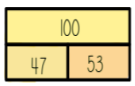
Remember the place value for each column!

Models to help with addition

- Number lines:

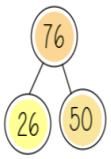
So we can say 33 + 7 + 10 + 5 = 55, or 33 + 22 = 55

- Bar models:



So we can say 47 + 53 = 100

- Part/Whole diagrams:



So we can say 26+50= 76

Subtraction

Subtraction is NOT commutative or associative.

12 - 8 ≠ 8 - 12

When you subtract, the order must stay the same.

Formal written method:

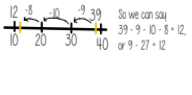
	H	T	U
	5	2 3	12
−	2	1	6
	3	1	6

Remember 0 is a place holder!

	2	0	8
−	0	0	4

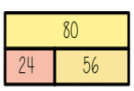
Models to help with addition

- Number lines:



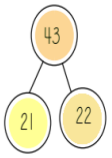
So we can say 39 - 9 - 10 - 8 = 12, or 9 - 27 = 12

- Bar models:



So we can say 80 - 24 = 56 & 80 - 56 = 24

- Part/Whole diagrams:



So we can say 43 - 21 = 22 & 43 - 22 = 21

Written Methods for Multiplication

LONG MULTIPLICATION:

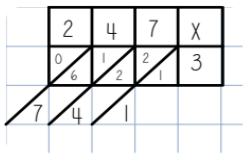
		2	4	7
X	1	2		3
	7	4	1	

GRID METHOD:

X	200	40	7
3	600	120	21

600 + 120 + 21 = 741

GELOSIA:



REPEATED ADDITION:

	H	T	U
	2	4	7
	2	4	7
+	2	4	7
	7	4	1
	1	2	

Written Methods for Division

SHORT DIVISION:

		0	4	2
6	2	2 5	1	2

		1	0	2
8	8	1	1	6

SHORT DIVISION with remainders

		1	2	5	5
2	2	5	1	1	0

Continue after the decimal point! If you start to get a repeating decimal, stop

LONG DIVISION:

	0	4	2	
6	2	5	2	
−	2	4	0	6 X 40
	0	1	2	
−	0	1	2	6 X 2
			0	

This method relies on you being comfortable with multiples of your divisor (in this case, 6!)

Calculations with Directed Numbers

Addition

2 + - 3

Remember, if I add a negative, I am adding something that will make it smaller, so it is the same as subtracting that number!

2 - 3 = -1

Subtraction

2 - - 3

Remember, if I subtract a negative, I am taking away the amount that was making it smaller, so it is the same as adding that number!

2 + 3 = 5

Generalisation

+ - = - - - = +

Multiplication

2 x -3

'2 lots of -3'

= -6

-2 x -3

Think of this as the negative of 2 x -3.

= 6

Division

Remember that multiplication and division are inverse operations.

Eg 6 ÷ -3 = -2

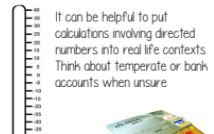
-6 ÷ 2 = -3

Generalisation

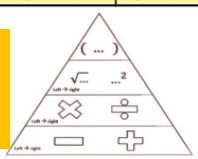
×	+	−
+	+	−
−	−	+

Models to help

It can be helpful to put calculations involving directed numbers into real life contexts. Think about temperate or bank accounts when unsure.



Order of Operations



Example 1

(4 x 7) + 3

So we need to evaluate the brackets first, 4x7 =28

This is now 28 + 3 = 31

Example 2

$(6 + 4 - 3)^2 \times 4$

So we need to evaluate the brackets first and we work left to right ; 6 + 4 - 3 =7

This is now $7^2 \times 4 = 49 \times 4$

= 196

Example 3

4 - 8 x 2 + 12 ÷ 4

So first we do the multiplication/division left to right, 4 - 16 + 3

Now we do the addition/subtraction from left to right: -12 + 3 = -9

Maths

FACTORS, MULTIPLES AND PRIMES

What do I need to be able to do?

You should be able to:

- Understand and use factors
- Understand and use multiples
- Recognise prime numbers
- Recognise square/triangular numbers
- Find common factors, including HCF
- Find common multiples, including LCM
- Express a number as the product of it's prime factors

Key Words

- Multiple: found by multiplying any number by a positive integer
- Factor: integers that multiply together to get another number
- Prime: an integer with only two factors (1 and itself)
- HCF: the highest common factor of two or more numbers
- LCM: the lowest common multiple of two or more numbers
- Product: multiply terms

Factors

A number can have many factors!

Example: what are the factors of 12?

- 1 x 12
- 2 x 6
- 3 x 4

So the factors of 12 are 1, 2, 3, 4, 6, 12

How to find factors

Be systematic! Always find your factor pairs and then write them in ascending order. This way you can be sure you've not missed any out!

Multiples

'The multiples of a number make up it's times table'

Eg. What are the multiples of 4?

4 x 1, 4 x 2, 4 x 3, 4 x 4 etc.

4, 8, 12, 16, 20

This list never ends!

Is 15 a multiple of 3?

5	5	5

As I can share 15 into 3 equally sized parts, 15 is a multiple of 3!

3 x 5 = 15

NON-EXAMPLE

Why is 10 not a multiple of 4?

4 X 2.5 = 10 but 2.5 is not an interesting therefore 10 cannot be a multiple of 4!

Prime Numbers

- Always an integer
- Has only two factors;

1 and itself

Not in any other times tables apart from it's own

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

2 is the smallest, and only even, prime number

1 is not a prime number

A prime number has 2 factors, 1 and itself. 1 only has 1 factor (itself/1) therefore it isn't prime!

Square Numbers

They're called square numbers as, when arranged in an array, they make a square!

1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144, 169, 196, 225...

Square numbers have an odd number of factors.

Triangular Numbers

They're called triangular numbers as they make a triangle!

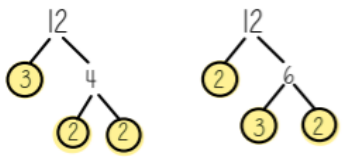
If you add two consecutive triangular numbers, you get a square number!

1, 3, 6, 10, 15, 21, 28, 36, 45, 55, 66, 78, 91, 105, 120...

Product of Prime Factors

Example 1

Write 12 as a product of it's prime factors



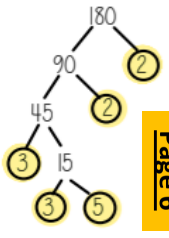
Both of these trees represent the same decomposition

12 = 2 x 2 x 3

$= 2^2 \times 3$

Example 2

Write 180 as a product of it's prime factors



180 = 2 x 2 x 5 x 3 x 3

$= 2^2 \times 3^2 \times 5$

Always try to write your final answer in ascending order using index notation!

Using prime factor decomposition

If we know that 12 written as a product of it's prime factors, how does that help us to write 36 as a product of it's prime factors?

We know 12 x 3 = 36 therefore we can multiply our answer by three and 36 = 2 x 2 x 3 x 3

$= 2^2 \times 3^2$

What about 120?

Well 120 is 10 x 12 so we can say 120 = 2 x 2 x 3 x 10

$= 2^3 \times 3 \times 5$

Remember 10 = 2 x 5

Page 6

Lowest Common Multiple (LCM)

Example 1

What is the LCM of 6 and 8?

6 - 6, 12, 18, 24, 30

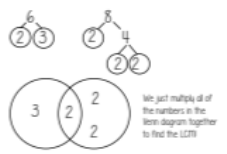
8 - 8, 16, 24, 32, 40

The first time their multiples match is 24 therefore:

the LCM of 6 and 8 is 24

Example 2

What is the LCM of 6 and 8?



We just multiply all of the numbers in the Venn diagram together to find the LCM!

LCM of 6 and 8 = 3 x 2 x 2 x 2

= 24

Example 3a

What is the LCM of 24 and 16?

Choose any factor of 24 and 16 then we chose 2!

Then we divide 24 and 16 by 2!

Then repeat until we cannot take out any more common factors!

	24	16
2	12	8
2	6	4
2	3	2

LCM of 16 and 24 = 2 x 2 x 2 x 3 x 2

= 48

Example 3b

What is the LCM of 12 and 15?

	12	15
3	4	5

LCM of 12 and 15 = 3 x 4 x 5

= 60

Highest Common Factor (HCF)

Example 1

What is the HCF of 6 and 8?

6 - 1, 2, 3, 6

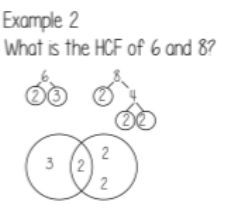
8 - 1, 2, 4, 8

The biggest number which is a factor of both 6 and 8 is 2, therefore

the HCF of 6 and 8 is 2

Example 2

What is the HCF of 6 and 8?



As we are looking for the highest common factor we are looking for the factors which the two numbers share. These can be found in the overlap in the Venn diagram!

HCF of 6 and 8 = 2

Example 3a

What is the HCF of 24 and 16?

As we are taking out common factors here, we find the HCF by multiplying them!

	24	16
2	12	8
2	6	4
2	3	2

HCF of 16 and 24 = 2 x 2 x 2

= 8

Example 3b

What is the HCF of 12 and 15?

	12	15
3	4	5

HCF of 12 and 15 = 3

INDICES

What do I need to be able to do?

You should be able to:

- Add/subtract with indices
- Multiply expressions with indices
- Divide expressions with indices
- Know the addition law for indices
- Know the subtraction law for indices
- Be familiar with the key results
- Work with negative exponents

HIGHER TIER ONLY

- Work with fractional exponents

Key Words

- Base: the number that gets multiplied by a power
- Power: the number of times the number is used in a multiplication.
- Exponent: power (see above)
- Index: power (see above)
- Coefficient: a number used to multiply a variable
- Variable: a letter which represents an unknown number
- Commutative: changing the order of the operations doesn't change the result

power/exponent/index

5^2 | $3d^4$

coefficient

base

Addition Law for Indices

$$a^m \times a^n = a^{m+n}$$

Examples

- $2^2 \times 2^3 = 2 \times 2 \times 2 \times 2 \times 2 = 2^5$
- $k^4 \times k^2 = k \times k \times k \times k \times k \times k = k^6$

Subtraction Law for Indices

$$a^m \div a^n = a^{m-n}$$

Examples

$5^3 \div 5 = \frac{5 \times 5 \times 5}{5} = 5^2$

$d^5 \div d^2 = \frac{d \times d \times d \times d \times d}{d \times d} = d^3$

Further Examples

Remember it is best practice to write your variables in alphabetical order!

1. $4w \times 5z = 4 \times 5 \times w \times z = 20wz$

Multiply the coefficients together and then consider the variables!

2. $3a \times 4a^2 \times 2a$
$= 3 \times 4 \times 2 \times a \times a \times a \times a$
$= 24a^4$

Remember if there is no power written, it is to the power of 1

3. $(t^3)^2 = t^3 \times t^3$
$= t \times t \times t \times t \times t \times t$
$= t^6$

Don't forget that if you square something, you multiply it by itself!

4. $3p^2 \times 4p^3 \div 6p^4 = \frac{3p^2 \times 4p^3}{6p^4}$
$= \frac{12p^5}{6p^4}$
$= 2p$

Don't forget about the order of operations!

Using the subtraction law, 5-4=1

Spotting Patterns

$2^3 = 2 \times 2 \times 2 = 8$

$2^2 = 2 \times 2 = 4$

$2^1 = 2$

$2^0 = 1$

$2^{-1} = \frac{1}{2}$

$2^{-2} = \frac{1}{4} = \frac{1}{2^2}$

$2^{-3} = \frac{1}{8} = \frac{1}{2^3}$

+1, ×2, ÷2, -1

Each time I add one to the power, I multiply by 2

Each time I take one from the power, I divide by 2

Therefore, 2 to the power of 0 is 1. Remember anything to the power 0 is 1.

If we carry this on, we can even say what 2 to the power of a negative number is!

We can even spot that 2 to the power of -2 is the same as 1 over 2 to the power of 2 (or 2 squared)

FRACTIONAL INDICES

HIGHER TIER ONLY

$$a^{\frac{1}{m}} = \sqrt[m]{a}$$

Examples

$25^{\frac{1}{2}} = \sqrt{25} = 5$ $\quad 8^{\frac{1}{3}} = \sqrt[3]{8} = 2$

$$a^{\frac{n}{m}} = (\sqrt[m]{a})^n$$

Examples

$25^{\frac{3}{2}} = (\sqrt[2]{25})^3 = 5^3 = 125$

Remember that this is the same as $(25^{\frac{1}{2}})^3$

Harder Examples

$(81x^2)^{\frac{1}{2}} = \sqrt{81x^2} = 9x$

$(9c^4)^{\frac{3}{2}} = (\sqrt{9c^4})^3 = (3c^2)^3 = 27c^6$

Remember this means we cube EVERYTHING inside the brackets

$(32f^{20})^{\frac{3}{5}} = (\sqrt[5]{32f^{20}})^3 = (2f^4)^3 = 8f^{12}$

It is really helpful to know the powers of 2,

2

4

8

16

32 ...

Refer to the ladder on the right if you're struggling to spot the patterns!

Square and Cube Numbers

When working with indices, it is helpful to know your square and cube numbers!

SQUARE NUMBERS	CUBE NUMBERS
1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144, 169, 196, 225...	1, 8, 27, 81, 125, 216, 343, 512...

You are expected to know these!

NEGATIVE FRACTIONAL INDICES

HIGHER TIER ONLY

EXAMPLE 1

$8^{-\frac{1}{3}} = \frac{1}{8^{\frac{1}{3}}}$

$= \frac{1}{2}$

Remember this means the cube root of 8

EXAMPLE 2

$25^{-\frac{3}{2}} = \frac{1}{25^{\frac{3}{2}}}$

$= \frac{1}{5^3}$

$= \frac{1}{125}$

Remember this is the same as $(25^{\frac{1}{2}})^3$

EXAMPLE 3

$(343x^9)^{-\frac{2}{3}} \div x^3$

$= \frac{1}{(343x^9)^{\frac{2}{3}}} \div x^3$

$= \frac{1}{(7x^3)^2} \div x^3$

$= \frac{1}{49x^6} \times \frac{1}{x^3} = \frac{1}{49x^9}$

Don't forget the order of operations!

Remember instead of dividing by x cubed, we can multiply by the reciprocal

KEY THINGS TO REMEMBER

$$a^m \times a^n = a^{m+n}$$

$$a^m \div a^n = a^{m-n}$$

$$a^0 = 1$$

$$a^{-m} = \frac{1}{a^m}$$

HIGHER TIER ONLY

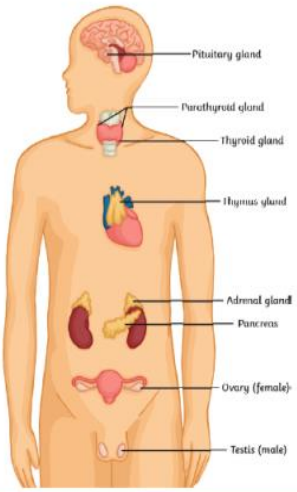
$$a^{\frac{1}{m}} = \sqrt[m]{a}$$

$$a^{\frac{n}{m}} = (\sqrt[m]{a})^n$$

AQA GCSE Biology (Combined Science) Unit 5: Homeostasis and Response Knowledge Organiser

The Endocrine System

You should be able to identify the major glands of the endocrine system, as shown below.



Reflexes

A **reflex** is a fast and automatic response to a particular stimulus which may be harmful to the organism. They are quick because there is no conscious thought or process to deliver the response (they are an **involuntary** action). The pathway which carries the information about a reflex action is called a **reflex arc**.

A **reflex arc** begins with the **stimulus** e.g. a bee sting or a hot object on the skin. The stimulus is detected by the **receptor** cells and an electrical **impulse** is transmitted along the **sensory neuron**. The impulse is passed through **relay neurons** in the spinal cord or the **unconscious** areas of the brain. The response is coordinated **automatically** and sent along the **motor** neuron to the **effector** cells.

Hormones

Hormones are **chemical** messengers transported in the **bloodstream** to an effector where they can activate a response. They are produced and released from glands around the body which all make up the **endocrine system**. Hormones do a similar job to the neurons of the nervous system but there are some differences.

	neurons	hormones
speed	fast	slow
duration	short	long
target area	specific	general

The hormones released travel in the blood plasma to their **target cells** and affect only those certain cells. Hormones act on organs or cells where constant adjustments are made to maintain a stable state.

Some examples you should know:

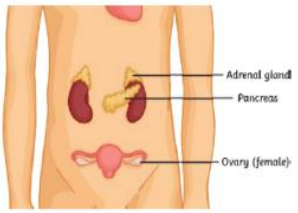
The **pituitary gland** produces a range of hormones including FSH and LH which help to regulate the menstrual cycle. The pituitary gland acts as a **master gland** because many of the hormones it releases control and coordinate the release of other hormones from other glands in the body.

Diabetes

There are two types of diabetes: type 1 and type 2.

Type 1 diabetes is a disorder affecting the pancreas. In type 1 diabetes, the pancreas does not produce enough insulin to control the blood sugar level and so the levels become higher than normal. Type 1 diabetes is usually treated by injections of insulin.

Type 2 diabetes is a disorder of effector cells which no longer respond to the hormones released from the pancreas. Type 2 diabetes can usually be managed through lifestyle choices such as maintaining a carbohydrate-controlled diet and regular exercise.



The risk of developing type 2 diabetes is higher in people who are obese (have a BMI >30).

Hormones in Human Reproduction

Oestrogen is the main reproductive hormone in females. It is produced in the **ovaries**. During puberty, this hormone increases and it stimulates an egg to be released from an ovary each month. This process is called **ovulation** and happens, on average, every 28 days.

Testosterone is the main reproductive hormone in males. It is produced in the **testes**. This hormone stimulates the production of sperm.

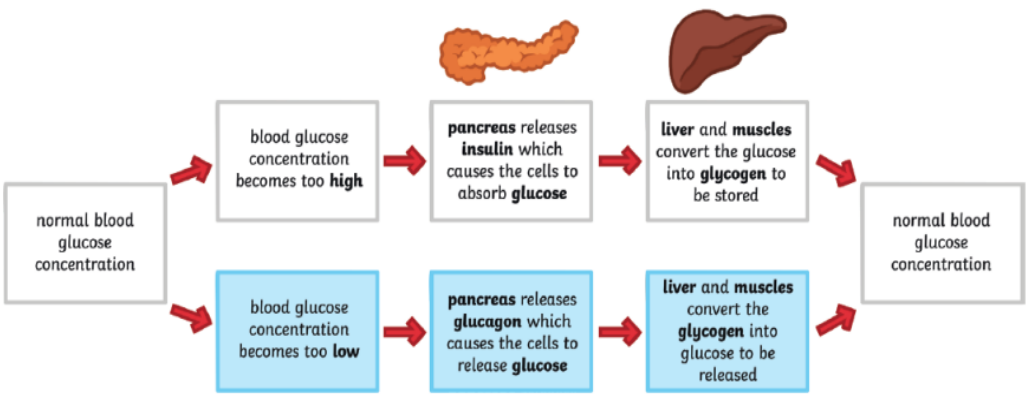
AQA GCSE Biology (Combined Science) Unit 5: Homeostasis and Response Knowledge Organiser

Control of Blood Glucose

The pancreas is the organ and gland which monitors and regulates the blood glucose concentration.

(HT only)

If the blood glucose concentration becomes too low, a negative feedback loop is triggered and the pancreas releases another hormone, **glucagon**, which acts on the liver and muscles to cause the stored **glycogen** to be converted back into **glucose** and released into the bloodstream.

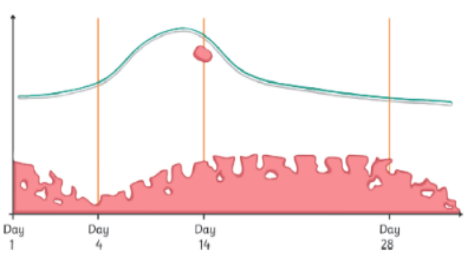


The Menstrual Cycle

The **menstrual cycle** occurs in females, approximately every **28 days**. It is a cyclical process of the building of the lining of the **uterus** and **ovulation**. If the **egg** become fertilised by a sperm, then **pregnancy** follows. If the egg is not fertilised, then the lining of the uterus is shed away and leaves the body as the **menstruation** (or period).

The whole cycle is controlled by four main reproductive hormones:

- **follicle stimulating hormone (FSH)**
- **oestrogen**
- **luteinising hormone (LH)**
- **progesterone**



Hormone	Where It Is Produced	Response Caused	Interaction with Other Hormones (HT only)
FSH	pituitary gland	An egg to develop in one of the ovaries.	Stimulates the production of oestrogen.
oestrogen	ovaries	The lining of the uterus builds up and thickens.	Stimulates the production of LH. Inhibits the production of FSH.
LH	pituitary gland	Ovulation (at around day 14 of the cycle).	Indirectly stimulates the production of progesterone.
progesterone	ovaries	The uterus lining to maintain.	Inhibits the production of LH.

Inheritance, Variation and Evolution Knowledge Organiser

Keywords

allele – An alternative form of a gene.

asexual reproduction – The production of offspring from a single parent by mitosis. The offspring are clones of the parent.

chromosome – Structures that contain the DNA of an organism and are found in the nucleus.

cystic fibrosis – A disorder of cell membranes that is caused by a recessive allele.

DNA - A polymer that is made up of two strands that form a double helix.

dominant – An allele that is always expressed, even if only one copy is present.

fertilisation – The fusion of male and female gametes.

gamete – Sperm cell and egg cell in animals; pollen and egg cell in plants.

gene – A small section of DNA that codes for a specific protein.

genome – The entire genetic material of an organism.

genotype – The combination of alleles.

heterozygous – A genotype that has two different alleles, one dominant and one recessive.

homozygous – A genotype that has two of the same alleles. Either two dominant alleles or two recessive alleles.

meiosis – The two-stage process of cell division that reduces the chromosome number of the daughter cells. It makes gametes for sexual reproduction.

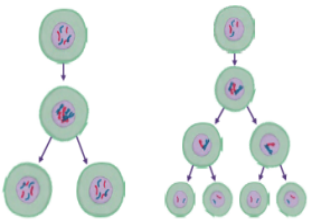
mutation – A change in DNA.

phenotype – The characteristic expressed because of the combination of alleles.

polydactyly – Having extra fingers or toes. It is caused by a dominant allele.

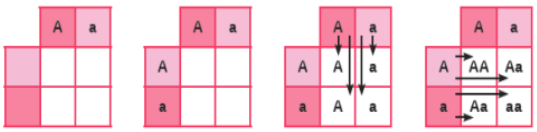
recessive – An allele that is only expressed if two copies of it are present.

sexual reproduction – The production of offspring by combining genetic information from the gametes of two parents. Leads to variation in the offspring.



Mitosis	Meiosis
Produces two daughter cells.	Produces four daughter cells.
Daughter cells are genetically identical.	Daughter cells are not genetically identical.
The cell divides once.	The cell divides twice.
The chromosome number of the daughter cells is the same as the parent cells. In humans, this is 46 chromosomes.	The chromosome number is reduced by half. In humans, this is 23 chromosomes.
Used for growth and repair, and asexual reproduction.	Produces gametes for sexual reproduction.

How to Complete a Punnet Square

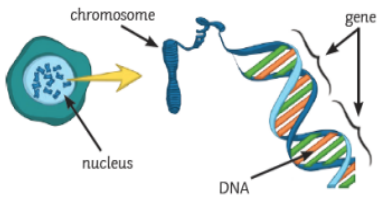


Step 1: Put the two alleles from one parent into the boxes at the top. This parent is a heterozygote. This means they have one dominant and one recessive allele.

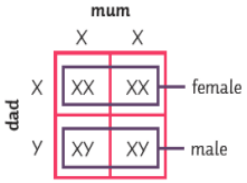
Step 2: Put the two alleles from the second parent into the boxes on the left. This parent is also a heterozygote.

Step 3: Put the alleles from the first parent into the two boxes underneath them.

Step 4: Put the alleles from the second parent into the two boxes to the right of them.



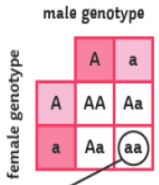
Sex Determination



Females carry two X chromosomes.
Males carry one X and one Y chromosome.

Probability

There are four possible combinations of gametes that offspring can inherit.



One of these four has the genotype aa – that's $\frac{1}{4}$, 25% or 0.25.

The recessive phenotype has a ratio of 1:3 because only one combination will show the phenotype while the other three will not.

Keywords

embryo screening – Genetic tests carried out on an embryo to see whether it carries a faulty allele.

evolution – A change in the inherited characteristics of a population over time through a process of natural selection.

evolutionary tree – A method used to show how scientists believe organisms are related.

extinction – The permanent loss of all members of a species.

fossils – The remains of organisms from millions of years ago which are found in rocks.

genetic engineering – The process by which scientists manipulate and change the genotype of an organism.

natural selection – The process by which organisms that are better suited to an environment are more likely to survive and reproduce.

selective breeding – Humans selecting animals or plants, that have a required characteristic, for breeding.

speciation – The process by which two species evolve from a single original species by natural selection. The two populations have become so different that they can no longer interbreed to produce fertile offspring.

variation - Differences in characteristics of individuals in a population.

Variation

Variation maybe be due to differences in:

- the genes that have been inherited (genetic causes);
- the conditions in which they have developed (environmental causes);
- a combination of genes and the environment.

Evolution

All species of living things have evolved from simple life forms by natural selection.

- If a variant/characteristic is advantageous in an environment, then the individual will be better able to compete.
- This means they are more likely to survive and reproduce.
- Their offspring will inherit the advantageous allele.

Fossils

Fossils could be:

- the actual remains of an organism that has not decayed;
- mineralised forms of the harder parts of an organism, such as bones;
- traces of organisms such as footprints or burrows.

Many early life forms were soft-bodied so have left few traces behind.

Fossils help us understand how much or little organisms have changed as life developed on earth.

Resistant Bacteria

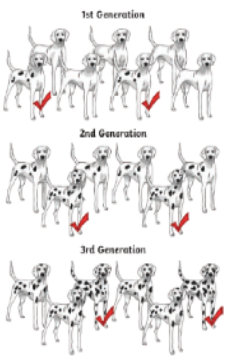
1. There is variation in the bacterial population. One bacterium develops a mutation by chance that means it is resistant to an antibiotic.
2. The antibiotic kills some of the bacteria, the resistant bacterium survives and reproduces.
3. The antibiotic kills the rest of the non-resistant bacteria so the person may start to feel a little better. The resistant bacterium has survived the antibiotic and continues to multiply.

To reduce the rate at which antibiotic-resistant strains appear:

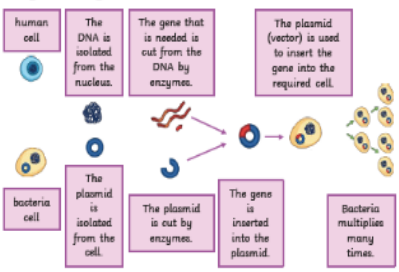
- Antibiotics should only be used when they are really needed, not for treating non-serious or viral infections.
- Patients should complete their courses of antibiotics, even if they start to feel better.
- The agricultural use of antibiotics should be restricted.

Selective Breeding

1. Choose parents who have the desired characteristic.
2. Select the best offspring and breed these to make the next generation.
3. These offspring are then bred again and again, over many generations, until a desired result is achieved.



Genetic Engineering



Classification

Linnaeus classified living things into kingdom, phylum, class, order, family, genus and species.

Organisms are named by the binomial system of genus and species.

Due to evidence from chemical analysis, there is now a 'three-domain system' developed by Carl Woese.

Domain	bacteria	archaea	eukaryota			
Kingdom	eubacteria	archaebacteria	protista	fungi	plantae	animalia

Science

Crude Oil

Hydrocarbons are compounds that are made up of the elements **hydrogen** and **carbon** only.

Crude oil is a **non-renewable resource**, a **fossil fuel**. Crude oil is made up of a mixture of compounds, most of which are long- and short-chain hydrocarbons.

Most of the compounds in crude oil are hydrocarbons called **alkanes**. The alkanes form a **homologous series**. This is a family of hydrocarbons that all share the **same general formula** and have **chemical properties** that are **similar**.

Alkanes are held together by **single bonds**.

The general formula for an alkane is C_nH_{2n+2}.

They differ from the neighbouring alkane with the addition of a CH_2.

Alkanes are **saturated hydrocarbons**. This means that all their bonds are taken up and they cannot bond to any more atoms.

Alkanes have **similar chemical properties** but have **different physical properties** due to differences in chain length. The longer the chain, the higher the boiling point of the hydrocarbon.

The first four alkanes are: methane, ethane, propane and butane.

A mnemonic to help you remember the order of the alkanes: **m**ice **e**at **p**aper **b**ags.

Fractional Distillation

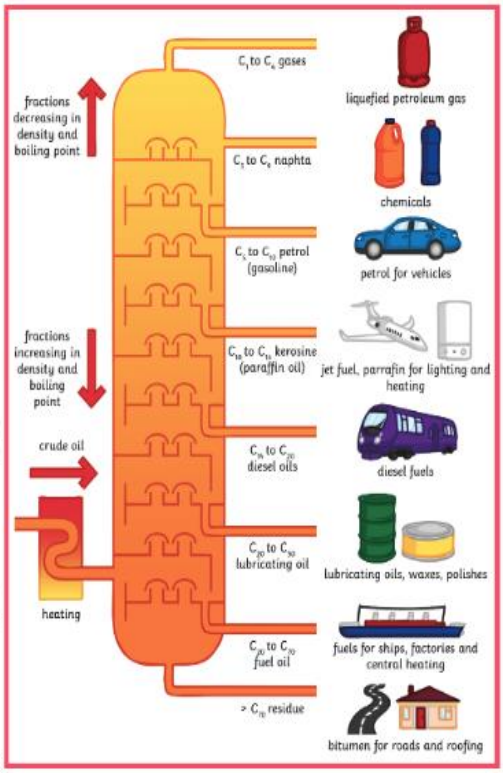
Fractional distillation is used to **separate** a mixture of long-chain hydrocarbons in crude oil into smaller, more useful fractions.

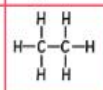
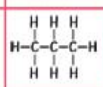
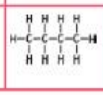
Hydrocarbons have different boiling points depending on their chain length. **Each fraction contains hydrocarbons of a similar chain length.** These fractions will boil at different temperatures due to the difference in sizes of the molecules. The different parts of crude oil are called fractions because they are a small part of the original mixture.

Crude oil is heated and enters at all column called a **fractioning column**. The column is **hot at the bottom** and decreases in temperature toward the top. As the crude oil is heated, it begins to evaporate and its vapours begin to rise up through the column. These vapours condense at the different fractions.

Short-chain hydrocarbons are found at the **top** of the column. This is because shorter chain molecules are held together by **weak intermolecular forces** resulting in low boiling points. These shorter chain hydrocarbons leave the column as gas.

Long-chain hydrocarbons are found at the bottom of the column and are held together by **strong intermolecular forces**, resulting in high boiling points.



Name of Alkane	Structural Formula	Molecular Formula
methane		CH_4
ethane		C_2H_6
propane		C_3H_8
butane		C_4H_{10}

Combustion

Complete combustion occurs when there is **enough oxygen** for a fuel to burn. A hydrocarbon will react with oxygen to produce carbon dioxide and water.

Incomplete combustion occurs when there **isn't enough oxygen** for a fuel to burn. The products in this reaction are water and poisonous **carbon monoxide**.

Cracking

Cracking is an example of a **thermal decomposition reaction**. **Long-chain** hydrocarbons can be **broken** down into **shorter**, more useful hydrocarbon chains.

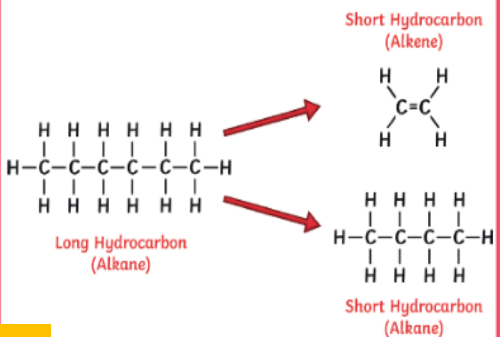
Cracking can be carried out with a catalyst in **catalytic cracking** or with steam in **steam cracking**.

Catalytic cracking involves heating a hydrocarbon to a high temperature (550°C) and passing over a hot catalyst.

Cracking of a long-chain hydrocarbon **produces** a **short-chain alkane** and an **alkene**.

Alkenes are another type of hydrocarbon that is double bonded. The general formula for an alkene is C_nH_{2n}.

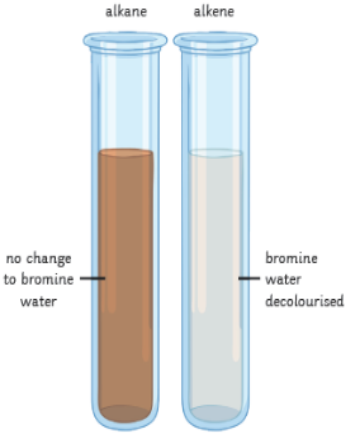
Alkenes are **unsaturated hydrocarbons**. In a chemical reaction, the double bond of the alkenes can break. This allows other atoms to bond to it.



Test for Alkanes

Bromine, when added to an **alkane**, will **remain brown/orange**. Alkanes are saturated hydrocarbons, they have no double bonds which could be broken to accept the bromine molecule and so remain orange.

Bromine, when added to an **alkene**, will **change from brown/orange to colourless**. This is because alkenes are unsaturated hydrocarbons. The double bond breaks and the bromine molecule is accepted.



Making Polymers

The fractional distillation of crude oil and cracking produces an array of hydrocarbons that are key to our everyday lives.

Alkenes are used to produce plastics such as poly(ethene) which is used to make plastic bags, drinks bottles and dustbins. Poly(propene), another polymer, forms very strong, tough plastic.

Short-Chain Molecules	Increasing Chain Length →	Long-Chain Molecules
	As chain length increases, the **boiling point** of the hydrocarbon chains also increases. →	
thin 	**Viscosity** describes how easily a substance can flow e.g. treacle is very viscous; it is thick. →	thick 
	**Flammability** is a measure of how easily a substance burns. →	

PARENT/CARER QUIZZES

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

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

MFL

Grade 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.

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.

MFL

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

SPANISH GCSE ESSENTIALS (HIGHER)

MFL

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 -er = -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 -er = -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

MFL

SPANISH GCSE ESSENTIALS (FOUNDATION)

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	

Spanish Writing Mat (F)

MFL

Time markers

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

Adjectives

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

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

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

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

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

OPINION STARTERS	
para mí	creo que
me parece que	pienso que

Opinions

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

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

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

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

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

MFL

Week 1: Verbs

Spanish	First guess	Checked in a dictionary	After learning	Reviewed
acabar de	To have just			
bastar	To be enough			
comenzar	To start			
continuar	To continue			
dar	To give			
darse cuenta de	To realise			
deber	must			
decidir	To decide			
dejar de	To stop (doing something)			
Echar Echar de menos	To remove To miss someone			
empezar	To start			
embarazarse	To get pregnant			
hace(n) falta	To need			
durar	To last			
emboracharse	To get drunk			
hay	There is /there are			
hay que	You must			
escoger	To pick			
elegir	To chose			
coger	To catch			

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

Teacher test score: ..... /20

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

Week 2: More verbs

Spanish	First guess	Checked in a dictionary	After learning	Reviewed
medir	To measure			
mentir	To lie			
necesitar	To need			
ocurrir	To happen			
pasar	To spend (time)			
pesar	To weigh			
poder	To be able to			
poner	To put			
gastar	To spend (money			
querer	To want			
Ganar	To earn			
saber	To know			
seguir	To follow			
aprobar	To pass			
suspender	To fail			
confiar	To trust			
tener lugar	To take place			
tener que	To have to			
Tener ganas de	To look forward to / to fancy			
casarse	To get married			

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

Teacher test score: ..... /20

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

MFL

Week 3: Verbs of opinion

Spanish	First guess	Checked in a dictionary	After learning	Reviewed
aburrirse	To ger bored			
Aguantar	To stand (something)			
alegrar	To be happy			
alegrarse (de)	To be pleased			
apreciar	To appreciate			
aprovechar	To take advantage of			
aprovecharse (de)	Yo take advantege of someone			
creer	To belive			
dar igual	I am not bothered			
decepcionar	To			
decir	To say			
molestar	To bother			
detestar	To hate			
disfrutar	To enjoy			
divertirse	To rnjoy yourself			
dudar	To doubt			
encantar	To love			
encontrar (+*adj.*) que	To find			
esperar	To wait/hope			
estar de acuerdo	To agree			

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

Teacher test score: ..... /20

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

Week 4: More verbs of opinion

Spanish	First guess	Checked in a dictionary	After learning	Reviewed
estar a favor de	To be in favour of			
estar en contra de	To be against			
estar equivocado	To be wrong			
estar harto de	To be fed up of			
fastidiar	To bother/wind up			
Soportar	To stand (something)			
interesar(se)	To be intereseted in			
odiar	To hate			
opinar	To have the opinion that			
parecer	To seem			
pasarlo bien/mal	To have a good/bad time			
pensar	To think			
ponerse de acuerdo	To agree with			
preferir	To prefer			
quedar	To stay			
querer decir	To want to say			
reconocer	To recognise			
sentir(se)	To feel			
tener razón	To be right			
valer la pena	To be worthwhile			

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

Teacher test score: ..... /20

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

MFL

Spanish	First guess	Checked in a dictionary	After learning	Reviewed
aburrido	boring			
afortunado	fortunate			
agradable	pleasant			
antiguo	old			
barato	cheap			
bonito	pretty			
caro	expensive			
decepcionante	dissapointing			
desagradable	unpleasant			
divertido	fun			
duro	hard			
emocionante	exciting			
encantador	charming			
entretenido	entertaining			
espléndido	splendid			
estupendo	great			
fácil	easy			
fatal	awful			
fenomenal	fantastic			
feo	ugly			

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

Teacher test score: ...../20

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

History

Knowledge Organiser: KT3 Nazi control and dictatorship, 1933-39

In January 1930, Hitler was appointed Chancellor. Even though Hitler was Chancellor, he still had limited power. The Weimar Constitution (set of rules of the government) restricted what a Chancellor could do on their own. President Hindenburg still had more power than Hitler. These are the 5 events that led to Hitler's **dictatorship** of Germany in a '**One Party State**'.

EVENT 1: The Reichstag Fire, Berlin, 27th Feb. 1933

The **German Parliament building was set** on fire. A Communist was caught, blamed and executed.

What did Hitler do about the fire?

- Hitler used this fire to **blame all communists** of plotting against Germany. **4,000** communists were arrested that night.

What did Hitler ask Hindenburg to do?

- He persuaded Hindenburg to declare a **STATE OF NATIONAL EMERGENCY** - to give Hitler the right to **make decisions on his own. Hitler also wanted another election.**

What did Hitler do with his new emergency power?

- Hitler decided to arrest **communists and put them in prison. He also banned communist newspapers**.
- He told the German **police** to ignored the violence of the SA against the communists despite 70 deaths during the election.
- Hitler persuaded **rich industry bosses** to give him money to stop communism. He made 3 million marks in just one night.

What was the election result and why was this significant?

- The Nazis gained even more power. He banned the Communist Party from being part of the Reichstag.
- He had enough Nazi politicians to vote in any law he wanted.

Importantly, Hitler achieved this legally.

EVENT 2: The Enabling Act March 1933

- ❑ Hitler wanted a law called the **Enabling Act**. This would allow him to **make any law WITHOUT** the need of a vote to agree it for **4 years**.

Why did other politicians allow the law?

Other politicians and parties did not oppose it because…

1. The Nazis already had a two-thirds **majority** to vote for it.
2. The **Communist Party** were banned so could not vote.
3. The **SA** used their violence to intimidate politicians to agree.

The end of democracy in Germany.

The Enabling Act was agreed. Hitler could make any law he wanted without a vote.

Importantly, Hitler again did this legally.

EVENT 3: Bans other political parties July 1933

Hitler used the Enabling Act to ban other political parties. Hitler made Germany a '**one party state**'.

- ❑ The Nazis took over the **regional governments**.
- ❑ **Trade Unions were banned** and their leaders arrested.
- ❑ The SA attacked the headquarters of other political parties.
- ❑ **Hitler officially banned all political parties in Germany apart from the NSDAP/Nazi Party.**

Hitler again did this legally.

EVENT 4: The Night of the Long Knives June 1934

Hitler believed the leader of the SA, **Ernst Rohm** was a threat to his power and wanted to take over as leader of the Nazi Party.

Why did Hitler think this?

1. Rohm had openly opposed Hitler's ideas.
2. Leader of the SS, Heinrich Himmler was jealous of the SA & wanted the SS to be powerful.

So what did Hitler do?

- Hitler arranged to meet Rohm and 100 other SA leaders at a **hotel**. Here they were **arrested and put in prison**.
- Over 4 days, **400 SA members** were shot.

How did Hitler get away with this?

- The Nazis publically announced that they had found out about a '**secret plan**' to start a revolution by the SA.
- People were told the killings had to take place to **protect Germany.**

The propaganda used throughout this time, made every action Hitler made, seem like the right one for Germany.

EVENT 5: The Death of President Hindenburg August 1934

President Hindenburg died. Hitler declared himself **'Fuhrer'** (Leader) of Germany.

- ❑ **He gave himself all the power of the President.**
- ❑ He forced an **oath of loyalty** from every soldier in the army.

How did Hitler do this legally?

With no other option, 90% of Germans agreed with a huge amount of propaganda.

Hitler again did this legally.

After 1933, Germany was controlled by a '**Police State**'. Anyone who said or did anything against the Nazis was **punished**. The **fear** this created was another way of keeping control – a **deterrent** to any form of opposition. The Nazi Party ran the police. The **3** main police units were the **SS**, **SD** and **Gestapo**. The Nazis also created Concentration Camps & controlled courts & judges. The Nazis also used various methods of propaganda, but they still faced **some** opposition.

Nazi Police State (Fear and Terror)

The Nazis use of threat, fear and intimidation was their most powerful tool to control the German people. Heinrich Himmler was head of SS, who controlled SD/Gestapo.

- **The SS** – Loyal police/security force of 240,000, set up as Hitler's bodyguard. They had unlimited power and were responsible for all security, police and concentration camps.
- **Gestapo** - Secret Police of 300,000, who looked for opponents. They spied on Germans, tapped phones, opened mail and could jail anyone. They wore no uniforms and arrested over 160,000 for 'political crimes'. 80% of the crimes were passed on by informers, who they relied on heavily and made them more feared.
- **The SD** – Security Force under Heydrich to find enemies, they kept files on all threats in and outside of Germany.
- **Concentration Camps** – Dachau set up in 1933. Used to hold political opponents/ enemies/ homosexuals. Used beatings and hard work to 're-educate' the 150,000 prisoners.

Legal System

- **Peoples Court**: Courts with Nazi judges who swore loyalty oath to Hitler. It was the judge alone who decided punishments. Although, Hitler sometimes stepped in.
- 44 crimes now punishable by death, 534 killed between 1933-39 e.g. smuggling/jokes.
- Legal system used as a tool to bring Germany under control.

Propaganda and Censorship

- **Gleichaltung: Nazi aim to 'Nazify' all of Germany and indoctrinate (brainwash).**
- **Goebbels** – Propaganda Minister
- **Film** – 100 films a year, pro Nazi, 250 million watched films in 1933. All films censored.
- **Newspapers** –5000 shut down, remained all under Nazi control who decided what was written, 'Der Sturmer' a Nazi paper.
- **Radio** – Reich Radio company took control of all radio stations in Germany. Hitler's speeches popular, Nazis made cheap 'peoples radio' 70% had them. Loudspeakers were put up in public to broadcast Nazi speeches
- **Rallies/Events**– Nuremberg rallies (200,000 attend, 20,000 Nazi flag, 100ft Nazi Eagle) and 1936 Olympics wee spectacles to show power, Aryan superiority etc.
- **Culture** – The Reich Chamber of Culture, under Goebbels, controlled Art, Theatre, Music, literature and Architecture. Your work had to be approved and Nazis burnt 20,000 Jewish book, banned Jazz. Architecture used to show power and Nazi statues
- **Censorship** – Nazis shut down all anti-Nazi things (Films, radio, newspapers) controlled all news stations which meant Germans only saw pro-Nazi news.

Nazis and the Church

On one hand, Nazi beliefs were opposed to Christianity, but open hostility could cause resistance.

Catholics:

- **Concordat** – 1933 truce with Catholics/Pope to not interfere. However, Hitler breaks promise as in 1937. 400 Catholics sent to camps, catholic schools closed & groups banned, crucifixes banned. Priest Block in Dachau.

Protestants:

- **1936 Reich Church** to take control of all Protestant churches, under Nazi Bishop Muller. All had to swear oath to Hitler or be replaced, Old testament removed. Mein Kampf replaces bible & crucifix replaced with the swastika.

Nazi Opposition

Living under fear, terror and propaganda, censorship ended MOST opposition **BUT…**

Church:

- Martin Niemoller set up Confessional Church against Nazi (6000 members), he is imprisoned and church shut down.
- 400 Catholics sent to Dachau after Pope's speech.

Youth:

- VERY small numbers of youth set up anti Nazi groups, most joined Hitler Youth and just kept quiet.
- Swing Youth: listened to Jazz, drank and wore US clothes, groups of 600 went to parties.
- Edelweiss Pirates, 2000 anti Nazis who beat up Hitler Youth, anti Nazi graffiti, went on camps.

Really, these groups were a minority.

Knowledge Organiser: KT4 Life in Nazi Germany, 1933-39

The Nazis wanted to completed control German life, the Nazis called this '**Gleichschaltung**' - ensuring people have an identical way of thinking and acting. Historians called it **Nazification**. Control was part of this, but the Nazis also targeted changed life for all groups in German society in their aim to create a '**Volksgemeinschaft' (a peoples community).**

Hitler and Young Germans

Hitler saw the youth as the **future of the Third Reich**. Therefore **indoctrinating** young Germans to be loyal, obedient and useful Nazis was central to policy.

Nazi Education

The function of schools in Nazi Germany was to create Nazis.
All schools had to start and end the day with 'Heil Hitler' and Nazi posters, swastikas and picture of Hitler in rooms.

Curriculum:

- Separate schools for **Boys & Girls to prepare for different things.**
- Boys: Military and Politics.
- Girls: Domestic life and motherhood.
- **Nazi brainwashing** in all lessons – Anti- Jew, military success, Pro Aryans.
- Maths/History/Race Study/ Eugenics (breeding) important.
- **Party beliefs** taught in schools.

Teachers

- All teachers had to join The **Nazi Teachers' League** (97% joined), and told they must become Nazi members.
- Had to attend political courses, to learn how Nazi ideology could be included in the curriculum, or risk being fired.

Nazi Youth - Boys

- **10-14 Cubs, Hitler Youth 14-18**
- All other youth groups banned in 1933 e.g. scouts and church groups
- Hitler Youth Act, 1936 made joining compulsory, rose to 8 million members.

Activities:

- **Political**: Swore oath of loyalty, learnt Nazi ideology and went to lectures
- **Military:** Training for army e.g. marching, shooting, and camping.
- **Character**: Activities to increase comradeship and ruthlessness.

Used as a brainwashing tool/training

Nazi Youth – Girls

- **League of German Maidens 14-18**

Preparing girls for life in the home.

- **Physical**: Emphasis in sports for healthy mothers, run 40m in 14 seconds.
- **Political:** oath of loyalty and Nazi ideology.
- **Domestic:** trained to cook, iron, sew, be housewives. Also taught about racial hygiene and need to marry an Aryan.

How successful were Nazi Youth policies?

Success: Membership high, many like the activities, comradeship and feeling of importance in Nazi future.

Failure: Opposition groups, complaints of boredom, harsh training and brainwashing. Attendance dropped.

Women in Nazi Germany

Aims: Be a **housewife** and raise Nazis.

- Under Weimar period, women had progressed however Nazis wanted a return to traditional style.
- Discouraged from university and work, given 'marriage bonuses' to not work and get married.
- Abortion and contraception was banned to **encourage reproduction.**
- **Marriage loans of 1000 marks** to give up work to have children, and with every child you didn't have to pay back 250 of it.
- **Lebensborn Program** – From 1936, centres opened to 'donate a baby to Fuhrer' by single Aryan women reproducing with SS men.
- **Mothers Cross Medal**: Gold medal for having 8 children.
- Traditional clothing, focus on housework and raising Nazi children. Three K's: Kinder, Kuche, Kirche (Cooking, Church, Children).

Policies to reduce unemployment

One of Hitler's first aims when he came to power in 1933 was to reduce **unemployment.** There are 3 ways in which he tried to do this:

- **RAD** – Compulsory all 18-25 men work for 6 months, built hospitals, schools, roads.
- **Rearmament** – 1m men in army, more in factories making arms, 72,000 involved in aircraft construction.
- **Autobahns** (motorways) – 125,000 men employed, 3,500km completed by 1938.
- Unemployment dropped 5m in 1933 to 0.5m in 1939 but the Nazis did lie about statistics and removed women and Jews from statistics. This is an example of **invisible unemployment.**

Did the standard of living improve?

German Workers Front (DAF)

- Protected the rights of workers and created a minimum pay levels.
- However, workers lost the right to negotiate their pay and often worked longer hours.

Strength Through Joy (KdF)

- Created to improve the standard of living.
- It provided **leisure activities** such as sporting events, days out, hikes, films, cheap foreign travel.
- The KdF's biggest scheme was an opportunity to save for a new **Volkswagen** – **People's Car**. Workers just had to give 5 marks of their weekly wage to eventually give them a car. However, no one received a car as the factories were turned into arms factories in 1938.

Beauty of Labour (SdA)

This organisation pushed businesses to **provide better facilities** for workers such as toilets, changing rooms, showers and canteens. However, workers often had to do the building and decorating themselves, with no extra pay.

The Main Nazi Racial Beliefs

Eugenics & Social Darwinism:

- A scientific idea which was influenced by **Charles Darwin** and his theory of the **Survival of the Fittest**.
- Eugenics teaches that humans can **control how strong they are** by only **selected the 'best'** parents to have children.
- This meant trying to stop **inferior** parents from having children or marrying.
- Eugenics became a subject in **schools**, **youth groups** and was constantly used in **propaganda**.

The Aryan Race & Racial Hygiene:

- The Nazis believed that 'the best' came from **one race** only –the **Aryan Race**.
- They believed the Aryan Race was **superior (better)** than all others.
- Anyone that was not Aryan were Untermensch (sub-human)
- The Nazis didn't want the Aryan race '**spoiled**' by inferior races.
- Their view was to keep the Aryan race '**clean**' of '**germs**'.

How Minority Groups were treated between 1933-1939.

Homosexuals

The Nazis believed homosexuals spoiled the purity and quality of the German race. They believed homosexuality was a sickness which could be cured.

- ❑ **1936: The Reich Central Office for Combatting Homosexuality** was created. The Gestapo were used to search out homosexual men. 4,000 men in prisons/camps.
- ❑ **1938:** Nazi Law encouraged voluntary castration of homosexual men.
- ❑ **1939:** It is estimated that 5,000 homosexual men died in concentration camps.

Gypsies

There were roughly **26,000** in Germany. Hitler believed they did not work hard enough or contribute to Germany. He believed they were not racially pure.

- ❑ **1933:** They were often arrested and sent to specific **concentrate camps** for Gypsies.
- ❑ **1938:** Gypsies were banned from travelling in groups around Germany.
- ❑ **1938:** Gypsies were registered for medical testing for racial characteristics.
- ❑ **1939:** Orders were given to **deport all Gypsies** from Germany.

Physical and Psychologically Disabled

The Nazis believed that anyone with a disability was a burden on society as they were not able to contribute in many ways. They also believed they weakened the purity of the race

- ❑ **1933: Law for the Prevention of Hereditarily Diseased Offspring** made it **compulsory** to be **sterilised** (prevented from having children) for the: **mentally ill**, **alcoholic**, '**deformed**', **epileptic**, **deaf** or **blind**. **400,000** were sterilised using surgical operations.
- ❑ **1939: The T4 Programme** - The Nazis believed that any child born with a mental or physical disability should be killed by **starvation** of a **lethal overdose** of drugs.
- ❑ **1939:** Children up to the age of 17 were now included. 5,000 children were killed.

Slavs and Poles

Hitler believed Slavs (Eastern European) and Poles were not part of the Master Race. He wanted to push them out of Europe to make more Lebensraum for the Master Race.

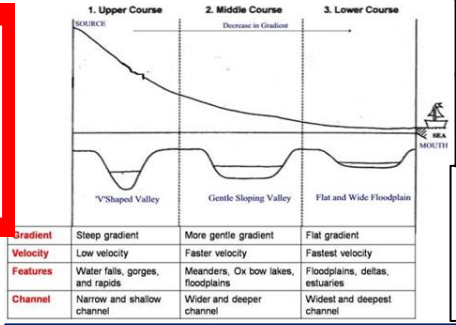
- ❑ These people were still sent to **concentration camps** and arrested but were not targeted as much as other minority groups.

Persecution of Jews, 1933-1939

Year	Event
1933	Hitler becomes Chancellor of Germany
	A boycott of Jewish shops is carried out
	Jews are banned from working in public areas
	20,000 books are burned, many by Jewish authors
1934	Jewish companies are no longer mentioned on the radio
	Jewish students can no longer sit law exams
	Jewish newspapers are no longer sold or displayed in public
1935	Jews are forbidden from serving in the armed services and going to some public places
	Nuremburg Laws remove Jews' rights as German citizens – They banned marriage and sexual relations between Jews and none-Jews.
1936	The Olympic Games are held in Berlin. Anti-Semitic actions are 'stopped'
1937	Jews have to register all their possessions
	Jews have to carry identity cards
	Jews' names are changed
	Polish Jews are deported to ghettos and labour camps
1938	***Kristallnacht*** **(Night of Broken Glass) –** a night of violence against the Jews and their shops.
	Jews can no longer own shops
	All Jews are dismissed from German schools
	Jews are banned from entering cinemas and theatres
1939	Jewish doctors lose their qualifications and all Jews lose their jobs
	Jews are deported from Austria to Poland
	Jews in Poland have to wear a yellow star

Geography

KI : The shape of river valleys changes as rivers flow downstream



	1. Upper Course	2. Middle Course	3. Lower Course
Gradient	Steep gradient	More gentle gradient	Flat gradient
Velocity	Low velocity	Faster velocity	Fastest velocity
Features	Water falls, gorges, and rapids	Meanders, Ox bow lakes, floodplains	Floodplains, deltas, estuaries
Channel	Narrow and shallow channel	Wider and deeper channel	Widest and deepest channel

The long profile is the gradient of the river from source to mouth

The cross profile is the side to side cross section of a river channel or valley

Lateral erosion is sideways erosion of a river on the outside of a meander bend
Vertical erosion is downward erosion of a river bed

Fluvial processes - Processes relating to river erosion, transportation and deposition

Types of erosion	
Abrasion	Rocks carried by the river wear down the river bed and banks
Attrition	Rocks smash together and break into smaller pieces
Hydraulic Action	Force of the river causes air to be trapped in cracks and weakens the bank
Solution	River flows over rock and rock is slowly dissolved

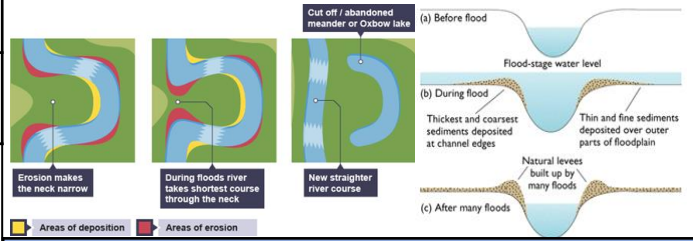
Types of transportation	
Saltation	Particles bouncing down the river bed
Solution	Soluble particles are dissolved into the river
Suspension	Fine solid material held in the water while it is moving
Traction	Rolling of boulders and pebbles along the river bed

KI : Distinctive fluvial landforms result from different physical processes

Upper Course	
Gorge	Narrow steep sided valley formed as waterfall retreats
Interlocking spurs	Series of ridges on alternate sides of the valley the river winds round
Waterfall	Sudden descent of a river over a vertical or step slope in its bed
Middle course	
Meander	Pronounced bend in a river
Ox bow lake	Arc shaped lake cut off from a meander
Lower course	
Estuary	Tidal mouth of the river where it meets the sea
Levees	Embankments of sediment along a river
Floodplain	The flat area forming the valley floor on either side of a river channel

RIVER Landscapes in the UK

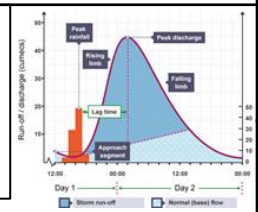
AQA



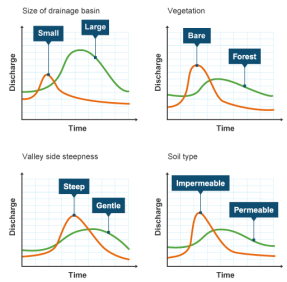
EXAMPLE of river valley in UK - River Clyde Landforms

Location	The River Clyde flows through Scotland. It is about 160km long. It's source is in the Southern Uplands region of Scotland and the river flows north-west through Motherwell and Glasgow. The mouth of the River Clyde is an estuary on the west coast of Scotland.
Upper:	There are interlocking spurs at Crawford (between 300 and 500m high). The Falls of Clyde are four waterfalls near Lanark. The highest fall is Corra Linn – 27m high. There is also a gorge along this part of the river, formed by waterfalls retreating. There are steep cliffs along the banks of the river, then at the top of the gorge the land flattens out.
Middle:	The river meanders between Motherwell and Glasgow. There is an ox-bow lake starting to form from a meander in the New Lanark area.
Lower:	**Lower –** Greater lateral erosion creates a floodplain. Glasgow is built on the floodplain of the River Clyde. The land is about 5m above sea level on either side of the river. The river's estuary is about 34km west of Glasgow – the estuary is 3 km wide. Areas next to the river channel are mudflats, which are exposed at low tide.

A flood hydrograph is a graph showing the discharge of a river, related to rainfall over a period of time
Rising limb : the increase in river discharge as river flows into the river
Peak discharge : the highest discharge
Lag time : the time difference between peak rainfall and peak discharge
Falling limb : the decrease in river discharge as river returns to normal level



Physical factors affecting the flood risk	Human factors affecting the flood risk
• Precipitation – torrential, continuous, sudden snow melt • Geology – permeable, impermeable • Relief – steep / gentle slopes	• Urbanisation – building towns and cities - impermeable • Deforestation – cutting down trees – Agriculture – ploughing patterns, disappearing fields



KI : Different management strategies can be used to protect river landscapes from the effects of flooding

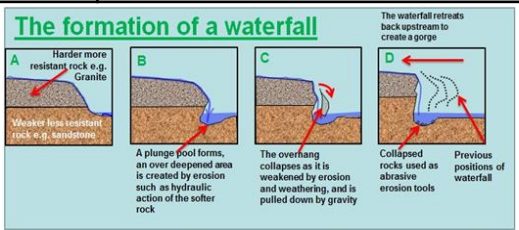
Management strategies – Hard and soft engineering

Dam and reservoir (Hard engineering)	A barrier built across a river to interrupt the flow and create a manmade lake. Regulates flow, provides HEP, boosts tourism, cost, displacement of people, interferes with nature
Embankments (Hard engineering)	Raised banks constructed along the river. Holds more water, habitats for wildlife, cheaper, unnatural, stops access to river
Flood plain zoning (Soft engineering)	Land that is near the river and often floods is not built on. Low cost, green space, traditional meadows protected, less housing areas, difficult to get planning permission
Flood relief channels (Hard engineering)	Artificial channels which are used when the river is close to flood. Decrease flood risk, provide leisure area, displacement of people, creates problems downstream, disturbs habitats
Flood warning (Soft engineering)	Providing reliable advance information about possible flooding. Plan what to do, cheap, ensures safety, only effective if heeded, still floods
Channel straightening (Hard engineering)	Removing meanders to make the river straighter. Speeds up river, improves navigation, increases flood risk downstream, expensive, unnatural
Planting trees (Soft engineering)	Reduces water in river, new habitats, cheap, changes appearance, loss of potential grazing land
River restoration (Soft engineering)	Return river to original course. Natural process, creates new habitats, aesthetically pleasing, loss of agricultural land, expensive

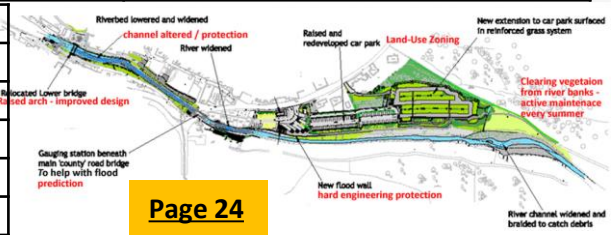
An example of a flood management scheme in the UK - Boscastle, Cornwall

Why the scheme was needed	• 16/8/04 – 3 metre wall of water moved at 60km / hr through the village • 20 businesses and 4 bridges destroyed. Loss of tourism • Some injuries, no deaths • No defences • Steep valley, land upstream deforested, low arched bridge, impermeable rock, unprecedented rainfall
The management strategies	• Old arched bridge replaced with one with higher arch • Embankment strengthened • Channel deepened and widened • Gauge put in • Flood wall built • Car park raised and permeable surface put in • Dead vegetation removed
Social, economic and environmental issues	• Social – disruption to residents, safer, 1 in 75 chance of a flood, spoil character of the village • Economic – less risk of flooding so lower insurance costs, £4 million a year, increased tourism • Environmental – vegetation and river management, habitat improved, engineered to look natural

The formation of a waterfall



Hard engineering	Building of artificial structures to reduce, disrupt or stop the impact of river processes
Discharge	The quantity of water that passes a given point within a given period of time
Flood	Occurs when river discharge exceeds river channel capacity and water spills over the floodplain
Flood risk	The predicted frequency of floods in an area
Precipitation	Moisture falling from the sky as rain, hail, sleet or snow
Soft engineering	The use of the natural environment surrounding the river to work with the natural processes



Page 24

DUAL CODING

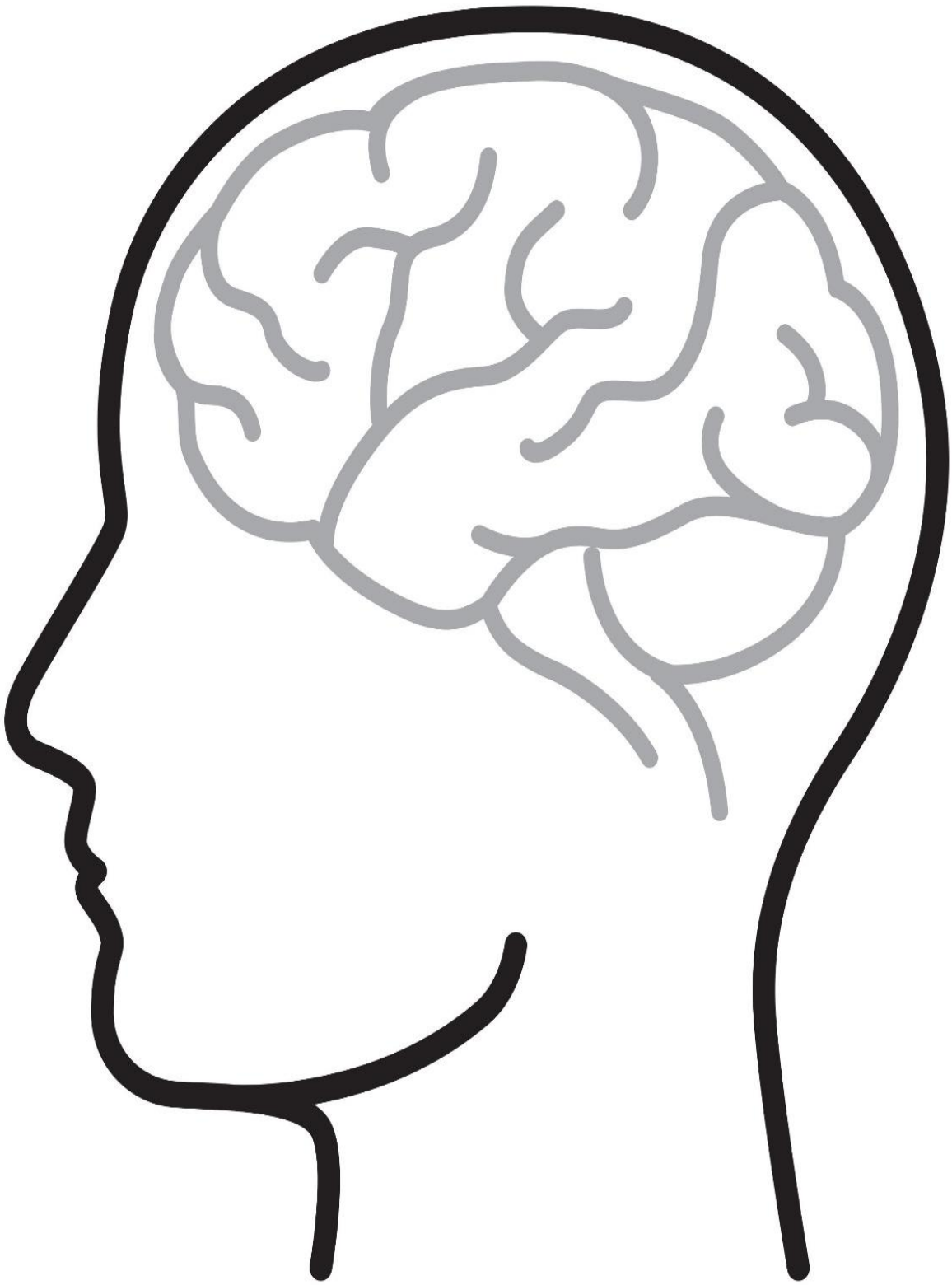
Based on some key knowledge from your ***History*** and ***Geography*** knowledge organisers, can you assign different parts of this knowledge to images to help you remember this in the future? Consider your images carefully.

Image	Key Knowledge

Image	Key Knowledge

BRAIN DUMPING

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

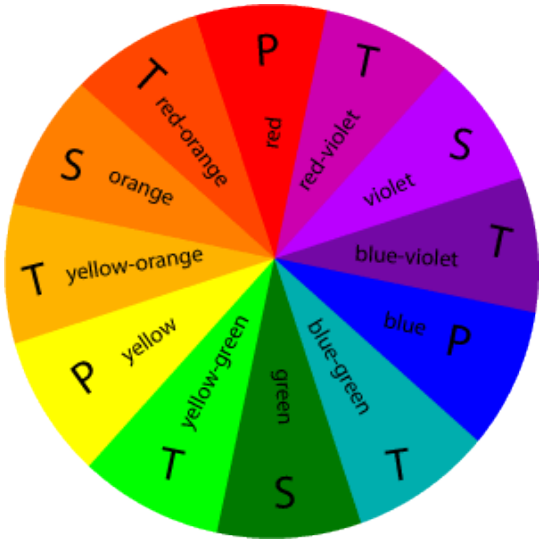


Geog your memory/ Hi-story Lane

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

Acrylic Painting -Basics:

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



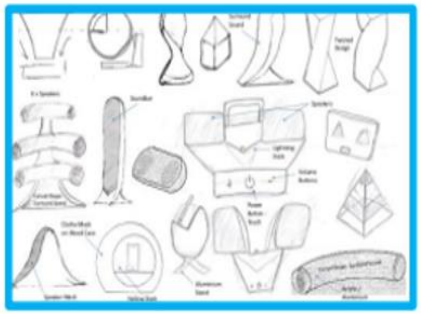
- LAYER (when dry\textures go on last).
- BLEND (when wet and with clean dry brush).
- CONSISTENCY (add the right amount of water to create correct thickness of paint for effect required).
- SMOOTH BLENDING (long slow brush strokes).
- PAINTERLY (Brush strokes to create textures\selected artist's style).

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

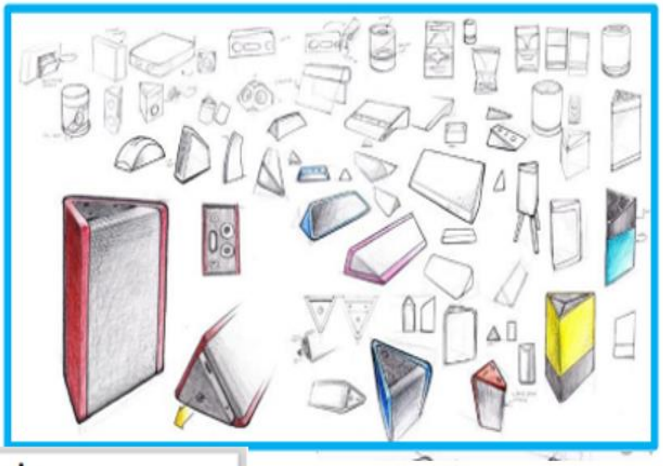
- Use complimentary colours to create shadows (opposite each other on the colour wheel).
- Mix dark brown and dark blue to create a black tone:

DT: Engineering

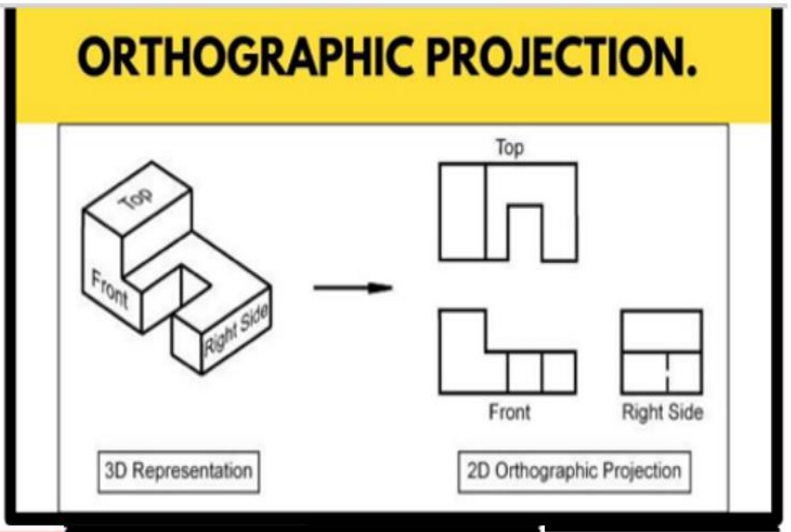
R107: OCR Engineering design
Designing and developing Ideas



Sketches



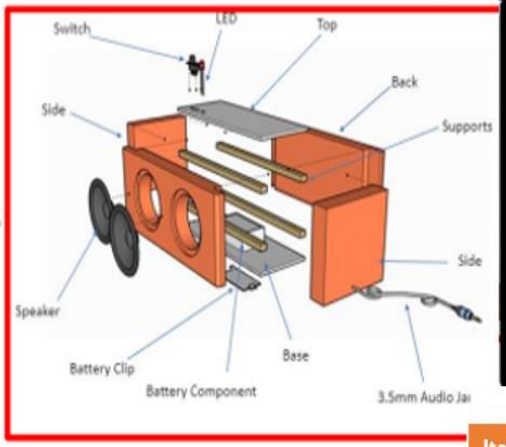
Development



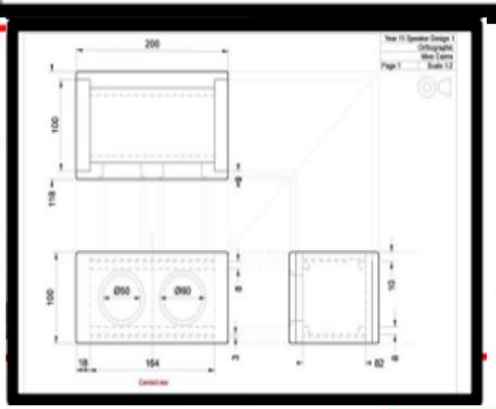
Analysis

Key Words:

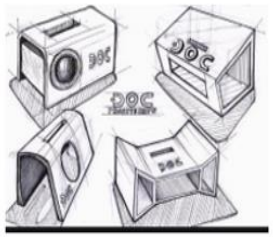
- Thumbnail sketch
- Initial idea
- Developed idea
- Working drawing
- Dimension
- CAD
- Standardised
- Component
- Oblique
- One Point Perspective
- Two point perspective
- Orographic Projection
- Freehand
- Thick and Thin lines
- Rendering
- Annotation
- Two Dimensions
- Three Dimensions
- Exploded View



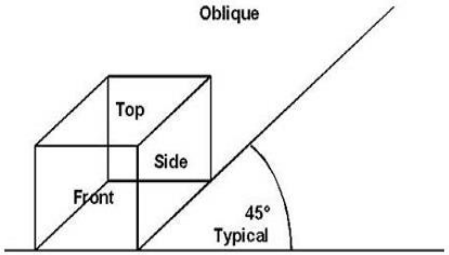
Exploded

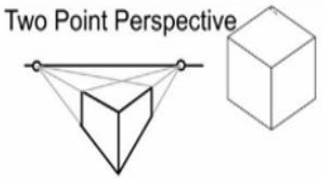


CAD working drawing

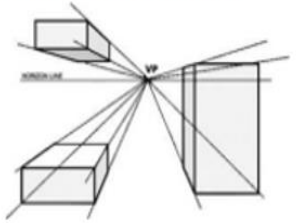


Isometric Drawing



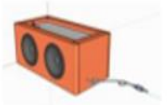


One Point Perspective

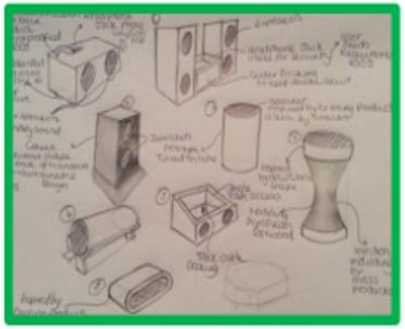


Item	Material
Speaker x2	Standard componer
Outer Casing	HIPS
Buttons	Polystyrene

Parts list



Surveys and Polls



Final Sketch annotation

R108: OCR Engineering design
Risk Assessment, Planning and Manufacture

Planning Steps/ Flow diagram
Manufacturing Specification
Risk assessment
Making Diary
Modelling, testing and Developing
Cutting list
Final Product- Range of manufacturing skill







Making Diary – each stage photographed
Which PPE?
What Material?
Which Method?

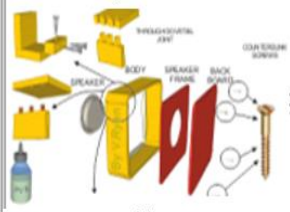
Standard components for use During manufacturing

Glue nails screws

speakers

Final Idea

Assembly and construction



Assembly process

Setting for laser Acrylic		
Colour line	Speed	Power
Black (cut)	6	100
Red (engrave)	400	21
Blue (mark)	200	21

Setting for laser MDF		
Colour line	Speed	Power
Black (cut)	4	100
Red (engrave)	400	21
Blue (mark)	200	21

Laser Cutter settings

Activity	Equipment			
Persons at Risk (highlighted)	Pupils	Employees/Staff	Visitors	Contractors
Step 1: Watch the demonstration and identify potential hazards				
Step 2: Decide who could be harmed and how				
Step 3: Evaluate the risks and decide on the control measures- add to if needed				
Step 4: record your findings and document what your actions will be				
Step 5: Review, Revise and update where necessary				
POTENTIAL HAZARDS	1. 2. 3			

Risk Assessment

Final Prototype

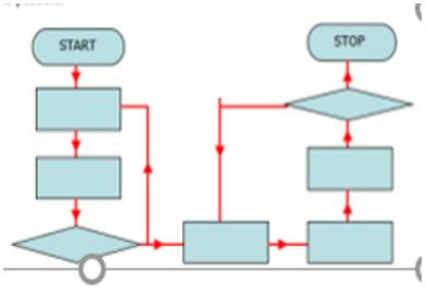
Manufacturing Flowchart

You need to use a flow chart to explain how to make your product. There are different specific symbols for each stage of the process.

TERMINATOR	DECISION	PROCESS	INPUT/OUTPUT
Start stop restart	Choice to be made	Instruction or action	Additions/removal to process

The symbols are locked together by arrows which indicate the correct sequence of events,. This makes the flowchart as clear as possible.

Always start with the correct symbol, show each stage in a rectangle using clear easy to follow instructions
You will need to add quality checks, which will require a decision to be made. Use feedback loops for any errors
Consider adding more processes if necessary



Cutting List

Rod Number Date Contract No: NSC/
Job Title:

Item Description (all dimensions in mm)

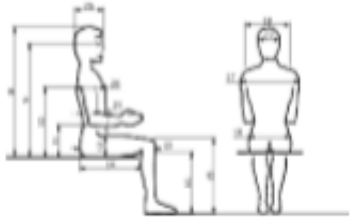
	Member	Material	No Off	Finished Sizes L	W	T	Total Length	Remarks incl cross Section of material
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								

DT: Engineering

R105: OCR Engineering design Examination Subject Knowledge

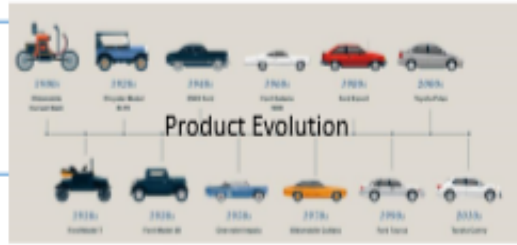
Quality Control: a system of maintaining standards in manufactured products by testing and checking throughout the making stages

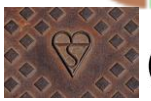
Identify	Brief	Research	Process Planning
Design	Specification	Design	Manufacturing Plan
Optimise	Prototyping	Error proofing	
Validate	Test	Evaluate	



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

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





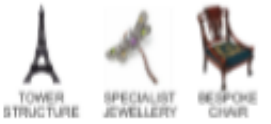
- A **Design Brief** is a *statement of how you are going to solve the Design Problem.*
- Research findings and Client feedback can be used to create a **Process Plan.**
- A **Design Specification** is a *list of requirements your product has to meet in order to be successful.*
- After a Specification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

British Standards Kitemark shows that a product has consistently met the requirements of the British Standards Institute. These regulations are of a higher standards than European ones

CE

European Conformity Symbol shows that a product has consistently met the minimum requirements of the EU

Sales and Supply of Goods Act 1994	All Products have to be of a "satisfactory quality. They have to be safe, fit intended purpose, not be faulty
Trade Descriptions Act	False or misleading information must not be given out about products. E.g. accurate information must be given out who made the product
Consumer Protection Act 1987	The right to claim compensation if a defective product causes death, damage or injury
The Waste Electrical and Electronic Equipment Regulations 2013	The government regulate the amount of electronics going to landfill as the chemicals and electronics can harm the environment and wildlife Companies must provide electronic disposal for their products



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

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

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

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

Product requirements are what a product has to meet/ must do.
Common requirements are:

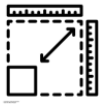
- Features – *what makes a product unique and sellable*
- Performance – *how well it completes its function*
- Target Market – *how it appeals to its customers*
- Working Environment – *how it is suitable for where it will be used*
- Constraints – *what is must do or must not do*
- Ergonomics – *how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

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

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

DT: Engineering

Modelling is used to test:


Scale


Proportion


Function

Types of modelling

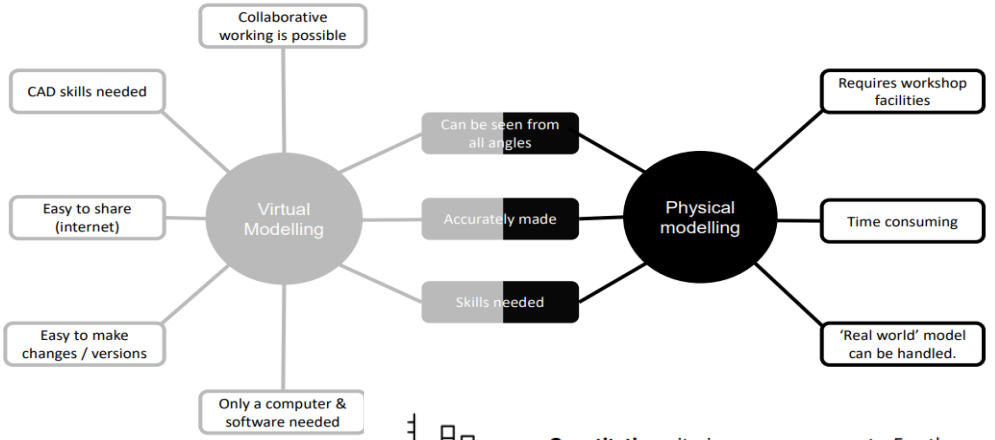

Virtual


Physical

Evaluation of model

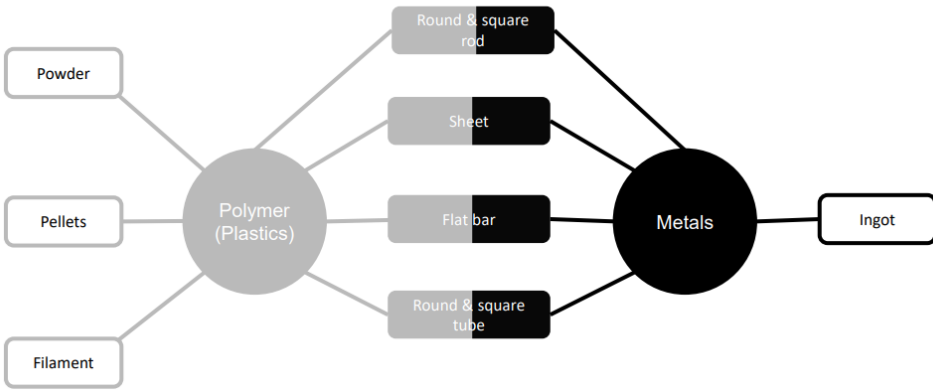
All models or prototypes are compared with the design **brief** and **specification**.

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



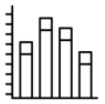
Wasting	Shaping	Forming	Joining	Finishing	Assembly
					
Changing shape by removing material	Forming a shape by moulding or laying up composites.	Changing shape by deformation.	Permenant or temporary fixing.	Creating a surface finish for technical or aesthetic reasons.	Adding components together into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

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



Circular Economy

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



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

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

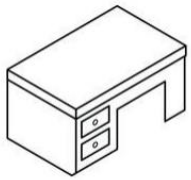
Needs criteria are essential and must be included in a design. E.g. an emergency stop button on a machine.

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

	Buildings	Capital cost
	Equipment	
	Workers	Labour cost

DT: Engineering

Isometric
A formal 3D style drawing.



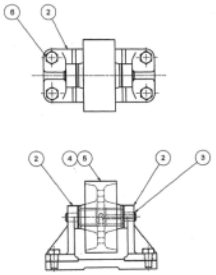
Start at the corner all lines

Oblique
Another 3D style that is less realistic that isometric.

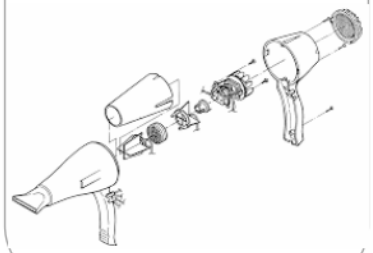
Start with front 'face' then

Freehand sketching
An informal style used to communicate ideas quickly.

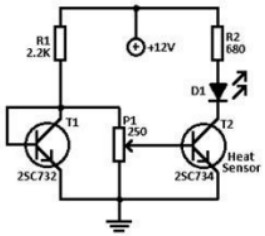
Assembly Drawings
Drawings that show all components assembled together.



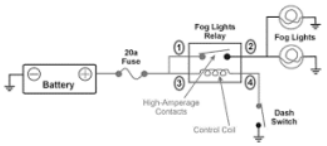
Exploded views
A type of assembly drawings that shows space between parts.



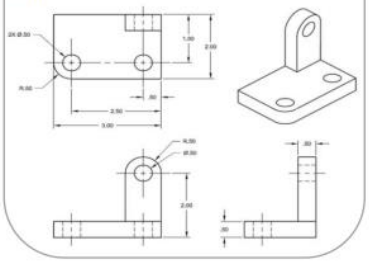
Circuit Diagram
Used to show how electronic components are connected in a circuit.



Wiring Diagram
Shows how connections should be made within larger electrical systems.

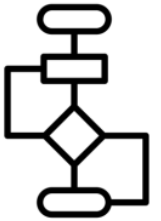


Orthographic drawing
A formal style of 2D drawing usually used to show dimensions. Drawn to scale.



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

Flowcharts
Used to show a decision making process.



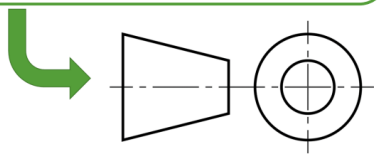
Working Drawings

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

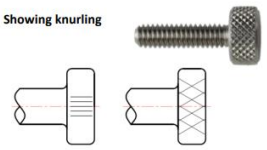
Across Flats	AF
Centre Line	CL
Diameter	DIA, D and Ø
Drawing	DRG
Material	MATL
Square	SQ

Title block example

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



Showing knurling



Straight Knurling *Diamond Knurling*

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

DT: Engineering

Exploring R038 Principles of engineering design: Miss Neail's student guide

The exam will always be out of **70 marks**. Section A will have 10 marks. Section B 60.
You need to aim for approx. 38 marks for a P2.

Section A will have 10 Multiple choice questions. You must ✔ the correct answer.
These questions test knowledge from across R038. Each question is worth 1 mark. There will always be 4 possible choices e.g. a,b,c,d only one will be correct.

Each question will indicate the number of marks awarded in square brackets.

[1]

4

9 Which symbol shows the **radius** on an engineering drawing?

(a) ∅

(b)

(c)

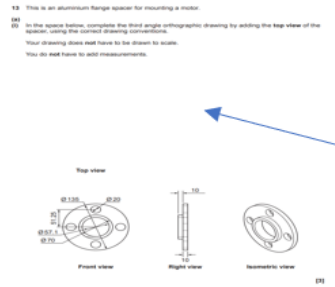
(d)

Key information in a question will always be bold to make it clear what is being asked.

Section B contains several questions that are broken up into smaller questions. Question types include:

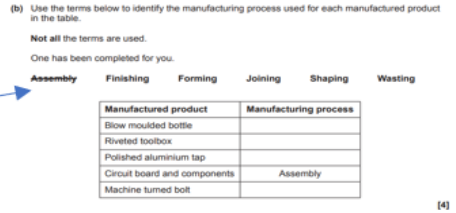
- Short answer (define, describe, explain)
- Closed response (yes/no, inputting numbers, Symbols)
- Shorter response (Point /Explain)
- Extended response (Point evidence explain)

In section B you will be assessed on:
Recalling knowledge and showing understanding, , applying knowledge and understanding, analyse and evaluate knowledge, understanding and performance.



In section B: where a question asks you to complete a drawing space will be provided for you to do so.

In section B you will be expected to completed a diagram or table:
When asked to complete a diagram or process you will be given the words, and you must choose the correct one. You must then write the answer in the diagram or table until it is completed..



(b) Use the terms below to identify the manufacturing process used for each manufactured product in the table.

Not all the terms are used.

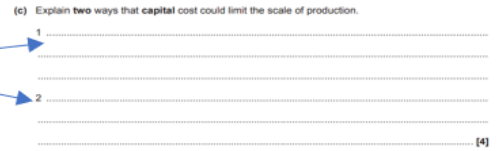
One has been completed for you.

~~Assembly~~ Finishing Forming Joining Shaping Wasting

Manufactured product	Manufacturing process
Blow moulded bottle	
Riveted toolbox	
Polished aluminium tap	
Circuit board and components	Assembly
Machine turned bolt	

[4]

In section B: when a question asks for a specific number of points it will be numbered to show you where to write your response; e.g. State **two** other items.....



(c) Explain **two** ways that **capital** cost could limit the scale of production.

1 .....

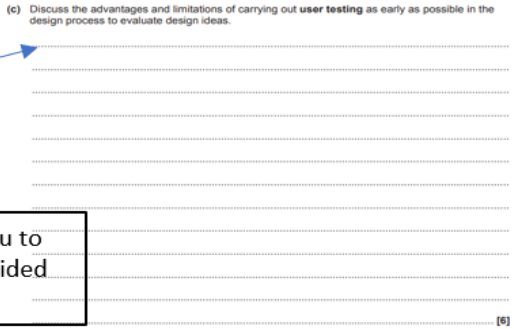
.....

2 .....

.....

[4]

In section B: The number of lines and space provided is an indication of how much you need to write. There will always be an extended response 6-mark question!



(c) Discuss the advantages and limitations of carrying out **user testing** as early as possible in the design process to evaluate design ideas.

[6]

Design Strategies

	Where is it?	Advantage	Disadvantage
Linear	Set sequence for each stage.	Clear what must be done and when.	No opportunity for evaluation and improvement.
Iterative	Cyclic loop of prototyping, testing and refining ideas.	Flexible, creative, errors resolved quickly.	Increased cost and time.
Inclusive	Reduce barriers to the use of products.	Ensures no one is left out.	Increased cost and time (for research and development)
User-Centered	User needs and wants are at the heart of the design.	Product will fully meet the needs of the user.	Design could be too specialised and not a commercial product.
Sustainable	Reducing the need for non-renewable resources in the design/product.	Ensures resources can be used for generations, reduce carbon emissions and neg impact on environment.	Cost to improve existing infrastructure e.g. changing how electricity is generated
Ergonomic	Ensuring product does not harm the user over time.	User needs are met. Reduces fatigue/injuries.	Time needed to understand user needs. Increased costs.

Process	Description	Examples
Wasting	Removing excess material by cutting away with tools and equipment.	chiselling, filing, sanding
Shaping	Changing the state or shape.	casting, moulding, 3D printing
Forming	Using heat and/or force to form the material into a different shape.	vacuum forming, pressing, forging
Joining	Fixing parts of the product together to form more complex parts.	gluing, welding, riveting, soldering
Finishing	Adding a protective and/or decorative layer to the surface of the product.	painting, varnishing, power coating, polishing
Assembly	Fitting parts together to make the final product.	using screws, bolts, clips

DT: Engineering

Command words	Meaning
Analyse	Separate information into components and identify their characteristics. Discuss the pros and cons of a topic or argument and make reasoned comments.
Compare and contrast	Show the similarities and differences.
Conclude	Make a decision after reasoning something out.
Define	Give the meaning of.
Describe	Give a detailed account of.
Differentiate	Explore and explain the differences.
Discuss	Explore the subject by looking at the advantages and disadvantages.
Explain	Describe, giving reasons and causes.
Evaluate	Give an opinion by exploring the good and bad points.
Identify	Recognise or prove something as being certain.
Illustrate	Show by explaining and giving examples.
Interpret	Explain the meaning by using examples and opinions.
Justify	Give good reasons for offering an opinion or reaching a conclusion.
Outline	Concentrate on the main points of the topic or item.
Summarise	Give the main points of an idea or argument. Leave out unnecessary details.

1 Mark Questions *– Identify/name/label*
2 Mark Questions *– Identify and explain/ define/label 2 items*
3 Mark Questions- *Identify/explain/give reasons/ label 3 items*
4 mark Questions *– Often Identify/ explain and describe/label 4 items*
5 mark Questions *– Often Identify/explain/ describe/justify label 5 items*
6 Mark Questions *– Extended writing piece, needing detail, multiple examples and use of key terms.* ***This is the only question in the paper that marks Spelling, punctuation and grammar.***

A mark a minute

BOX the command word i.e. describe, explain, evaluate, assess

UNDERLINE key ideas to focus in, to understand what content will be needed in their answers

GLANCE over the question to make sure you include everything needed

(c) Explain how standard components can improve the sustainability of new products.

(b)	Award one mark for each valid reason e.g. • Guaranteed quality (1) • Less expensive to purchase / cheaper (1) • Compatible with standard tools / no specialist tools required (1) • Readily available / widely used / large quantities (1) • Easily replaceable (1) • Standards understood globally (1)	2	Accept suitable alternative answers. Do NOT accept 'they are easy to make/not complex to make.' Only award 'easier to understand' if qualified by 'global standards' / 'compatible with standard tooling' or similar

[3]

If you get stuck write down all the key words that you know are relevant first at the bottom of the page. Then use this to start building your sentence. Tick off each key word as you go

Tip:
3 marks so 3 minutes
3 marks so 3 points to be made
Always make extra points if you can give an opportunity to gain marks
Explain so needs reasoning

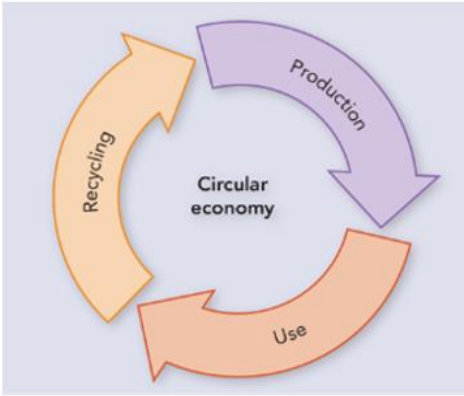
Command verb	Meaning
State	Express in precise terms, express in unequivocal terms
Suggest	Give possible alternatives, produce an idea, put forward, eg an idea or plan, for consideration
Identify	Recognise, list, name or otherwise characterise

Working Drawings

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

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

Discuss	Give an account that addresses a range of ideas and arguments	I have a variety of different chairs in my home. All of them have a seat, back rest and are supported by legs. It is possible to have a chair with three legs but most have four. The back rest is what defines the chair otherwise it could be called a stool. When buying a chair, I would consider the room it is for, the design and colour and the price. It is important that it is fit for purpose and that it is comfortable.
Explain	To give account of the purposes or reasons	A chair is used for sitting on. It normally comprises a seat; a backrest and is supported by legs. The legs are positioned in such a way so as to balance the chair, so that when it is sat upon it does not collapse or become unstable. Chairs can be made in many different styles and use a variety of materials. The design and material choice are reflected in the cost of the chair. Chairs are often used alongside a table, to support body weight at a convenient height whilst doing something at the table. Chairs can be produced in different sizes to make them suitable for individuals eg a child.



Design Development – sketchbook pages

Development and refinement of ideas:

GCSE Textiles - AO4

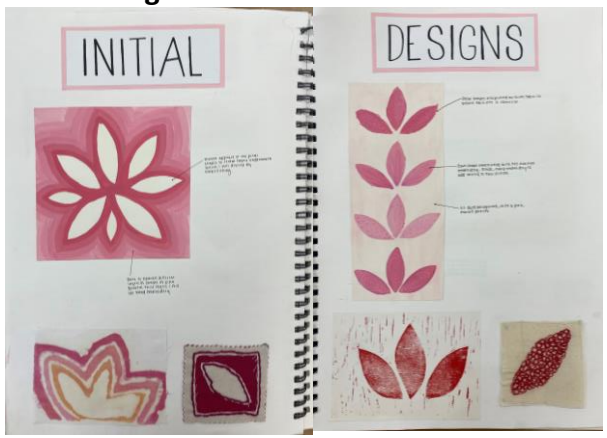
Present a personal and meaningful response that realises intentions and demonstrates understanding of visual language.

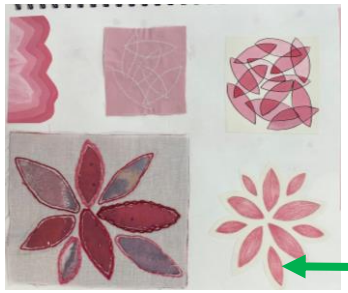
Use the words in the assessment objective to help you understand what it is you should do:

Personal and meaningful response –Your response to a source should be personal to you. What your feelings and reactions are. It must be meaningful by relating to your source inspiration. Make sure everything links and is not random.

Demonstrates understanding of visual language – being able to combine different textures, colours, techniques in an aesthetically pleasing way.

Initial designs:



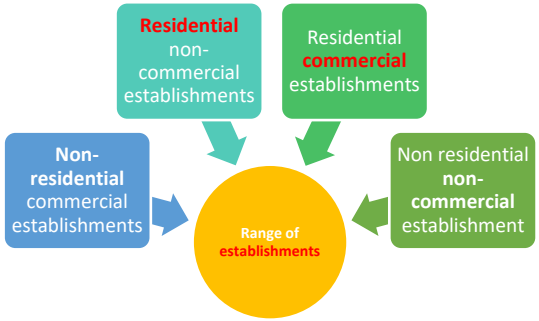


Final design – label with techniques you intend to use

Create a wide range of fabric samples before creating you final design

AC 1.1
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 service

Food Service	Description
Formal food	Food is usually served to customers by waiting staff. • **Plate**: the meal is plated up and brought to the customers table by waiting staff • **Waiting service:** the food is served to the customers at the table by waiting staff • **Gueridon** [trolley or moveable service]: the customer's food is cooked at the table, usually for dramatic effect, for example flambéed. Steaks and crepes.
Street food	Ready-to-eat food or drink sold on the street or in a public place, such as a market or festival.
Self Service	Customers help themselves to food, for example a carvery,; in a carvery the meal is on display and carved by a chef, and a customer can help themselves to vegetables, sauces and gravy.
Fast food	Food is made to order very quickly and can be taken away from the restaurant or stall to eat; seats and tables are often provided.
Cafeteria	Small and inexpensive restaurant or coffee bar, serving light meals and refreshments
Takeaway	Takeaway restaurants [(for example Chinese, Indian, pizza) take an order and deliver the food to the customer's home; customers can also order at the restaurant and then take the food away to eat it.

Food Service	Description
Buffet	A selection of dishes is laid out for customers to help themselves, different buffet styles include: • **Sit-down buffet:** once the customer has chosen their food from the buffet, they can sit down at a table to eat it • **Stand-up or fork buffet**: once the customer has chosen their food, they stand to eat it; this allows guests to circulate and meet other guests • **Finger buffet:** all the food is prepared to be eaten with fingers (without the need for a knife and fork); foods are normally bite-size and easy to eat.
Automatic vending	Drinks and snacks are stored in a machine with a glass front and items are selected by the customer; they are often coin operated and placed in establishments where it is may not always be possible to get access to food, for examples colleges and hospitals
Transport catering	A variety of food service options are available on trains, planes and ships.
Hotel	Provides overnight accommodation and food and drink options. Many hotels offer breakfast, evening meals, bar snacks, lunch, room service (food ordered and delivered to your room); budget hotels usually have a simpler offering
Bed and breakfast	Offers overnight accommodation and breakfast; often these are private family homes where rooms are made available to guests; breakfast is usually served in a dining room or the owners kitchen

Hospitality at non-catering venues

Contract Caterers

provide:

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

wjec cbac

Unit 1 The Hospitality and Catering Industry

LO1 Understanding the environment in which hospitality and catering providers operate

AC 1.1 The structure of the hospitality and catering industry

3. Standards and ratings

Hotel and Guest house standards

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

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 god 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%

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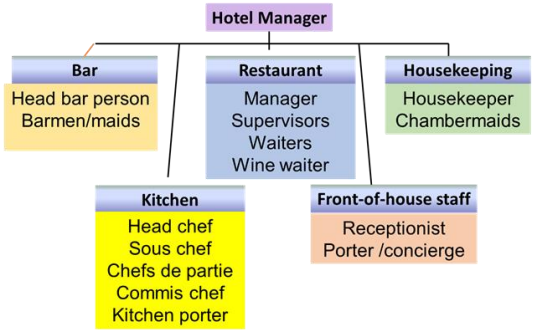
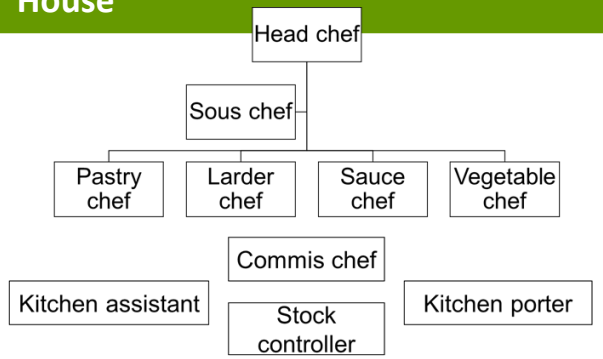
4. Job roles in the industry

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 Patisserie- baked goods and dessert
- **Fish chef-** Le Poisoner
- **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
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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.

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1.3 Working conditions across the hospitality and catering industry

1.3 Working conditions across the hospitality and catering industry

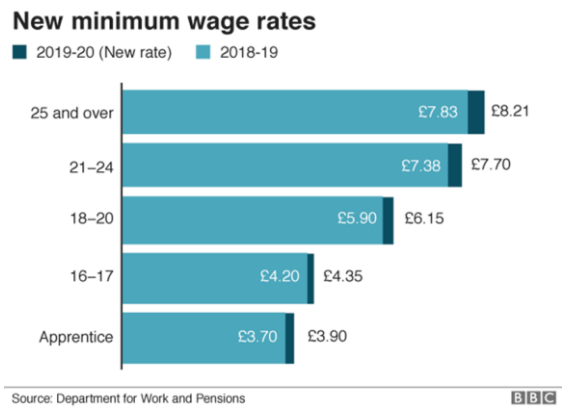
Employers want to employ most workers when they have busy times

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 e.g. Head Chef who might work from early morning to late night every day

11. The national Minimum Wage



12. Contracts of employment

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

Casual staff / Agency staff

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

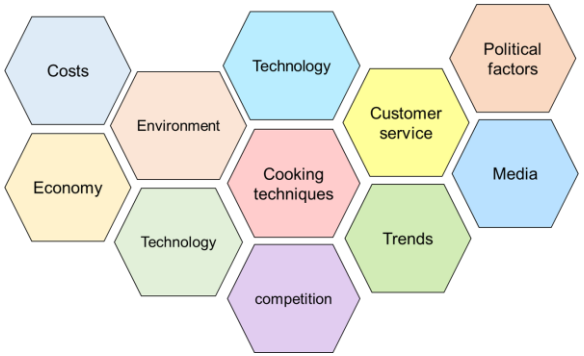
Adult workers are entitled to 24 hours off in each 7 day period and young workers (15-18) are entitled to 2 days in 7.
Adult workers are entitled to at least 20 minutes uninterrupted rest if their working day is longer than 6 hours.
Young workers are entitled to 30 minutes rest if their working day is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

1.4 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

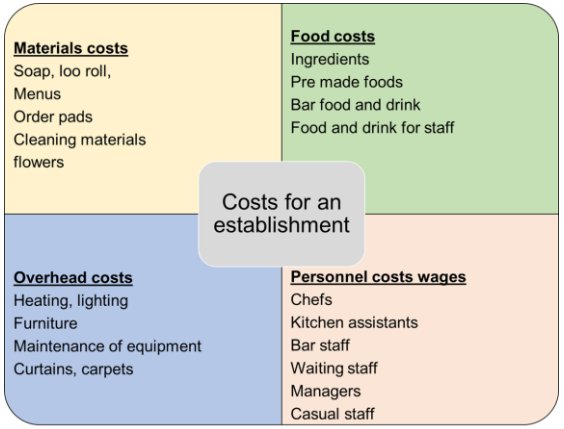
17. Factors affecting success



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 WIFI, 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

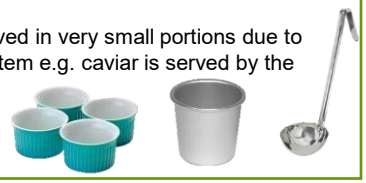
Divide by the number of portions made for the portion cost

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

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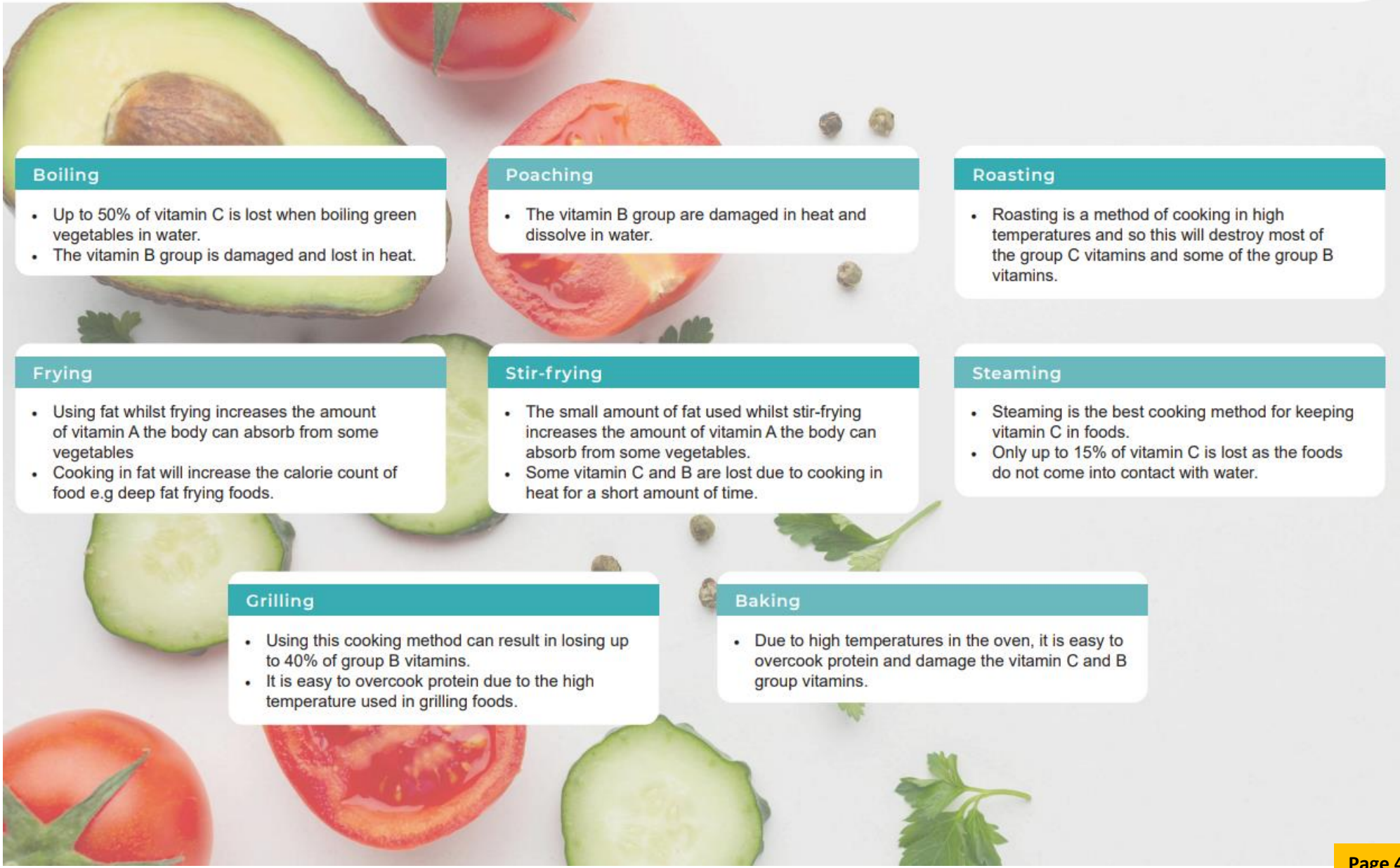
Level 1/2 Hospitality and Catering: Unit 2-2.1.2 -
How cooking methods can impact on nutritional value



Boiling
- Up to 50% of vitamin C is lost when boiling green vegetables in water.
- The vitamin B group is damaged and lost in heat.

Poaching
- The vitamin B group are damaged in heat and dissolve in water.

Roasting
- Roasting is a method of cooking in high temperatures and so this will destroy most of the group C vitamins and some of the group B vitamins.

Frying
- Using fat whilst frying increases the amount of vitamin A the body can absorb from some vegetables
- Cooking in fat will increase the calorie count of food e.g deep fat frying foods.

Stir-frying
- The small amount of fat used whilst stir-frying increases the amount of vitamin A the body can absorb from some vegetables.
- Some vitamin C and B are lost due to cooking in heat for a short amount of time.

Steaming
- Steaming is the best cooking method for keeping vitamin C in foods.
- Only up to 15% of vitamin C is lost as the foods do not come into contact with water.

Grilling
- Using this cooking method can result in losing up to 40% of group B vitamins.
- It is easy to overcook protein due to the high temperature used in grilling foods.

Baking
- Due to high temperatures in the oven, it is easy to overcook protein and damage the vitamin C and B group vitamins.

Level 1/2 Hospitality and Catering:
Unit 2-2.2.1: Factors affecting menu planning

Factors affecting menu planning

You need to be aware of the following factors when planning menus:

- **cost** (ingredients as well as business costs)
- **portion control** (value for money without waste)
- **balanced diets/current national advice**
- **time of day** (breakfast, lunch, and dinner menus as well as small plates and snacks)
- **clients/customers** (a menu with prices that will suit the people who visit your establishment).

Equipment available

You need to know and understand the type of equipment needed to produce a menu. The choice of dishes will be influenced by the equipment available to the chef.

This includes kitchen equipment such as:

- hobs, ovens, and microwaves
- fridge, freezer and/or blast chiller
- specialist equipment, for example a *sous vide* or pizza oven
- hand-held equipment, for example electric whisks or hand-blenders
- other electric equipment, for example food processors.

Skills of the chef

The skills of the chef must be suited to the type of provision and the menu offered.

A Michelin starred restaurant will require a chef who has complex skills in preparation, cooking and presentation of dishes.

A café will require a chef who has a range of medium and complex skills to produce a suitable menu.

A large restaurant will normally have a full kitchen brigade while a smaller establishment may only have a single chef with one or two assistants.

Time available

The type of provision will influence the amount of time a customer may be willing to wait for their dish to be prepared. Can the chef prepare, cook, and present more than one dish at the same time? Can some items be made in advance?

Time of year

The time of year can affect menu choices. Light and cold dishes such as salads are better suited to the summer months. Hearty dishes such as stews are more suited to the winter. Special dishes linked to holidays such as Christmas and Valentine's Day may also be included. The availability of **seasonal** produce can also affect menu choices as certain commodities, for example strawberries, are less expensive when in season.

Environmental issues

The chef will need to think about environmental issues when planning a menu. Can the chef **reduce** the amount of ingredients bought as well as reducing food waste? Can the chef **reuse** ingredients to create new dishes for example stale bread made into bread-and-butter pudding? Can the kitchen **recycle** waste wherever possible? Running the kitchen sustainably will save money.

Organoleptic properties

Organoleptic properties are the sensory features of a dish (**appearance**, **aroma**, **flavour**, and **texture**).

The chef will need to think about how the dish will look and taste. Is there a range of colours? Do the flavours go well together? Are there a variety of textures?

A to Z of...

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

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

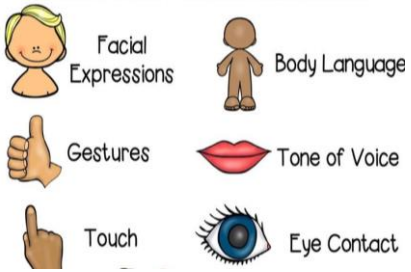
Unit R185: Performance and leadership in sports activities

4.2.1 Leading a Sports Activity Session: What we are looking for:

- Activity-specific details;
- Leadership style;
- Adaptability;
- Communication;
- Positioning;
- Enthusiasm for the activity and motivation of the group;
- Confidence;
- Creativity

Communication

- Verbal;
- Non-Verbal;
- Using appropriate language and technical terms for the group



Leadership Styles

Autocratic

A leader who maintains **absolute control** over decision-making, with limited input from others.

Democratic

A leader who **encourages input and collaboration from team members** in decision-making, similar to how a democracy functions.

Laisses-Faire

A **hands-off approach** where a leader provides minimal direction, trusting their team to manage tasks and solve problems.

Year 11 Dance: Creating a dance

Creating Performance work

Before creating a piece of dance work, it is important that the choreographer and performers understand the context in which the piece is set.

You need to create a dance that not only entertains the audience but also challenges their way of thinking or conveys a serious message.

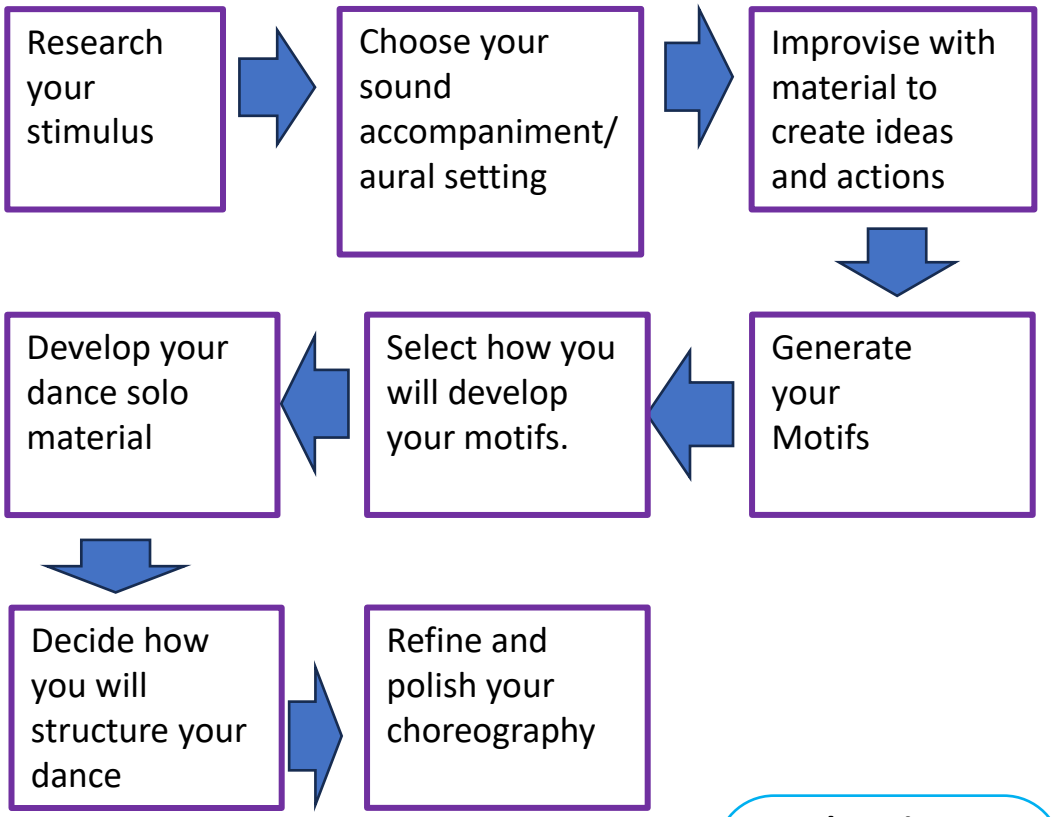
Other influences can be social context, political, community, cultural or historical factors

Other factors to influence your work will be:

Where will the performance take place, what type of stage, is the audience on one side or three?
Who will be the target audience (does the brief help influence this choice?)
What style or genre will your performance be?
Budget for the performance
Timescales involved in the creation

Unit 3 brief

It is important to read through the brief several times so you are sure of what is required (ask if you are unsure) as you will gain/loose marks if your work does not fit the brief.
Mind map your initial thoughts and ideas and then slowly reduce this until you have one response that you are confident with. When you are sure you can start the choreographic process



Developing a motif

- Change the space.
- Levels.
- The size of the movement.
- Directions.
- Add or takeaway a movement.
- Change pathways – air and floor.
- Dance in different areas of stage.
- Change speed or dynamics

Aural settings:
Song,
instrumental music,
spoken word,
silence,
sound effects
natural sound
e.g., sea

Unit RO34: Creative and therapeutic activities: **Topic Area 2: Creative activities and their benefits**

Physical activities improve fine and gross motor skills, as well as circulation and fitness.

Benefits- It improves:

- Dexterity;
- Strength;
- Hand eye coordination;
- Agility;
- Mobility;
- Balance;
- Fitness;
- Breathing;
- Pain management;
- Relaxation;
- Sleep and appetite.

Reduction of pain and discomfort such as swollen ankles and legs.

Intellectual activities improve mental stimulation, creative skills and encourages working independently. It also helps with communication and language skills.

Benefits

- Prevent/slow memory loss;
- Maintain and improve memory and concentration;
- Relieve boredom;
- Learn new skills;
- Ability to make own choices;
- Problem solving;
- Improved imagination;
- Development of life skills;
- Improved verbal and written communication;
- Improved speech;
- Improved listening skills.

Emotional activities is expressing emotions through visual, spoken or other forms.

Benefits

- Feeling valued;
- Feeling empowered;
- Improved confidence and self-worth;
- Improved motivation;
- Sense of achievement;
- Develop new interests;
- Improved emotional stability;
- Helps to express emotions;
- Reduces anxiety and low mood;
- Relieves tension and stress;
- Improves positive mental well-being.

Unit RO34: Creative and therapeutic activities: **Topic Area 2: Creative activities and their benefits**

Social/moral activities is activities that involves two or more people interacting.

Benefits

- Improved relationships;
- Developing new friendships;
- Improves engagement;
- Learning right from wrong;
- Learning new rules;
- Preparing children for school;
- Reduction in boredom;
- Sharing experiences and staying connected with friends;
- Improve communication;
- Problem solving;
- Maintain and improve memory.

Sensory activities use materials that stimulate the five senses (touch, taste, smell, hear, see).

Benefits

- Improve fine motor skills;
- Reduce stress and tension;
- Improve concentration;
- Develop new interests;
- Improve engagement;
- Sense of achievement;
- Mental stimulation;
- Learn new skills;
- Hand eye coordination improved;
- Relaxing;
- Reduce boredom.

Imaginative activities is displaying or stimulating ideas and thoughts in different ways.

Benefits

- Improved fine motor skills (drawing or writing);
- Reduce tension;
- Reduced stress and anxiety;
- Improved sleep;
- Maintain and improve memory (drama);
- Mental stimulation;
- Learn new skills;
- Improve communication;
- Improve concentration;
- Make and develop friendships;
- Reduces boredom;
- Increased engagement.

Roll-a-dice Revision

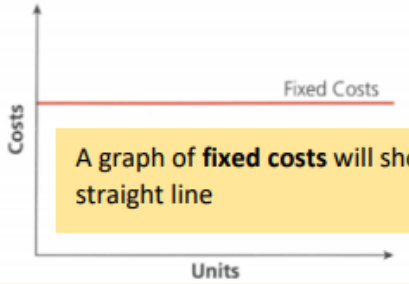
Based on your ***OPTION SUBJECT***, create questions for each square on the grid. Once you're done, take it in turns to roll two dice and answer the corresponding questions.

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

Fixed costs are costs that remain unchanged when the output of a business organisation changes. For example, the rental costs of a clothing factory will not change regardless of whether the factory makes 10 items of clothing or 100 items of clothing. Even when the factory is closed the rental costs remain unchanged.

Examples of fixed costs include:

- Rent of business premises;
- Loan repayments made to financial institutions;
- Advertising or products and services;
- Insurance, e.g. of the buildings and he building contents.



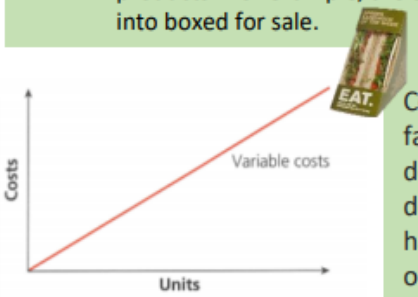
A graph of **fixed costs** will show a straight line

Although fixed costs do not vary with output, they will **not always remain constant**. For example, employees' salaries and electricity cost may go up, but the costs will be fixed with respect to the level of output.

Variable costs very directly with the **level of output**. This means that the costs are totally dependent on the level of output.

Examples of variable costs include:

- **Stock** (inventory) – good which the business keeps in the shop of warehouse for sale. (e.g. a sandwich shop may have bags of crisp and bottles of drinks available to sell to customers).
- **Raw materials** – these are the basic resources that a product is made from (e.g. the sandwich shop would use bread, butter, meat and salad as raw materials.
- **Components** – these are the parts make up a whole item. For example, in making a bread roll, flour would be a component.
- **Packaging costs** – these are the costs in packaging the finished products. For example, the costs of putting the finished sandwiches into boxed for sale.



A graph of **Variable costs** will show a line from zero, diagonal.

Consider the example of the clothes factory again: if production of clothing doubles, then the variable costs double; if production of clothing halves, then the variable costs halve; if output is zero, then no variable cost will be incurred.

The formula for working out **total variable costs** is shown below:

Total variable costs = variable cost per unit x output.

Total costs are calculated by adding together all of the business's costs for a particular level of output. **For example, when a clothing factory produces 100 items of clothing, the total cost would be the factories fixed costs plus its variable costs for those 100 items of clothing.** If no items of clothing are sold, then the total cost would just consist of fixed costs.

Total costs = Fixed costs + Variable costs

Revenue is defined as the money that a business earns from selling goods or providing services.

The **total revenue** a business earns is found by multiplying the selling price of the goods by the number of goods sold:

For example, if the clothing manufacturer sells 100 jumpers at £10 each, the total revue will be **100 x £10 = £1000.**

Total revenue = selling price per unit x number of sales.

Breakeven is the point when **Total Revenue** is the same as **Total Costs**. There is **no profit and no loss.**

Gross profit = Revenue - Cost of sales

Gross profit margin = $\frac{\text{gross profit}}{\text{revenue}} \times 100$

Net profit = Gross profit minus the costs of running the business

Net profit margin = $\frac{\text{net profit}}{\text{revenue}} \times 100$

ARR formula

Step one - **Profit = total income - cost of machine.**

Step two – profit/years = average profit.

Step three – average profit/revenue x 100 = Average Rate of Return.

Knowledge Organiser 4 : Networks and Network Topologies

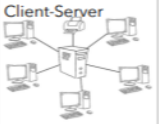
1. Types of Networks

Network	A set of connected computers and other devices (e.g. printers, phones, HomeKit devices) for the purpose of sharing resources
LAN	Local Area Network. Covers a small geographical area (a home, a school, etc.) The infrastructure is often owned by the individual / organisation
WAN	Wide Area Network. Covers a large geographical area. WANs are made up of LANs joined together. The infrastructure is often owned by a Telecoms or other company rater than the individual
Advantages to using a LAN	• Resources (files, etc.) and devices (printers, etc.) can be easily shared across the network • Computers can be configured with the same 'image' so you have the same programs and access to your data from any computer (like in school) • You can control devices (e.g. HomeKit)
Disadvantages to using a LAN	• Security. Malware can spread across a network • Complexity of setting up and maintaining

2. Factors affecting performance of a network

Latency	You can get bottlenecks in parts of your network, either because of a faulty switch, or due to the design of your network. Latency is the term used describe the time it takes data to travel from one designated point to another on the network
Bandwidth	The maximum amount of data transmitted over an internet or LAN connection in a given amount of time.
Transmission Media	WiFi generally has less bandwidth than wired connections. Wired connections (ethernet) can be different speeds (10Mbps, 100Mbps, Gigabit). Switches and routers also have maximum speeds
Concurrent Users	The more users there are on a network the more data is likely being transmitted. This means it can take longer as you have to wait your turn for your packets to travel across the network

3. Network Types

Client-Server 	The network relies on a central server and all the clients (devices) request services from the server such as print services, file services etc. Additional hardware is needed in this type of network: a server. All files can be stored and backed-up centrally on a server which means workers can access files from any computer on the network and the computers can also be updated centrally.
Peer-to-Peer 	All computers have equal status and any computer can act as a client and a server–even at the same time. All computers can request and provide network services. For example, any computer can use a resource physically connected to a different computer. There is no need to buy a dedicated server

4. Required Hardware

NIC	The Network Interface Card is in each computer/devices and allows connection to other devices on the network. It can allow wired connections, wireless connections, or both
Transmission Media	What connects the computer/devices to each other. Copper cables, fibre optic cables, wireless signals
Switch	A device on the network that receives signals from a computer/device and transmits the signal to its intended recipient
Router	A device used to connect different networks together. For example a home LAN to the internet, or a fibre optic cable to a home WiFi network
WAP	A Wireless Access Point is a device that receives and transmits wireless signals on the network. Often connected to rest of the network by cables

5. The Internet

The Internet	The Internet is a global collection of interconnected networks
DNS	The Domain Name Server is a large directory allowing the Internet Service Provider (ISP) to look up the correct IP address for the desired website
Hosting	If you don't own your own servers and host your website yourself you can use a company to do it for you. They will monitor and maintain their servers they are renting you space on
The Cloud	Data can be stored 'in the cloud'. This means on servers (in server farms) run by big companies. The data can be accessed from anywhere
Web Servers and Clients	Servers provide services (e.g. Web server -> Web pages, File server -> file storage/retrieval). Clients request / use services from a server

6. Star and Mesh Topologies

Star Network	Cheaper than mesh network. Less cabling. Easy to add devices BUT total reliance on central node. If it fails whole network fails		Mesh Network	Full or partial. More cabling than star. Costs more to install. Harder to add a device. Harder to maintain BUT no Single Point of Failure	

Knowledge Organiser 5 : Protocols and Layers

1. Modes of Connection

Wired	Ethernet is a set of standards (protocols) for how data is transmitted over a wired local area network. It is the most common set of protocols. Data is transmitted in frames
Inside an Ethernet 'frame'	• Preamble of bits used to synchronise transmission • Start frame delimiter to signify start of data part of the frame • Source and destination MAC address • The actual data • Error checking information (cyclic redundancy check - CRC)
Wi-Fi	Wi-Fi is a means of allowing computers, smartphones, or other devices to connect to the Internet or communicate with one another wirelessly within a particular area. It has a range of about 100m, takes quite a lot of power (relatively), and has a high bandwidth (but less than a wired connection)
Wi-Fi advantages and disadvantages	• Users can move around freely • Easier to set up, and less expensive than wired • Speeds are slower than wired networks • Relies on signal strength to the wireless access point (WAP) • Signal can be obstructed • Less secure than wired networks
Bluetooth	Bluetooth is a standard for the short-range wireless interconnection of mobile phones, computers, and other electronic devices. It has a range of about 10m, takes very little power, and has a relatively low bandwidth

2. Wireless Encryption

SSID	Wireless networks are identified by a unique "Service Set Identifier" (SSID). Can be invisible/visible and have a password. The SSID has to be used by all devices which want to connect to that network.
Encryption	Data is encrypted by scrambling the data into cipher text using a "master key" created from the SSID of the network and the password. Data is decrypted by the receiver using the same master key, so this key is not transmitted. Protocols used for wireless encryption include WEP, WPA, WPA2.

3. IP and MAC Addresses

MAC address	Every device on a network has a Network Interface Card (NIC). Every NIC (in the world) has a unique Media Access Control (MAC) address. It is used to route frames on a LAN
IP address	IP Addressing is used to route frames on a WAN (called packets). Every device on the internet has a unique IP (Internet Protocol) address which is assigned to the device by a server. Two main standards (IPv4 and IPv6)
Internal and External IP Addresses	A router will have a unique WAN facing IP address and a LAN facing IP address. Often all devices on a LAN (with unique internal IP addresses) will share a single external IP address

4. Standards

Definition	A set of specifications for hardware/software. Enables products to be compatible with each other and interact with each other
ASCII/Unicode	Character set standards
IEEE	Computer cables standards
HTML	Standard for creating websites
PNG, GIF, MP3	Standards for documents, images, sounds, videos, etc.

5. Common Protocols

TCP/IP	Transmission Control Protocol/Internet Protocol. Used to communicate over LANs and WANs
HTTP / HTTPS	Hypertext Transfer Protocol (secure). Used for webpage requests
FTP / FTPS	File Transfer Protocol (secure). Used for file transfers
POP	Post Office Protocol. Used for receiving e-mail. Downloads e-mail from the server to your device and deletes it from the server
IMAP	Internet Message Access Protocol. Used for receiving e-mail. Keeps e-mails on the server. This allows your device to stay in sync with the server
POP vs IMAP	POP you have your mail on one device since it is deleted from the server. IMAP each device syncs to server so your mail can be on multiple devices
SMTP	Simple Mail Transfer Protocol. Transfers outgoing emails from one server to another / from a email client to a sever

6. Layers

Concept	The concept of layering is to divide the complex task of networking into smaller, simpler tasks that work with each other.
Responsibility	The hardware and/or software for each layer has a defined responsibility. Each layer provides a service to the layer above it
Advantages	Reduces the complexity of the problem into manageable sub-problems. Devices can be manufactured to operates at a particular layer. Products from different vendors will work together.

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

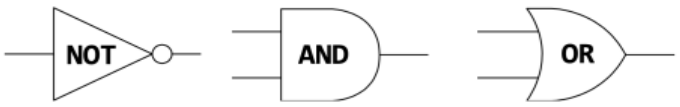
4. Common Arithmetic Operators

+	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

Knowledge Organiser 12 : Programming Fundamentals 2

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

Talk like a Film Critic

Useful Tier 3 Vocabulary

Mise-en-scene- *everything in a scene:*

- Setting
- Costumes
- Props

- Lighting:

✓ *High key lighting;*
✓ *Low key lighting;*
✓ *Backlighting;*
✓ *Top lighting;*
✓ *Under lighting;*
✓ *Short side lighting*

- Performance
- Gestures/ Body language
- Representation

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

- Framing
- Camera shots/angles:

✓ Establishing shot (ES);
✓ Long shot (LS);
✓ Mid shot (MS);
✓ Close-up shot (CU);
✓ Extreme close-up shot (ECU);
✓ High-Angle Shot;
✓ Low-Angle Shot:

- Shot size
- Focus

Sound- *different types of sounds used in film:*

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

Editing- *how the film/ scenes are put together:*

- Types of editing:

✓ Cutting on action;
✓ Cut away;
✓ Jump cuts;
✓ Match cut

- Pace of editing;
- Special effect

Useful sentence starters:

In the research.....
This is shown by .....
This comparison to...
The director's use of...is shown by....
The meaning of this piece is .....
The techniques used are.....
In my opinion...
This is demonstrated through...
This demonstrates...
The ..... conveys...
The director was trying to show...
The director used these because...

The director used colour to show.....
Through this film the director is trying to convey.....
The impact this scene has on the audience is .....
This could influence my own work by .....
The subject matter in this piece shows .....
The director's background influenced or impacted on this film by .....
The scene shows.....
The use of colour suggests .....
This film shows a strong influence from .....
To develop further I.....
The strengths of this piece are.....

Useful Tier 2 Vocabulary

Function	Cultural
Analyse	Describe
Evaluate	Meaning
Suggests	Influence
Meaning	Focal point

BTEC Music Knowledge Organiser- Component 2

Describe some of the capabilities and limitations of your own instrument voice or technolody in terms of its range and characteristing timbre.

Describe how your own instrument, voice or technology is used in different genres.

Describe what types of ensemble your own instrument, voice or technology might be used in.

Describe how your own instrument, voice or technology's use is influenced by context and culture.

Describe some of the capabilities and limitations of your own instrument voice or technolody in terms of the techniques required to play it and any techniques specific to it.

Key Word	Meaning
Clef	A number of musical symbols *(including Treble, Bass, Alto, Tenor/C-clefs)* placed at the left hand side of a musical stave, indicating the pitch of the notes written on it to the performer
Concert Pitch	Refers to the pitch reference to which a group of musical instruments are tuned for performance. An internationally agreed standard is for the tuning of musical instruments, in which the note A above middle C has a frequency of 440 Hz
Descriptive Music	Also called "Programme Music", descriptive music suggests visual images or "telling a story". The descriptive idea or story-line is known as the "programme". The opposite of descriptive music is "absolute music" which is music that doesn't attempt to describe something particular and is more concerned with form and structure
Elements of Music	A number of different things which have often been called "the building bricks of music" and include: Pitch, Dynamics, Duration, Tempo, Texture, Timbre/Sonority, Attack and Decay and Silence. When a composer creates a piece of music, they use the elements of music to build it, just like a builder uses bricks
Ensemble	A group of musicians who perform together

Topic Area 1: Physical, intellectual and social developmental norms

Physical Development Norms		
2-3 years	Climbs jungle gyms and ladders. Pedals on tricycle. Walks up/downstairs, alternating feet. Catches a ball using body. Able to walk on tip toe.	Turns single pages. Snips with scissors. Holds crayon with thumb and fingers (not fist). Eats without assistance. Paints with some wrist action; makes dots, lines and circular strokes.
3-4 years	Stands on one foot for up to 5 seconds. Kicks a ball forward. Throws a ball overarm. Runs around obstacle. Able to walk on a line. Able to hop on one foot.	Copies circles. Snips paper using scissors. Uses non-dominant hand to assist and stabilise the use of objects. Manipulates play dough material (rolls balls, makes snakes, cookies).
4-5 years	Able to walk upstairs while holding an object. Jumps forward 10 times without falling over. Hangs from a bar for at least 5 seconds. Catches a small ball using hands only.	Cuts on a line continuously. Copies cross and square shapes. Writes name. Writes numbers 1-5. Copies letters. Dresses/undresses independently.

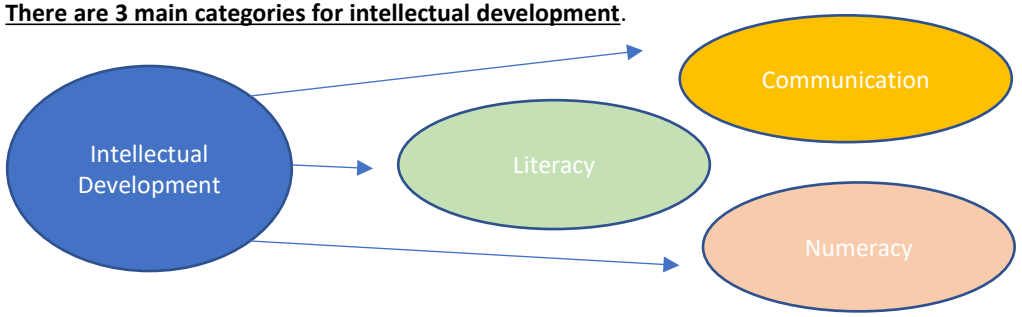
Physical Development – Advancements of motor and fine skills

Powerful Language	Synonyms	Definition and sentence to contextualise
Developmental Norms	**Normal Growth**	The standards at which a child's development can be measured. E.g. By the age of 6 months, a baby should be able to turn over from their front to their back.
Physical Development	**Body Growth**	How children obtain physical control of the movements They make with their body. E.g. Fine motor skills, gross motor skills and reflexes.
Reflexes	**Unthinking Movements**	The physical reactions a new-born baby is expected to display E.g. Grasp reflex.
Fine Motor Skills	**Small Skills**	The small movements made with your fingers which links with the development of your vision (hand-eye co-ordination). E.g. Drawing and writing.
Gross Motor Skills	**Large Skills**	The large movements that the body produces. E.g. Kicking a ball or crawling.

Topic Area 1: Physical, intellectual and social developmental norms

Intellectual Development – Growth of a child's ability to think

There are 3 main categories for intellectual development.



Numeracy Skills

This is linked to problem solving, reasoning and is known as number skills. These include:
Speaking and using numbers E.g. there are 2 apples.
Counting – including mathematical number squares.
Recognising numbers e.g., 1,2,3 etc.
Using mathematical ideas E.g. size, shapes and mass.
Recognising and drawing shapes E.g. triangles.
Recognising and making patterns E.g. odd and even numbers, sequencing.
Using the correct vocabulary E.g. adding and taking away.
Simple calculations E.g. 2+2.
Using appropriate language E.g. Daisy has less apples now.

Communication

Children use communication through observing and copying what they hear/see:
Body language – expressing feelings through the position of their body
Listening - being able to hear and understand what is being said
Verbal – building on the vocabulary that they hear
Gestures – pointing to things that children want
Sign language – children with hearing impairments may use sign language
Reading and writing – using the written form to communicate

Literacy Skills

Reading and writing are known as literacy skills. Developing a love of books with a child will help with this skill. This can be developed from an early age and can be encouraged through reading books to a child from birth.

Social Development – Building relationships and interacting with others

Keyword	Synonyms	Definition and sentence to contextualise
Acceptable Behaviour	**Good behaviour**	How they handle emotions and the development of manners and behaving in socially acceptable ways.
Self Esteem/ Independence	**Confidence**	This is when a child has a sense of self-worth or personal value.
Sharing	**Giving to others**	Sharing toys, objects and people. Also, things like waiting their turn. This takes time to master.
Self Confidence	**Confidence**	This is when a child has a feeling of belief and trust in their own ability.

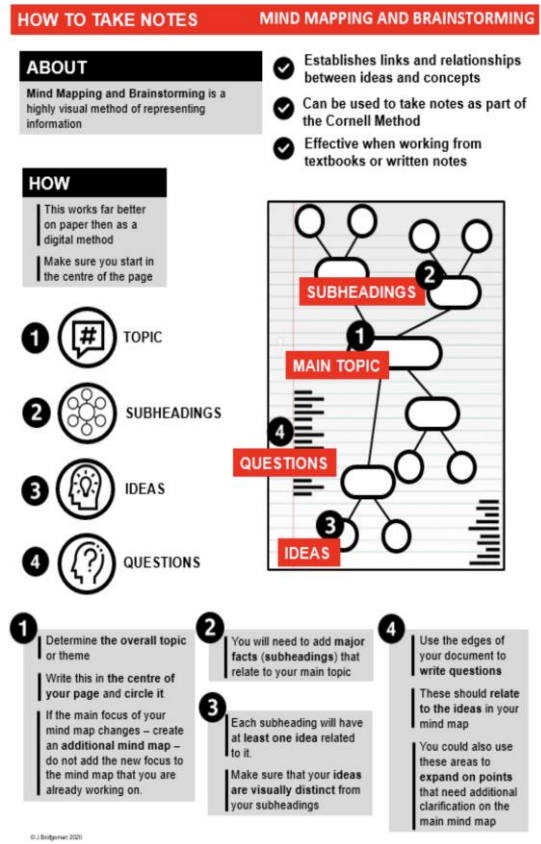
3 Years – Shows concern and affection for others. Copies adults and friends. Takes turns in games. Separates easily from parents. Shows a wide range of feelings. Dresses and undresses self. Maybe toilet trained during the day.

4 Years – Plays co-operatively with other children. Prefers playing with other children rather than alone. Enjoys doing new things. Becomes more creative in make-believe play. Seeks new experiences. Expresses likes and dislikes.

5 Years – Wants to please friends. Wants to be like friends. Agrees to rules more easily. Likes to sing, dance and act. Knows who is a girl and a boy. Knows the difference between fantasy and reality.

Mindmap

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



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

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

My BHAmazing vocabulary, written in sentences:

1.

2.

3.

4.

5.

6.

7.