



BOURNEMOUTH SCHOOL

Year 9

Knowledge Organiser 2

Autumn Term: 2025-26

Name: _____ Master _____

Registration Form: 9.-

✓Hard Work

✓Discipline

✓Smart Appearance

✓Respect

Bournemouth School

Knowledge Organiser: Year 9 Autumn Term 2

'Knowledge is power' by Francis Bacon

A knowledge organiser provides you with all the most important knowledge you need for each unit of study this half term. Your aim is to transfer all of this information into your long-term memory so you can use it in your lessons and further expand your understanding of this work.

How to use your knowledge organiser (KO):

1. Ensure you have your KO and Homework Learning journal with you at all times in school and when you need to do your homework at home.
2. In lessons when you have covered information that appears on your KO, your teacher will ask you to put a tick next to that section. This means that is now added to what you must learn for homework.
3. Initially, follow your homework timetable to decide what to revise each evening.
4. There are 4 strategies that you can use to revise. They are progressively more challenging so always start with the first in the list.

a. Look Cover Write Check

- i. Identify the subject and section of your KO that you want to revise. This should be one of the ticked sections.
- ii. LOOK carefully at the subject and section of your KO you want to revise and try to remember as much as you can. Remember this should be a ticked section.
- iii. Now COVER this information so you can't read it.
- iv. WRITE out what you can remember word for word in your Homework Learning Journal.
- v. CHECK what you have written by comparing it to your KO. Tick each correct word in green pen and correct any errors you have made.
- vi. Repeat this process until you are confident you can remember everything you need.

AIM: You should be able to repeat the information by rote

b. Self or peer quizzing

- i. Identify the subject and section of your KO that you want to revise. This should be one of the ticked sections.
- ii. Write out a list of questions you could ask either yourself or a friend about this section of the KO. Write these in your Homework Learning Journal.
- iii. If you are working on your own, cover the KO and write a full answer to each question.
- iv. If you are working with a partner swap books and copy down their questions and have a go at answering them.
- v. Now uncover the KO and with a green pen correct your work.

AIM: You should be able to repeat the information by rote but with a good understanding

c. Playing with words and sentences

- i. Identify the subject and section of your KO that you want to revise. This should be one of the ticked sections.
- ii. You now want to check how well you have learnt the information in your KO.
- iii. Definitions – look at words that are used in this section. Can you write a definition in your own words?
- iv. Rephrasing – can you rewrite the sentences or explanations in your own words?

- v. Summary – can you summarise the main points of this section of the KO?
- vi. Synonyms – can you write synonyms for key words and ideas?
- vii. New Sentences – can you write a sentence that includes the key vocabulary or definitions that you have learnt?

AIM: You should be able to use the information in your KO in a flexible and confident way in your writing.

d. Think it, Link it

- i. This is a technique to use towards the end of the half term when you are revising all of the KO.
- ii. Think of the links or connections between different sections of your KO.
- iii. Write these out in your own words in your Homework Learning Journal.
- iv. Think about the links between a particular section of your KO and what you have learnt in your lessons. Can you expand on this section by linking it to your wider knowledge?
- v. Write this out in your Homework Learning Journal.

AIM: You should be able to link your homework and your lessons to show a confident understanding of the work covered.

Homework Learning Journal

- 1. Always write the subject and the date when you start your homework.
- 2. Always write the strategy that you are going to use for your homework.
- 3. Always use a ruler to underline titles and dates.
- 4. Use a blue or black pen to complete your homework or a pencil if you need to draw.
- 5. Use a green pen to complete corrections of your work.
- 6. **You are expected to complete half a side of your Homework Learning Journal each evening as a minimum.**

Success Club

You can attend Success Club every Monday to Thursday in room 53 until 5pm. This is a quiet room where you can complete your homework rather than doing it at home. There are also Sixth form helpers and staff who will be there to help you if you need it. You can also choose to work in the Library on a Monday, Tuesday and Thursday until 4:30 and a Friday until 4.

Checking:

Your teachers will check your Homework Learning Journal at least once a cycle. If they are concerned that you aren't doing your homework properly they will offer support and guidance. If you don't respond to this guidance, you will be added to the afterschool Detention where you will be expected to complete your homework.

You can attend Success Club every Monday to Thursday in room 53 or the library to complete homework. Sixth form helpers and staff will be there to help you if you need it. Your teachers will check your Homework Learning Journal at least once a cycle. If they are concerned that you aren't doing your homework properly, they will offer support and guidance. If you don't respond to this guidance, you will be added to the afterschool Detention where you will be expected to complete your homework.

DO NOW tasks:

At the start of every lesson you should expect a Do Now task. This is a low stakes retrieval quiz on what you have learnt so far. If you have completed your homework this should be easy. The aim is to get 100% in each of these. If you miss this target occasionally, don't worry. If it happens regularly your teacher will have a chat and offer you support.

Maths:

Your teacher will set you tasks to complete on Dr Frost Maths. This will be set every week on a Monday and will be collected in and checked on a Friday. If this has not been completed you will be issued a Detention on a Wednesday Lunchtime.

How long should I spend on my homework?

Key Stage 4					
Week 1					
Time	Monday	Tuesday	Wednesday	Thursday	Friday
5 mins	MFL	MFL	Physical Activity	MFL	MFL
10	Maths	English		Maths	English
10	Biology	RS		Chemistry	Physics
10	Option C	Option D		Option A	Option B
55	Reading / Revision	Reading / Revision		Reading / Revision	Reading / Revision
Week 2					
Time	Monday	Tuesday	Wednesday	Thursday	Friday
5 mins	MFL	MFL	Physical Activity	MFL	MFL
10	Maths	English		Maths	English
10	Biology	RS		Chemistry	Physics
10	Option C	Option D		Option A	Option B
55	Reading / Revision	Reading / Revision		Reading / Revision	Reading / Revision

- You should spend about 35 minutes revising your KO each day.
- You should spend 55 minutes either reading or revising each day.
- This timetable is a guide. If you want to spend longer revising one subject that you find more difficult and less time on one you find easy, that is your choice.
- We would like you to spend one evening involved in a physical activity. This might be a sports club, a run, a game of football with friends or just a nice walk with the dog. Ask your PE teacher if you need guidance with this. It doesn't have to be on a Wednesday.

☐ Masks are used for different reasons and can be divided into masks that are used for **ritual reasons**, for **protection**, **disguise** and **entertainment**.

☐ Mod roc is another name for plaster impregnated gauze strips , and it can be used to make sculpture.

Annotating your work

Use these heading to explain each piece of work you have done in your book

Tick

What?	What is it? Explain the piece of work you are annotating Examples: This is a first-hand drawing that I made of a ...This is a series of photographs I took of... This is a collection of visual research about... This is information I gathered about... This is a copy that I made of a piece of artwork by... This is a mood board of...to show ideas relating...	
Why?	Why did you make it? Explain how this piece helped you in your project. Examples: to get ideas about... to get me thinking about... to show what I have learned about... to explore the ideas of... to examine the shape/form/line/texture/pattern of... to analyse the style of... to try out the technique of... to practice... to develop my skills in...	
How?	How did you make it? Explain how you created the piece of work Examples: I drew it using... I painted it with... I constructed it from... I built it up by collaging... I photographed/drew it from life... I drew/painted it from a photography... I gathered the images from the internet... I researched the information on a site called...	
Quality	How good is it? What are you pleased with? What could you improve? Examples: I am pleased with the way I... one good element of the work is... the best feature of this work is... a section of this work that is particularly successful is...I'm not happy with... one area I could improve is... the least successful part of the work is... I wish that I had...	
Learning	What did you learn? What have you found out? What are the next steps? Examples: I improved my skills in... I got better at working in the style of... I have a better idea of... I have a clearer understanding of... I feel more confident about... Next I will try... To follow this up, I will... To build on this piece of work I hope to...	

Painting your mask... Top tips

- ☐ When painting your masks whether it is the Mod Roc or Clay, it is always best to paint a base layer colour.
- ☐ Practice a range of techniques, **dry brushing**, **tissue and paint**, **foil and paint**, **sgraffito**, **stencilling** before applying them to your mask.

Types of paint

☐ Acrylic

Acrylic paints are extremely versatile, and ideal for fine brushwork, glazing, staining, water media techniques. This smooth paint has excellent pigment quality, colour strength, and durability.

☐ Watercolour

The paint has colour pigment suspended in water until the water dries and stains the surface. The paint brushes with fluidity and transparency and is built up in layers from light to dark.

☐ Gouache

Gouache is a water-soluble and opaque paint so the white of the paper surface does not show through.

Painting techniques

- ☐ **Dry brush-** The dry brushing painting technique uses a thin layer of paint that's roughly brushed over a surface to give rough textured surface. Ensure you have applied a base layer as it may show through depending on the amount of paint added.
- ☐ **Tissue and paint-** Add tissue and smooth or scrunch, then paint on top.
- ☐ **Foil and paint-** Foil can add a metal type effect, you can paint over to create a tarnished appearance.
- ☐ **Sgraffito**, is the process of scratching through a surface to reveal the colours underneath.
- ☐ **Stencilling** a thin sheet of card, plastic, or metal with a pattern or letters cut out of it, used to produce the cut design on the surface below by the application of ink or paint through the holes

Transport across membranes				✓
Process	Definition	Diagram (to be drawn in class)	Examples	
Diffusion	The passive movement of particles resulting in a net movement from an area of higher concentration to an area of lower concentration. Occurs in solutions and gases.		Movement of oxygen and carbon dioxide in gas exchange (lungs and leaves)	
Osmosis	The diffusion of water from a dilute to concentrated solution, across a partially permeable membrane		Movement of water across cell membranes into and out of cells	
Active transport	The movement of particles from a low concentration to a high concentration, using energy from respiration		<ul style="list-style-type: none"> Absorption of mineral ions into plant root hairs Absorption of sugar molecules from the gut into the blood 	

EXAM SET PIECE EXPLANATION OF INCREASE IN MASS IN POTATOES

Water moves from X which is a dilute solution
to Y which is a concentrated solution
via osmosis

Large organisms = small surface area: volume ratio

Small organisms = large surface area: volume ratio

Adaptations to maximise diffusion		✓
Walls are 1 cell thick	Creates a short diffusion distance	
Good blood supply	Maintains concentration gradient	
Increased surface area	Maximises rate of diffusion	

Business in the real world

3.1.3 Setting Business Aims and Objectives

What are business aims and objectives?		<input checked="" type="checkbox"/>
Aim	The general goal of a business	
Objective	A specific target that is set for a business to achieve	

Role of objectives in running a business		<input checked="" type="checkbox"/>
A business can have a variety of different objectives:		
1. Survival		
2. Growth (domestic and international markets)		
3. Increased market share		
4. Social and ethical		
5. Customer satisfaction		
6. Increased shareholder value		
7. Maximise profit		

Purpose of setting objectives		<input checked="" type="checkbox"/>
1. Helps with decision making		
2. Potential investors understand the direction the business is heading in.		
3. Provides a target		
4. Motivates all employees		

Use of objectives in judging success		<input checked="" type="checkbox"/>
Once a business has set objectives, it can check back after a period to monitor if these have been achieved, this is a way of measuring success.		
e.g. A business can measure the number of employees to assess if it has met its objective of growth OR Track share price or dividends paid if their objective s shareholder value.		

Changing Objectives		<input checked="" type="checkbox"/>
Factors affecting objective choice	Changing over time	
1. Size of the business	1. Survival to growth	
2. Level of competition in the market	2. Reflect new legislation	
3. Type of business	3. Changes in the economic environment	
4. Stakeholder views	4. Changes in environmental expectations	

Definitions		<input checked="" type="checkbox"/>
Private sector organisation	Organisations owned by individuals	
Public sector organisation	Organisations owned and run by the government	

Main stakeholders of a business	✓
<ol style="list-style-type: none"> Employees The government Suppliers Community Customers Shareholders 	

Definitions	✓				
<table> <tr> <th>Key term</th><th>Definition</th></tr> <tr> <td>Stakeholder</td><td>Any individual or group of individuals who can be impacted by a businesses actions.</td></tr> </table>	Key term	Definition	Stakeholder	Any individual or group of individuals who can be impacted by a businesses actions.	
Key term	Definition				
Stakeholder	Any individual or group of individuals who can be impacted by a businesses actions.				

Objectives of stakeholders	✓
Stakeholder group	Typical objectives
Employees	<ol style="list-style-type: none"> Secure jobs High earnings
Owners/Shareholders	<ol style="list-style-type: none"> High dividend payments Share prices
Local Community	<ol style="list-style-type: none"> Local job creations Minimise local environmental impact
Government	<ol style="list-style-type: none"> Tax paid, Growth
Suppliers	<ol style="list-style-type: none"> Fast payment Growth
Customers	<ol style="list-style-type: none"> Quality Customer service

Impact of business activity on stakeholders	✓
Stakeholder	Impact
Employee	Employment opportunities Earnings
Local Community	Employment Investment in facilities Pollution
Suppliers	On time payments, Price negotiations & Abuse of power
Shareholders	Performance impacts share price and dividends
Government	Tax avoidance

Impact and influences stakeholders have on businesses	✓
1. Negotiation: Employees can demand better pay. Suppliers can negotiate better terms and conditions	2. Direct Action: Customers can stop buying products if they are unhappy Employees can strike
3. Refusal to cooperate: Local councils can refuse to cooperate if they feel a business is unethical for example they can refuse planning permission	4. Voting: Owners such as shareholders can vote during AGM's to influence the objectives of a business.

Why is location important?	✓
Cost: Rent varies according to location, London will have much higher rent costs than south wales.	
Sales: Location can impact whether or not a business will get enough sales	
Image: For some businesses, where they are located will have a big impact on their image for example a tourist shop in central London compared to on the outskirts of London	

Location factors	✓
Factor	Explanation
Proximity to market	A business will want to know where their customers are located and that they can reach them easily.
Availability of raw materials	Some businesses rely on raw materials, being close to these will reduce uncertainty and costs.
Availability of labour	Businesses may need to be located near highly skilled workers or highly populated areas for large numbers of employees.
Competition	Some businesses may want to be far from their competitors where as other may want to challenge their competitors by locating closer to them.
Costs	Location decision are often affected by costs and the amount of money the business can afford.

Factors influencing the location decision of a business	✓
Five key factors that influence a location decisions:	
<ol style="list-style-type: none"> Proximity to the market Availability of raw materials Availability of labour Competition Costs 	

Nature of the business can influence location	✓
Retail: Want to be located as close to customers as possible Service: Can be located anywhere as they may be able to offer their service remotely such as web designers. Taxi driver needs to be located close to customers Manufacturing: Cheap rent due to size of land required. Good infrastructure for transportation.	

Chapter 1 – Atomic Structure and the Periodic Table

Keyword	Learn	✓
Atom	The smallest part of an element that can exist.	
Element	A substance made up of only one type of atom.	
Compound	A substance made up of two or more types of atom, chemically combined in fixed proportions.	
Mixture	A substance made up of two or more different elements or compounds, not chemically combined together.	
Filtration	The process of separating insoluble solids from liquids using filter paper and a filter funnel.	
Evaporation	The process of removing a solvent by heating so that it changes state into a gas.	
Crystallisation	The process of obtaining crystals of a solid solute from a solution.	
Distillation	A technique used to obtain pure solvent from a solution by evaporating and condensing the solvent.	
Chromatography	A technique used to separate a mixture of soluble substances.	
Rf Value	$R_f = \frac{\text{Distance moved by substance}}{\text{Distance moved by solvent}}$	
Solute	The substance that is dissolved in a solution	
Solvent	A substance that dissolves a solute, making a solution.	
Solution	A mixture formed by a solid or gas (solute) dissolving in a solvent.	
Saturated	A solution in which no more solute can dissolve at that temperature.	
Isotope	An atom of an element with the same number of protons (atomic number) but different number of neutrons.	

Atomic Structure

	Particle	Relative Mass	Charge
1	proton	1	+1
2	neutron	1	0
3	electron	Very small	-1

atomic number

mass number

Atomic number = number of protons

Mass number = number of protons + number of neutrons

The Periodic Table

MODERN PERIODIC TABLE

- Elements ordered by atomic number
- Metals on left; non-metals on right
- Elements organized into groups (vertical columns) based on number of electrons in outer shell
- Elements organised into periods based on number of electron shells
- Group 1 = alkali metals
- Group 7 = halogens
- Group 0 = noble gases
- Centre block - transition metals

MENDELEEV'S PERIODIC TABLE (1869)

- Elements ordered by atomic mass
- Elements in groups with other elements having similar properties
- Left gaps to make elements fit the pattern.
- Predicted properties of missing elements, which were later discovered, matching his predictions

Key Equation

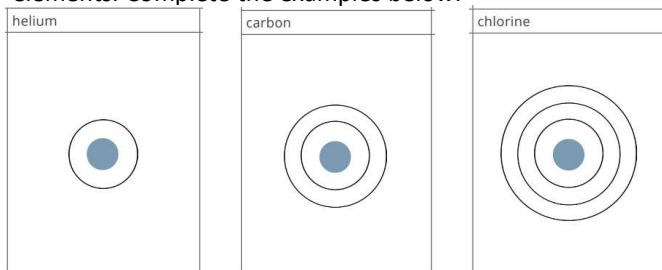
$$\text{relative atomic mass } (A_r) = \frac{\text{sum of (isotope abundance} \times \text{isotope mass number)}}{\text{sum of abundances of all isotopes}}$$

Chapter 1b – Atomic Structure and the Periodic Table

Keyword	Learn	✓
Physical Property	A characteristic of a substance that can be observed or measured without changing the identity of the substance. Examples are: melting and boiling point, density, hardness, colour, electrical conductivity.	
Chemical Property	A characteristic of a substance that may be observed when it takes part in a chemical reaction. Examples are: reactivity, flammability, toxicity.	
Metal	Element that forms positive ions by losing one or more electrons to get a stable, full outer shell.	
Non-metal	Element that forms negative ions by gaining one or more electrons to get a stable, full outer shell.	
Ion	A charged particle formed when an atom gains or loses electrons to form a full outer shell. The number of protons is different to the number of electrons in an ion, which makes them charged.	

Electron Configuration

You need to be able to draw the arrangement of electrons of the first 20 elements. Complete the examples below:



Answers:
He = 2; C = 2,4;
Cl = 2,8,7

Electrons are found in shells. A maximum of 2 in the innermost shell, which is filled first, then 8 in the second and third shells.

Development of the Atomic Model

SOLID SPHERE MODEL	PLUM PUDDING MODEL	NUCLEAR MODEL	PLANETARY MODEL
JOHN DALTON	J.J. THOMSON	ERNEST RUTHERFORD	NIELS BOHR
Atom is a solid sphere.	Atom is a ball of positive charge with negatively charged electrons scattered throughout.	<ul style="list-style-type: none"> Mass and positive charge concentrated in nucleus Electrons orbit nucleus Mostly empty space 	Electrons orbit in shells at fixed distances from nucleus.

Trends in the Periodic Table

GROUP 1 (Alkali Metals)

- Reactivity increases down the group
- Outer shell electrons are further from the nucleus as atomic radius increases
- Attraction between nucleus and outer shell electrons becomes weaker
- Outer shell electrons are more easily lost

GROUP 7 (Halogens)

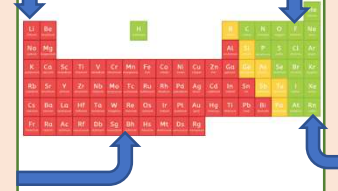
- Reactivity decreases down the group
- Outer shell electrons are further from the nucleus as atomic radius increases
- Attraction between nucleus and outer shell electrons becomes weaker
- Outer shell electrons are less easily gained

GROUP 0 (Noble Gases)

- Unreactive due to full outer shell of electrons
- Boiling point increases down group because number of electrons increases, so attraction between atoms gets stronger

TRANSITION METALS

- Harder & denser than Group 1 metals, with higher melting & boiling points
- Less reactive than Group 1 metals



Neutrons

James Chadwick discovered the neutron.

This explained the existence of isotopes. Atoms of the same element could have the same number of protons (atomic number) but a different atomic mass due to a different number of neutrons.

Keyword	Definition / Example	✓				
Iteration	Used to repeat a section of code a number of times.					
Count-controlled iteration	<div>When we know the exact number of iterations we wish to make.</div> <table><tr><th>Python</th><th>OCR Ref.</th></tr><tr><td><pre>#Outputs 1-10 for count in range (1,11,1): print(count)</pre></td><td><pre>//Outputs 1-10 for count = 1 to 10 step 1 print(count) next count</pre></td></tr></table>	Python	OCR Ref.	<pre>#Outputs 1-10 for count in range (1,11,1): print(count)</pre>	<pre>//Outputs 1-10 for count = 1 to 10 step 1 print(count) next count</pre>	
Python	OCR Ref.					
<pre>#Outputs 1-10 for count in range (1,11,1): print(count)</pre>	<pre>//Outputs 1-10 for count = 1 to 10 step 1 print(count) next count</pre>					
Condition-controlled iteration	<div>When the we do not know the exact number of iterations needed and this depends on some condition.</div> <table><tr><th>Python</th></tr><tr><td><pre>continue = "Y" while continue == "Y": continue = input("Continue?")</pre></td></tr></table>	Python	<pre>continue = "Y" while continue == "Y": continue = input("Continue?")</pre>			
Python						
<pre>continue = "Y" while continue == "Y": continue = input("Continue?")</pre>						
Iteration with 1D array	<table><tr><th>Python</th></tr><tr><td><pre>myArray = [1,2,3,4,5] for i in range(5): print(myArray[i])</pre></td></tr></table>	Python	<pre>myArray = [1,2,3,4,5] for i in range(5): print(myArray[i])</pre>			
Python						
<pre>myArray = [1,2,3,4,5] for i in range(5): print(myArray[i])</pre>						
Iteration with 2D array	<table><tr><th>Python</th></tr><tr><td><pre>myArray = [[1,2,3,4,5], [6,7,8,9,10]] for row in range(2): for column in range(5): print(myArray[row][column])</pre></td></tr></table>	Python	<pre>myArray = [[1,2,3,4,5], [6,7,8,9,10]] for row in range(2): for column in range(5): print(myArray[row][column])</pre>			
Python						
<pre>myArray = [[1,2,3,4,5], [6,7,8,9,10]] for row in range(2): for column in range(5): print(myArray[row][column])</pre>						

Keyword	Definition / Example	✓
Subprogram	Small programs that are written within a larger, main program.	
Procedure	A subprogram that performs a specific task. <div>Python<pre>def add(num1, num2): answer = num1 + num2 print(answer)</pre></div>	
Function	A subprogram that performs a specific task and returns a result back to the main program. <div>Python<pre>def add(num1, num2): answer = num1 + num2 return answer</pre></div>	
Parameter	Variables declared when you define a subprogram.	
Argument:	A value sent to a subprogram when it is called.	
Random	To generate a random number between two values. <div>Python<pre>rand = random.randint(1,10)</pre></div>	

Tick	Hardwood	Uses	Properties
	Oak	<ul style="list-style-type: none"> High quality furniture Whisky barrels 	<ul style="list-style-type: none"> Compressive strength Hard
	Mahogany	<ul style="list-style-type: none"> Window frames Jewellery boxes 	<ul style="list-style-type: none"> Fairly easy to work with Finishes well
	Beech	<ul style="list-style-type: none"> Toys Tools 	<ul style="list-style-type: none"> Tough Hard
	Balsa	<ul style="list-style-type: none"> Modelling Surf boards 	<ul style="list-style-type: none"> Extremely easy to work with/soft Lightweight

Tick	Manmade board	Uses	Properties
	Plywood	<ul style="list-style-type: none"> Building and construction Flooring 	<ul style="list-style-type: none"> Strong Resistant to warping and cracking
	MDF	<ul style="list-style-type: none"> Inside of cabinets and storage units Insides of flat pack furniture 	<ul style="list-style-type: none"> Very easy to machine and cut Smooth surface (ideal for painting)

Tick	Softwood	Uses	Properties
	Cedar	<ul style="list-style-type: none"> Sheds Boats 	<ul style="list-style-type: none"> Natural oils make it resistant to water and fungal growth Low density
	Pine	<ul style="list-style-type: none"> Construction Inexpensive furniture 	<ul style="list-style-type: none"> Easy to work with Lightweight

Tick	Facts		
	Softwood	<ul style="list-style-type: none"> Originates from coniferous/evergreen trees Trees grow all year round Have needle like leaves Tend to be cheaper than HWs as they grow all year round and are readily available Take around 30-50 years to mature Grow in cooler or temperate climates 	
	Hardwood	<ul style="list-style-type: none"> Originates from deciduous trees Trees grow ½ the year (Summer and Spring) Have broad leaves Tend to be more expensive as they are less available Take 100s of years to mature Grow in temperate or tropical climates 	
	Manmade board	<ul style="list-style-type: none"> A.k.a. manufactured boards Are not naturally grown Made into large sheets/boards Mostly made from scrap/waste wood so can be seen as more environmentally friendly 	

What is a mechanical property?

Elements of a material that resist deformation from external forces in a particular way.

Tick	Property	Definition
	Strength	Withstands forces by squashing (compressive strength) or stretching (tensile strength).
	Elasticity	Can return to its original shape once the deforming force has been removed.
	Plasticity	(plastics only) Ability to permanently deform without breaking when heated.
	Malleability	(metals only) Ability to deform in all directions without fracture.
	Ductility	To be drawn out, bent or twisted without fracture.
	Hardness	Resists deformation, indentation or penetration.
	Toughness	Withstands sudden shock or stress.
	Brittleness	Inability to withstand sudden shock or stress.
	Durability	Withstands deterioration over a long period of time.
	Stability	Resists changes in shape over time.
	Stiffness	Resists bending.

Tick	Criteria	Definition/ description
	Fairtrade Foundation	Tackles poverty and injustice across the world. It ensures farmers are paid a fair price and has better working conditions and tries to prevent child labour.
	Carbon Offsetting scheme	When companies or individuals reduce their carbon footprint through ways such as planting trees, encouraging staff to cycle to work, car sharing etc.
	Product disassembly	When a product can be taken apart so that individual parts can be recycled or reused.
	Disposal of waste	This is governed by laws at international, European, national and local levels to ensure that collection, transportation and disposal of waste has the least amount of impact on the environment.
	Human capabilities	When a design meets the needs of the user and operates within their capabilities.
	Cost of materials	Refers to all aspects i.e. the initial cost of the raw material, the costs of maintenance, transportation, recycling and disposal.
	Manufacturing capability	Considers the machinery/equipment available to manufacture and then the costings available to actually make the product.
	Modular	A design featuring parts of standard sizes so that they can be constructed in different ways.
	Consideration of 'green designs'	Global warming and rising energy costs have led to designers thinking about environmental factors when designing products without compromising function, quality or performance.

<p>London</p> <p>Message and Context</p> <ul style="list-style-type: none"> • Critique of social inequality and oppression in 18th-century London. • Reflects Blake's radical political views and disillusionment with institutions (Church, monarchy). • Highlights the impact of industrialisation and loss of individual freedom. 	<p>Ozymandias</p> <p>Message and Context</p> <ul style="list-style-type: none"> • Warning about the arrogance of power and the inevitable decline of empires. • Inspired by the unearthing of Egyptian statues and Shelley's anti-authoritarian views. • Emphasises the transience of human achievements. 	<p>Storm on the Island</p> <p>Message and Context</p> <ul style="list-style-type: none"> • Explores human vulnerability in the face of nature's power. • May reflect political unrest in Northern Ireland (The Troubles). • Highlights the illusion of safety in human constructs when faced with nature's true power. • Suggests that fear is often based on the unseen or imagined. 	<p>My Last Duchess</p> <p>Message and Context</p> <ul style="list-style-type: none"> • Dramatic monologue revealing the Duke's controlling, jealous nature. • Critique of patriarchal power and objectification of women. • Inspired by the real Duke of Ferrara and Renaissance court politics.
<p>Language</p> <ul style="list-style-type: none"> • Repetition of 'chartered' suggests control and restriction. • Emotive language: 'marks of weakness, marks of woe' conveys universal suffering. • Oxymoron: 'marriage hearse' links love and death, symbolising societal decay. 	<p>Language</p> <ul style="list-style-type: none"> • Irony: 'Look on my Works, ye Mighty, and despair!' – the works no longer exist. • Imagery of decay: 'colossal wreck,' 'shattered visage' – power reduced to ruins. • Alliteration: 'boundless and bare' emphasises emptiness of the desert. 	<p>Language</p> <ul style="list-style-type: none"> • Violent verbs: 'pummels,' 'blows full blast' – nature as an aggressive force. • Oxymoron: 'exploding comfortably' – tension between safety and danger. • Direct address: 'you know what I mean' – conversational tone draws reader in. 	<p>Language</p> <ul style="list-style-type: none"> • Possessive pronouns: 'my last Duchess' – suggests ownership. • Euphemism: 'I gave commands; Then all smiles stopped together' – implies murder. • Irony: Duke reveals more about himself than he realises.
<p>Structure and Form</p> <ul style="list-style-type: none"> • Four quatrains with ABAB rhyme scheme – reflects rigid, oppressive structure. • Cyclical structure mirrors inescapable misery. • First-person narrator creates a personal, observational tone. 	<p>Structure and Form</p> <ul style="list-style-type: none"> • Sonnet form (Petrarchan/Shakespearean hybrid) – reflects on love of power. • Iambic pentameter with irregularities – mirrors the broken statue. • Framed narrative – traveler recounts the story, distancing the reader from the king. 	<p>Structure and Form</p> <ul style="list-style-type: none"> • One long stanza – mirrors the continuous, overwhelming storm. • Blank verse (unrhymed iambic pentameter) – natural speech rhythm. • Enjambment creates a sense of movement and chaos. 	<p>Structure and Form</p> <ul style="list-style-type: none"> • Dramatic monologue in rhyming couplets (heroic couplets) – controlled, rehearsed. • Enjambment – creates a flowing, conversational tone, masking sinister undertones. • Iambic pentameter – formal, controlled rhythm reflects Duke's personality.

Power and Conflict (2)

Checking Out Me History		The Emigree		Tissue		Extract from the Prelude	
Message and Context <ul style="list-style-type: none"> Challenges Eurocentric history and celebrates Black historical figures. Reflects Agard’s Caribbean heritage and postcolonial identity. Critiques the British education system for marginalising non-European history. 		Message and Context <ul style="list-style-type: none"> Explores memory, identity, and the experience of exile. Speaker recalls a childhood homeland now changed or lost. Reflects on the power of memory to preserve beauty despite political turmoil. 		Message and Context <ul style="list-style-type: none"> Explores the fragility and power of paper as a metaphor for human life and society. Reflects on identity, religion, and the impermanence of human constructs. Suggests that human life is more valuable than material structures. 		Message and Context <ul style="list-style-type: none"> Explores the power of nature and the speaker’s changing perception of it. Reflects Romantic ideals – awe and reverence for the natural world. Based on Wordsworth’s own experiences growing up in the Lake District. Reflects the speaker’s awe and fear of nature’s power, showing a shift from confidence to humility after a childhood experience. 	
Language <ul style="list-style-type: none"> Phonetic spelling: 'dem tell me' – asserts cultural identity and voice. Juxtaposition: trivial British figures vs. powerful Black heroes. Metaphor: 'a healing star,' 'a yellow sunrise' – positive imagery of Black history. 		Language <ul style="list-style-type: none"> Light imagery: 'sunlight-clear,' 'bright, filled paperweight' – idealised memory. Personification: the city is 'sick with tyrants' and 'lies down in front of me.' Contrast between innocence of memory and harsh political reality. 		Language <ul style="list-style-type: none"> Extended metaphor of paper: 'paper that lets the light shine through.' Religious imagery: 'the Koran,' 'maps,' 'buildings' – human attempts to impose order. Gentle, reflective tone with abstract nouns and soft consonants. 		Language <ul style="list-style-type: none"> Personification: nature is described as a living, powerful force. Imagery: 'huge peak, black and huge' – conveys fear and awe. Contrasts: peaceful opening vs. threatening mountain – shift in tone. Uses personification and dark imagery (e.g. “a huge peak, black and huge”) to depict nature as a powerful, almost supernatural force. 	
Structure and Form <ul style="list-style-type: none"> Dual structure: British history in regular quatrains, Caribbean history in free verse. Italics highlight the contrast between official and suppressed narratives. Irregular rhythm and enjambment reflect resistance to imposed structures. 		Structure and Form <ul style="list-style-type: none"> Use of first-person perspective throughout reinforces the personal and emotional connection to the lost homeland. Three stanzas of increasing complexity – mirrors growing awareness. Final stanza ends with defiance: 'They accuse me... but my city hides behind me.' 		Structure and Form <ul style="list-style-type: none"> Free verse with short stanzas – reflects fragility and openness. Lack of rhyme and punctuation – mirrors the theme of transience. Final line 'turned into your skin' – personalises the message, linking paper to humanity. 		Structure and Form <ul style="list-style-type: none"> Blank verse (unrhymed iambic pentameter) – mirrors natural speech. Volta (turning point) after the mountain appears – marks change in mood. First-person narrative – personal reflection and emotional journey. 	

avoir	to have
J'ai	I have
Tu as	You have
Il/Elle a/on a	He/She has/we have
Nous avons	We have
Vous avez	You have
Ils/Elles ont	They have

faire	to do/make
Je fais	I do/make
Tu fais	You do/make
Il/Elle fait	He/She does/makes
Nous faisons	We do/make
Vous faites	You do/make
Ils/Elles font	They do/make

être	to be
Je suis	I am
Tu es	You are
Il/Elle/on est	He/She is
Nous sommes	We are
Vous êtes	You are
Ils/Elles sont	They are

aller	to go
Je vais	I go
Tu vas	You go
Il/Elle va	He/She goes
Nous allons	We go
Vous allez	You (pl) go
Ils/Elles vont	They go

Verb endings in the simple future		For example
Je	-ai	Je mangerai
Tu	-as	Tu mangeras
Il/Elle/On	-a	Il/Elle/On mangera
Nous	-ons	Nous mangerons
Vous	-ez	Vous mangerez
Ils/Elles	-ont	Ils/Elles mangeront

The simple future:

It is used to describe what will happen in the future "I will eat".

To form it, use future stem plus appropriate ending

e.g je mangerai – *I will eat*.

For –er and –ir verbs, the future stem is the infinitive.

For –re verbs, drop the –e from the infinitive.
e.g. boire -> Je boirai – *I will drink*

Simple future verb forms for irregular verbs

Irregular future stems + same endings

avoir	aur-
être	ser-
aller	ir-
faire	fer-

Mots essentiels	Essential words
alors	so/then
au moins	at least
chaque	each
d'abord	first
de bonne heure	early
deux fois par semaine	twice a week
donc	so
ensuite	then
finalement	finally
où	where
à l'avenir	in the future
quand	when

Picture description	
Sur la photo	On the photo
Je peux voir	I can see
On peut voir	We/you can see
Il y a	There is/are
À gauche	On the left
À droite	On the right
Au centre	In the centre
À l'arrière plan	In the background
Au premier plan	In the foreground
Il est en train de ...	He is in the middle of
Ils sont en train de ...	They are in the middle of

Les parties du corps Parts of the body		
La bouche	mouth	
Le bras	arm	
Le corps	body	
Le dos	back	
L'épaule (f)	shoulder	
Le front	forehead	
Le genou	knee	
La jambe	leg	
La main	hand	
Le nez	nose	
Les oreilles (fpl)	ears	
Le pied	foot	
La tête	head	
Le visage	face	
Les yeux (mpl)	eyes	
J'ai mal à	I have a pain in	

Manger sain Eating healthy		
les boissons gazeuses	fizzy drinks	
les céréales (fpl)	cereals	
les chips (fpl)	crisps	
l'eau (f)	water	
les pommes de terre	potatoes	
les gâteaux (mpl)	cakes	
les légumes (mpl)	vegetables	
la nourriture salée	savoury food	
La nourriture sucrée	sweet food	
les oeufs (mpl)	eggs	
le pain	bread	
le poisson	fish	
les produits laitiers	dairy products	
la viande	meat	

Pour être en forme – In order to keep fit		
Je ferai du sport	I will do sport	
Je ferai trente minutes par jour	I will do 30 mins exercise a day	
J'irai au collège à vélo	I will go to school by bike	
Je jouerai au foot	I will play football	
Je mangerai équilibré	I will eat a balanced diet	
J'irai jusqu'au collège	I will go to school	
Je ne boirai jamais de boissons gazeuses	I will never drinks fizzy drinks	
Je ne jouerai plus à des jeux video	I won't play video games anymore	
Je ne mangerai plus de frites/hamburgers	I will not eat chips/hamburgers anymore	
Je ne prendrai pas le bus	I will not take the bus	
Je prendrai les escaliers	I will take the stairs	
Je prendrai des cours d'arts martiaux	I will take martial arts lessons	

Le sport et le fitness		
Pour arriver en forme, il faut...	In order to get fit, you must...	
avoir un bon programme	have a good schedule	
bien manger	eat well	
bien dormir	sleep well	
être motivé	be motivated	
faire du sport tous les jours	do sport every day	
jouer dans une équipe	play in a team	

Le sport et le fitness		
le sport diminue le stress	sport decreases stress	
C'est bon pour le moral	is good for morale	
C'est important pour la vie	is important in life	
ça me fatigue	it makes me tired	

On joue au paintball		
Qu'est-ce qui s'est passé?	What happened?	
Tu es touché?	Have you been hit?	
Où est-ce que tu es touché?	Where have you been hit?	
le terrain	grounds	
les billes (fpl)	paintballs	
le casque	helmet	
le matériel	Materials/equipment	
les règles	rules	

The Role of Colours in Poster Design

Colours speak volumes. A vibrant red can ignite passion, a deep blue can evoke tranquillity, and a refreshing green can bring peace. Psychologists have long studied colour theory, examining how different shades impact our minds and emotions.

Warm colours

Warm colours, such as red, orange, and yellow, are often *associated with energy, joy, and optimism.*

Cool colours

On the other hand, cool colours like blue, green, and purple often *symbolize peace, calm, and harmony.*

Cultural impact

However, colour perception isn't purely psychological; it's also cultural. For example, white represents purity in Western cultures, while in some Asian cultures, it symbolizes mourning.

Aesthetics and readability

Color combinations also significantly impact a poster's aesthetics and readability. **Complementary colours** create a vibrant look with high contrast, **analogous colours** offer a rich, monochromatic look, while triadic colours provide a balanced and harmonious contrast. Designers often adjust these schemes, ensuring the right balance between visual appeal and readability

Film Color Palettes and Schemes

A film colour palette is a set of colours that a filmmaker uses to create a specific mood or tone. It can consist of two or more colours that work together to create a cohesive look and feel. Filmmakers use color palettes to help tell their story and convey their message. For example, a filmmaker might use a muted color palette to create a sense of nostalgia or a bright and vibrant color palette to create a sense of excitement.

Keyword	Principles of Design – read, cover, write, review	tick
Colour theory	Color theory is the collection of rules and guidelines which designers use to communicate with users through appealing color schemes in visual interfaces.	
Colour wheel	A color wheel is a tool that helps you to combine appropriately the colors, and its represented by a circle formed by primary, secondary, and tertiary colors.	
RGB	RGB Color model stands for Red, Green, and Blue and is mainly used for electronic displays including computers and smartphones, and is based on the additive color model of light waves.	
CMYK	CMYK Color model stands for Cyan, Magenta, Yellow, and Key (Black). CMYK is subtractive and is used for printing.	
Monochromatic	The monochromatic scheme as the name says combine different shades from one color to create an attractive design.	
Complimentary	A complimentary colour scheme uses colours opposite each other on the colour wheel to create a high contrast aesthetic.	
Analogous	Analogous colours are next to each other on the colour wheel. They are often found in nature, for example in the changing colours of autumn leaves progressing around the colour wheel. An analogous colour scheme is characterised by a lack of contrast, unlike a complementary colour scheme	
Hue	Hue either refers to is a pure colour or the dominant colour. If black is added to a hue it becomes a shade and if white is added it becomes a tint.	
Saturation	Saturation refers to the intensity of a colour. Highly saturated colours appear more vibrant and bold, whereas less saturation appears dull.	

NIGERIA

2.4 Nigeria Background	2.5 Globalisation in Nigeria	2.6 Impacts of growth
<p>Site – The actual location of a settlement on the Earth, composed of the physical characteristics of the landscape.</p> <p>Situation - The location of a place relative to its surroundings and other places.</p>	<p>Nigeria has undergone rapid economic growth for 5 key reasons:</p> <ul style="list-style-type: none"> While the 1990s saw political instability, including a coup attempt, Nigeria also transitioned away from military rule in 1999, which paved the way for a more stable environment for economic growth. World oil price increases from 1973 onwards, including those in the 1990s, significantly boosted Nigeria's transportation, construction, manufacturing, and government services sectors. The government began privatising state-owned enterprises in the late 1990s, particularly in communications, power, and transportation, to improve service quality and reduce reliance on the government. The Nigerian Investment Promotion Commission (NIPC) Decree of 1995 liberalized foreign investment rules, allowing 100% foreign ownership of firms outside the petroleum sector. Nigeria saw a move towards manufacturing and services, with growth in IT and a large, relatively inexpensive workforce contributing to manufacturing expansion. 	<p>REGIONAL DIFFERENCES</p> <p>Northern Nigeria: 31% GDP, poverty 69–71%, literacy 41%, life expectancy 50.8 years, infant mortality 56.6/1,000, mainly subsistence farming.</p> <p>Southern Nigeria: 69% GDP (SW 35%, SS 21%), poverty 49.8–59.5%, literacy 88%, life expectancy 58.2 years, infant mortality 46.6/1,000, benefits from industry, oil, infrastructure, education, and healthcare.</p>
<p>Historical – Nigeria was under British control from 1861-1960. It has had periods of conflict and military coups (1966-1979, 1983-1999). From 1999, there has been more stability, with a president elected in 1999.</p> <p>Physical – Nigeria has an 853km coastline connected to the Gulf of Guinea, which has oil deposits in. It has plateaus and lowlands, and is on two major river basins. The natural environment varies from tropical rainforest to semi-desert.</p> <p>Political – Nigeria is a federal republic, with 36 states and a federal capital territory (Abuja). It has central and regional governments. It is a democracy that votes every 4 years. It is a member of the UN, OPEC and the African Union. Corruption is seen as an issue within Nigeria.</p> <p>Economic – Nigeria was the 27th largest economy in 2020. Oil accounts for 90% of foreign income and 70% of exports. It is Africa's largest economy.</p> <p>Social – Nigeria is one of the most socially diverse countries in the world, with over 500 languages spoken and hundreds of ethnic groups. Nigeria's population is also religiously diverse, including significant Muslim (53.5%) and Christian (45.9%) communities, alongside followers of traditional African beliefs.</p> <p>Cultural - Afrobeat and modern Afrobeats dominate radio and clubs. Sport also brings people together, with Nigeria winning the African Cup of Nations three times and producing many famous footballers. Nollywood, the Nigerian film industry, is the second-largest in the world by output—behind India's Bollywood and ahead of Hollywood.</p>	<p>SHELL CASE STUDY:</p> <p>Shell is one of the worlds largest oil companies with its headquarters in the Netherlands. Shell has been interested in the Niger Delta since the discovery of oil in 1958. The river delta is swampy, making it one the most difficult spaces to extract oil in the world.</p>	<p>AGE AND GENDER</p> <p>Nigeria's youth, who make up 58% of the population, benefit from tech growth and better education but face severe unemployment—37.2% (ages 25–34). Older generations have improved healthcare and receive remittances from younger relatives but suffer from weak pensions and poor rural services. Women face deep inequality: have low literacy, high early marriage rates (78% before 18), and high maternal deaths (1 in 100).</p>
	<p>Nigeria has the biggest ICT (Information and Communication Technology) market in Africa. That means more people in Nigeria use mobile phones and the internet than in any other African country. In fact, about 82% of people in Africa who have a phone live in Nigeria, and 29% users in Africa are Nigerian.</p>	<p>ENVIRONMENT</p> <p>Nigeria's economic development has harmed the environment. Air pollution threatens all 218.6 million residents, cutting life expectancy by 1.8 years on average. Water pollution from oil, mining, industry, and sewage causes disease. Land is degraded by oil spills, waste, and deforestation. CO₂ emissions rose 126% since 2000, contributing to floods and droughts that threaten agriculture, food security, and livelihoods.</p>
	<p>Outsourcing is where a TNC gives a contract to another company to complete part of their work. For example, they might outsource their call-centres to parts of the world where labour costs are lower. Many global TNCs do not make all of their products themselves and outsource the production. They simply attach their branding and logo to the good.</p>	<p>2.7 International Role</p> <p>Nigeria is part of:</p> <ul style="list-style-type: none"> African Union ECOWAS CEN-SAD OPEC UN Commonwealth <p>Nigeria's economic strength positions it as the leader in the Economic Community of West African states (ECOWAS), aiming to promote economic cooperation and political stability among its member countries.</p>



Wo hast du gewohnt? Where did you stay?

Ich habe ... gewohnt	<i>I stayed</i>	
in einem Hotel	<i>in a hotel</i>	
in einem Ferienhaus	<i>in a holiday home</i>	
in einer Pension	<i>in a B&B</i>	
in einem Wohnwagen	<i>in a caravan</i>	
in einer Jugendherberge	<i>in a youth hostel</i>	
auf einem Campingplatz	<i>on a campsite</i>	
bei Freunden	<i>with friends</i>	
Ich habe...übernachtet	<i>I stayed</i>	

Was hast du gemacht? What did you do?

Ich habe viele Sachen gemacht.	<i>I did lots of things</i>	
Ich habe/Wir haben...	<i>I/we</i>	
Musik gehört.	<i>listened to music</i>	
Volleyball gespielt.	<i>played volleyball</i>	
einen Bootsausflug gemacht.	<i>did a boat trip</i>	
viele Souvenirs gekauft.	<i>bought lots of souvenirs</i>	
viel Fisch gegessen.	<i>ate lots of fish</i>	
die Kirche gesehen.	<i>saw the church</i>	
ein Buch gelesen.	<i>read a book</i>	
Sehenswürdigkeiten besichtigt	<i>visited the tourist sights</i>	
Freunde/Familie besucht	<i>visited friends/family</i>	
Ich bin zu Hause geblieben.	<i>I stayed at home</i>	

Wohin bist du gefahren? Where did you go?

Ich bin ... gefahren	<i>I travelled</i>	
nach Deutschland	<i>to Germany</i>	
nach Wien	<i>to Vienna</i>	
Wie bist du gefahren?	<i>How did you travel?</i>	
mit dem Auto	<i>by car</i>	
mit dem Reisebus	<i>by coach</i>	
mit dem Schiff	<i>by ship</i>	
Ich bin geflogen.	<i>I flew</i>	
Ich bin zu Fuß gegangen.	<i>I walked</i>	
Mit wem bist du gefahren?	<i>Who did you travel with?</i>	
mit Freunden	<i>with friends</i>	
mit meiner Familie	<i>with my family</i>	

Was hast du noch gemacht? What else did you do?

Ich bin ... gegangen	<i>I went</i>	
an den Strand	<i>to the beach</i>	
in die Stadt	<i>into town</i>	
windsurfen	<i>windsurfing</i>	
kitesurfen	<i>kitesurfing</i>	
schwimmen	<i>swimming</i>	
Ich bin ...gefahren	<i>I travelled</i>	
Ich bin Ski gefahren	<i>I went skiing</i>	
Ich habe Snowtubing gemacht.	<i>I went snowtubing</i>	
Ich habe Eistennis gespielt.	<i>I played ice tennis</i>	

High frequency words

nur	<i>only</i>	
dort	<i>there</i>	
zu	<i>too</i>	
nicht	<i>not</i>	
gar nicht	<i>not at all</i>	
sehr	<i>very</i>	
ungefähr	<i>about</i>	
viel	<i>a lot/much</i>	
viele	<i>many</i>	

Wann war das? When was it?

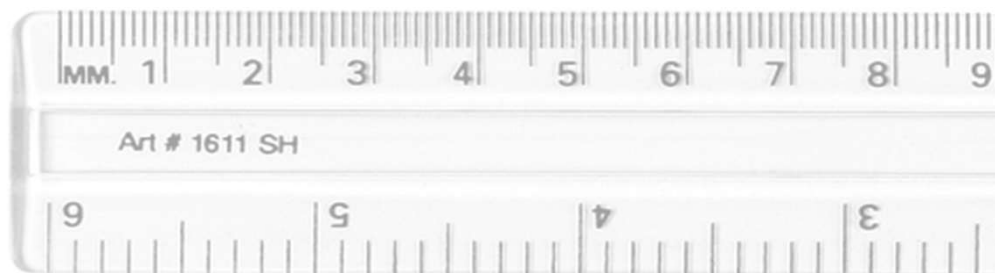
in den Ferien	<i>in the holidays</i>	
im Sommer/ Winter	<i>in the summer/ winter</i>	
letzten Sommer/ Winter	<i>last summer/ winter</i>	
heute	<i>today</i>	
gestern	<i>yesterday</i>	

Wie ist/war das Wetter? What is/was the weather like?

Wie ist/war das Wetter?	<i>How is/was the weather?</i>	
Es ist/war...	<i>It is/was</i>	
sonnig/kalt/heiß	<i>sunny/cold/hot</i>	
wolkig/windig/ neblig	<i>cloudy/windy/ foggy</i>	
Es regnet/schneit	<i>It is raining/snowing</i>	
Es donnert und blitzt.	<i>There is thunder and lightening.</i>	
Es hat geregnet/ geschneit	<i>It rained/snowed.</i>	
Es hat gedonnert und geblitzt	<i>There was thunder and lightening.</i>	



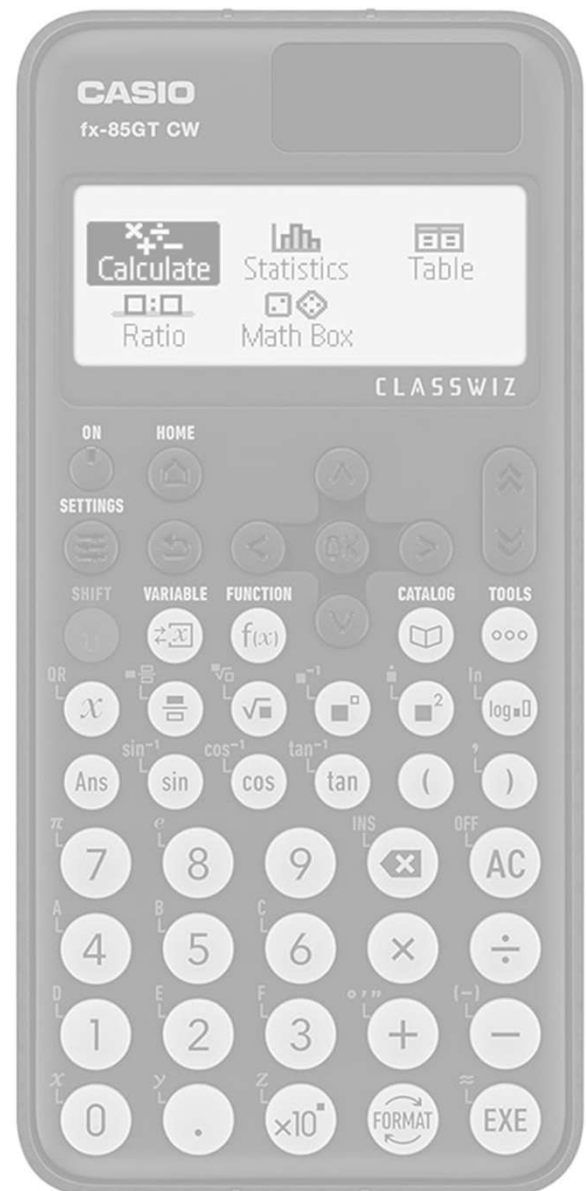
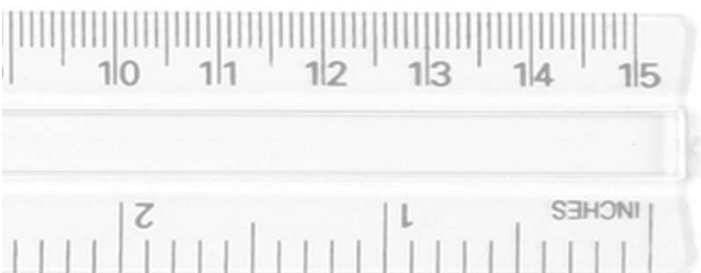
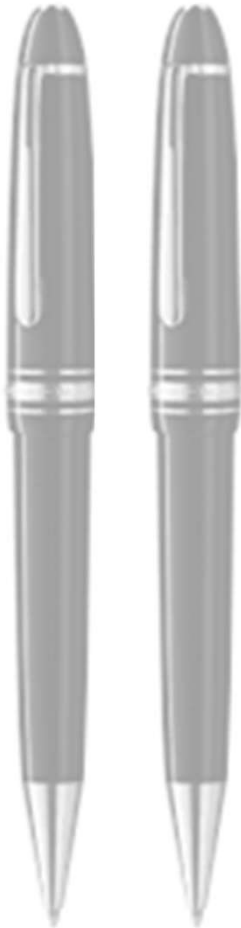
Equipment



Check



- ID card
- Green and purple pens
- Whiteboard pens
- Black/blue pens
- Glue stick
- Pencil
- Ruler
- Calculator





gehen - to go		
ich gehe	I go	
du gehst	you go	
er/sie/es geht	he/she/it goes	
wir gehen	we go	
ihr geht	you go	
Sie/sie gehen	you(form)/they go	

haben - to have		
ich habe	I have	
du hast	you have	
er/sie/es hat	he/she/it has	
wir haben	we have	
ihr habt	you all have	
Sie/sie haben	you (form)/they have	

sein - to be		
ich bin	I am	
du bist	you are	
er/sie/es ist	he/she/it is	
wir sind	we are	
ihr seid	you all are	
Sie/sie sind	you (form)/they are	

Meinungen - opinions		
Meiner Meinung nach (V2)	In my opinion	
Es ist/war	It is/was	
Ich finde/fand	I find/found	
Ich denke/dachte	I think/thought	
Ich glaube/glaubte	I believe/believed	
Es macht Spaß	It is fun	
Es hat Spaß gemacht	It was fun	

Strong verbs in German change the vowel in the “du & er/sie/es/man” forms only		
fahren - fährst/fährt	to travel	
tragen – trägst/trägt	to wear	
essen - isst/isst	to eat	
sehen - siehst/sieht	to watch	
lesen – liest/liest	to read	
Verbs with a stem ending in –d or –t add an extra “e” in these forms		
arbeiten - arbeitest/arbeitet	to work	
finden – findest/findet	to think/find	

To talk about actions in the past use the perfect tense. You need a form of haben or sein (for movement verbs) plus a past participle (ge+verb stem+t)		
Ich habe/er, sie hat/wir haben:	I/he, she/we	
gespielt/gelernt/ gemacht/gekauft some past participles are irregular getragen/ gesehen/gelesen	played/learnt/ did/bought/ wore/saw/read	
Ich bin/er, sie ist/wir sind: some past participles are irregular gefahren/gegangen/ geschwommen/geblieben	I/he, she/we travelled/went/ swam/stayed	

<p>To talk about how you travel or who you travel with use:</p> <p><i>mit + mode of transport/person –</i></p> <p><i>“mit” always takes DATIVE CASE</i></p> <p><i>Masc: der changes to dem</i></p> <p><i>Fem: die changes to der</i></p> <p><i>Neut: das changes to dem</i></p> <p><i>mit dem Bus/mit meinem Bruder</i></p> <p><i>mit der Straßenbahn/mit meiner Familie</i></p>	
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The imperfect tense is sometimes used to talk about the past. Usually used for formal situations. Three key verb are often used in the imperfect to DESCRIBE things in the past		
Es war	It was	
Ich war	I was	
Es hatte	It had	
Ich hatte	I had	
Es gab	There was	
<p>Es war sehr touristisch – it was very touristy</p> <p>Die Stadt hatte einen Marktplatz – the town had a market place</p> <p>Es gab keinen Bahnhof – there was no station</p>		



Bournemouth School: History Department: Knowledge Organiser: Year 9: Autumn 2: Hitler's Rise to Power

Timeline of key events:

✓

August 1914: WWI starts and Hitler joins the German army

1918: Hitler awarded the Iron Cross for bravery in WWI

Sept. 1919: Anton Drexler founds DAP

Feb. 1920: Twenty Five Point Programme written declaring the main policies of the Nazi Party

1921: SA formed by Ernst Rohm

1923: Hyperinflation

Nov. 1923: The Munich Putsch; the failed attempt by Nazi party to overthrow the regional government of Bavaria and national government of Germany by force

April 1924: Hitler sentenced to 5 years in Landsberg Prison (released after only 9 months)

1924: Ban on Nazi Party lifted

1926: Bamberg Conference

1928 Election: Nazis won 12 seats in the Reichstag

29 Oct. 1929: Wall Street Crash; more than 16 million shares were traded in panic selling, triggering further sales and leading to a world economic crisis

1928-30: Muller government

1930-May 1932: Brüning government

Sept 1932 Election: Nazis win 107 seats in the Reichstag

1932: Presidential Election: Hindenburg wins, but Hitler polls 13.4m votes

July 1932 Election: Nazis win 230 seats in the Reichstag

November 1932 Elections: Nazis win 196 seats in the Reichstag

30 January 1933: Hitler appointed Chancellor of Germany by Hindenburg

Key terms/definitions

Term	Definition	✓
Balanced budget	When a nation does not spend more than it earns	
Bamberg Conference	Nazi Party meeting where Hitler strengthened his power and reorganised the Nazi party	
Centre Party (ZP)	A Catholic Party occupying the middle ground in political views	
Charisma	A quality in leadership which arouses loyalty and enthusiasm for a public figure	
Civil Servants	Citizens who work for and are paid by the government	
Communist	Supporter of communism: a political idea where workers have power and wealth is shared	
DAP	German Workers Party; the early Nazi Party, established by Anton Drexler in 1919	
Fuhrer	Leader; title given to Hitler to define his role of absolute authority	
Fuhrerprinzip	The idea that the Nazi Party and Germany should have one leader, obeyed by all	
Gauleiter	The leader of branches of the Nazi Party (Gau)	
General Elections	Elections held for the German people to choose deputies to sit in the Reichstag	
Great Depression	Slump in the economy in the 1930s which led to high unemployment	
Heil Hitler	Raised arm salute to Hitler	
Hitlerjugend	Hitler Youth movement, set up for the young in Germany, to convert them to Nazi ideas	
Indoctrination	Converting people to a set of ideas using education and propaganda	
Informant	Person who gives information to the authorities about the activities of other people	
Left wing	People who favour socialism and /or communism	
Manifesto	A public declaration of the policy of a political party	
Mein Kampf	Book containing autobiography/political views of Hitler written in 1924 in Landsberg Prison	
NSDAP	National Socialist Party or Nazi Party	
Presidential Election	Elections held for the people of Germany to choose the President of the Weimar Republic	
Political Intrigue	Trickery and secret deals used in politics instead of open political debate	
Propaganda	Use of a variety of means including newspapers, broadcasts and education to accept political ideas without question	
Querfront	'Cross front': bringing together different strands of left & right-wing parties to rule Germany	
RFB	Red Front Fighters; Communist private army (militia)	
Right Wing	People who favour groups that are nationalistic, patriotic and sometimes racist	
SA	Sturmabteilung; paramilitary storm troopers of the Nazi Party	
SS	Schutzstaffel: originally Hitler's bodyguard, they became the most powerful troops in Nazi Germany and were responsible for concentration camps and the Final Solution	
Stock market	The place where stocks and shares are traded; Wall Street in New York was the most important Stock Market in the world in the 1920s	
Taxes	Money paid by workers to the government to fund public works, schools, unemployment benefits etc	
Treason	The act of betraying your country; considered to be one of the most serious criminal acts	
Unemployment	The number of people who are without a job in a country	
Unemployment benefit	Money given to the unemployed by the government (unemployment insurance)	





Bournemouth School: History Department: Knowledge Organiser: Year 9: Nazi control of Germany 1933-9

1. Keeping Control by using Terror			2. Keeping Control by using propaganda		
Method	Description	✓	Method	Description	✓
SS	Led by Himmler, oversaw the terror state including concentration camps		Ministry of Propaganda	Led by Joseph Goebbels, oversaw all censorship and propaganda	
Concentration Camps (Feb 1933)	Used to imprison the Nazi's enemies: different categories		Censorship	Anti-Nazi papers closed, Radio controlled, pre-publication censorship, Jazz music banned, book burnings	
Gestapo 1933	Secret Police, had power to arrest and send to camps without trial		Propaganda	Spread Nazi message through: Posters, films, rallies (Nuremburg), architecture, theatre, literature, 1936 Olympics (4x Gold medals for Jesse Owens, pause on anti-Semitism)	
SD 1931	Intelligence agency led by Heydrich				
3. Keeping control of the Law			4. Keeping control of the churches		
Method	Description	✓	Method	Description	✓
Nazi Socialist League for the Maintenance of Law	All judges had to join this organisation and swear an oath of loyalty.		Catholic Church	Concordat signed with Catholic Church 1933. Hitler agreed to allow Catholic schools, if the church stayed out of politics	
German Lawyer's Front 1933	All lawyers had to join and swear oath, 100,000 member by end of 1933		Protestant Church	All Protestant churches merged in 1933 under Bishop Muller, Nazification of the churches – swastikas in church etc.	
People's Court 1934	Cases of treason tried and defendants summarily executed.		Faith Movement	Rival church set up in 1933 to worship traditional volk images – worship of the soil, crops etc	
5. What opposition did Hitler face from churches?	✓	6. What opposition did Hitler face from the youth?	✓	7. What opposition did Hitler face from ordinary Germans?	✓
1. Catholic Church – Catholic schools shut, 400 priest sent to camps, vocal opposition from Cardinal Galen. 2. Protestant Church – Opponents set up the “confessional church” led by Father Niemoller. Emergency Pastor's league set up		1. Edelweiss Pirates – attacked Hitler Youth, listened to swing and Jazz, 2000 by 1939 2. Swing Youth – Swing music, dancing		1. Genuine support as result of Germany's economic recovery 1933. 2. Most happy to see Germany restored, Versailles reversed, army rebuilt. 3. Many happy that Communists imprisoned.	



Year 9 – Maths – Autumn 2 – Units 1 & 2

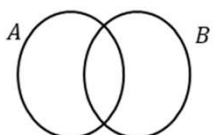
Keyword	Definition	Example(s)
Combinations	The number of ways of combining objects, found by multiplying the number of options for each choice	<i>Choose 2 students from a class of 30.</i> $\frac{30 \times 29}{2} = 435$
Estimating	Rounding values to 1 or 2sf to simplify a calculation	
Factor	A number that divides exactly into a given number	<i>8 is a factor of 24</i>
Multiple	A number in the given numbers times table	<i>18 is a multiple of 6</i>
Prime Factor Tree	Breaks up a number into products of its prime factors	$ \begin{array}{c} 12 \\ \swarrow \searrow \\ 4 \quad 3 \\ \swarrow \searrow \swarrow \searrow \\ 2 \quad 2 \quad 2 \quad 3 \end{array} $
Prime Factor Decomposition	A number written as a multiplication of its prime factors, normally written in index form.	$140 = 2^2 \times 5 \times 7$
HCF (highest common factor)	The largest number that divides into 2 numbers with no remainder	<i>HCF of 20 and 28</i> 4
LCM (lowest common multiple)	The smallest number that 2 numbers divide into exactly	<i>LCM of 20 and 28</i> 140
Standard form	A number written in the form $A \times 10^n$, where $0 < A \leq 10$ and n is an integer	$0.00284 = 2.84 \times 10^{-3}$
Surd	An irrational number, written exactly using square or cube roots	$\sqrt{5}, \sqrt[3]{8}$
Rational	A number that can be expressed in the form $\frac{a}{b}$	$\frac{6}{7}, 1.5, 0.\dot{6}$
Irrational	A non-terminating decimal with no recurring pattern	$\pi, \sqrt{2}, 3\sqrt{5}$
Rationalising a denominator	Multiplying $\frac{a}{\sqrt{b}}$ by $\frac{\sqrt{b}}{\sqrt{b}}$ to attain an integer denominator of b	

Keyword	Definition	Example(s)
Identity	The \equiv symbol shows an identity. In an identity the two expressions are equal for all values of the variables.	$2(x + 5) \equiv 2x + 10$
Equation	An equation is only true for certain values of the variable. An equation has an equals sign, the variable and numbers. It can be solved to find the value of the variable.	$2y - 4 = 9y + 1$
Consecutive integers	Numbers one after the other in order.	2, 3, 4, or -8, -7, -6
Expression	An expression contains letter and/or number terms but no equals sign	$ \begin{array}{l} 2ab \\ 2ab + 3b \\ 2ab - 7 \end{array} $
Term	Separate parts of expressions, equations, formulae and identities separated by addition or subtraction	Within $2ab + 3b - 7$ there are 3 terms
Coefficient	The numerical value in an algebraic term	3 is the coefficient in $3x^2$
Formula	A formula has an equals sign and letters to represent different quantities.	$A = \pi r^2$
Subject of a formula	The subject of a formula is the letter on its own, on one side of the equals sign.	s is the subject of $s = ut + \frac{1}{2}at^2$
The n th term	The n th term of a sequence tells you how to work out the term at position n (any position). It is also called the general term of the sequence	
u_n	u_n denotes the n th term of a sequence,	u_1 is the first term, u_2 is the second term, and so on.
Arithmetic sequence	Terms increase by a fixed number called the common difference. General form $an + B$	3, 7, 11, 15, ... nth term = $4n - 1$
Geometric sequence	Terms increase by a constant multiplier called the ratio. General form $a \times r^n$ or $a \times r^{n-1}$	2, 6, 18, 54, ... nth term = $2 \times 3^{n-1}$
Quadratic expression	A quadratic expression contains a term in n^2 but no higher power of n . General form $an^2 + bn + c$	3, 8, 15, 24, ... nth term = $n^2 + 2n$
Expand	Remove brackets by multiplying terms	$2(2x + 1) \equiv 4x + 2$
Factorise	Arrange an expression into a product of its factors by placing terms in brackets.	$4x + 2 \equiv 2(2x + 1)$

After completing a Prime Factor Decomposition for numbers A and B :

$$HCF = A \cap B$$

$$LCM = A \cup B$$



Surd Laws

- $a\sqrt{b} \times c\sqrt{d} = ac\sqrt{bd}$
- $\frac{a\sqrt{b}}{c\sqrt{d}} = \frac{a}{c} \sqrt{\frac{b}{d}}$
- $\sqrt{a^2} = \sqrt{a^2} = a$

Standard form operations

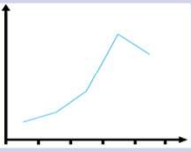
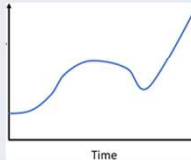
- $(A \times 10^n) \times (B \times 10^m) = (AB) \times 10^{n+m}$
- $(A \times 10^n) \div (B \times 10^m) = \left(\frac{A}{B}\right) \times 10^{n-m}$
- $(A \times 10^n) \pm (B \times 10^n) = (A \pm B) \times 10^n$

note the powers must be the same

Index Laws

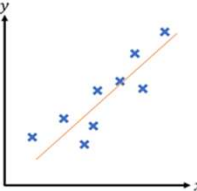
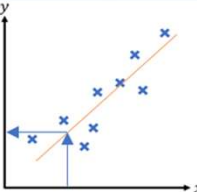
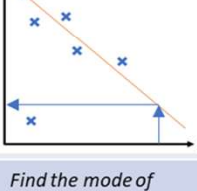
- $x^a \times x^b = x^{a+b}$
- $x^a \div x^b = x^{a-b}$
- $(x^a)^b = x^{ab}$
- $x^0 = 1$
- $x^{\frac{1}{a}} = \sqrt[a]{x}$
- $x^{-a} = \left(\frac{1}{x}\right)^a$

Year 9 – Maths – Autumn 2 – Unit 3

Keyword	Definition	Example(s)																		
Qualitative	Describes a characteristic of the data	<i>Colour, Brand</i>																		
Quantitative	Data counted or measured in numerical values	<i>Height, Weight</i>																		
Discrete	Data that takes fixed values	<i>Shoe size, Year</i>																		
Continuous	Data that can take any value	<i>Foot length, Time</i>																		
Frequency polygon	Used for grouped data with even class-widths. Plot midpoint against frequency																			
Pie chart	Shows portions of a whole, split into sectors																			
Stem-and-leaf diagram	Simplifies writing long lists of numbers by using common digits as a stem. Must have a key.	<table border="1"> <thead> <tr> <th>Male</th><th></th><th>Female</th></tr> </thead> <tbody> <tr> <td>8</td><td>1</td><td>9 9</td></tr> <tr> <td>9 5 2 0</td><td>2</td><td>1 2 6 7</td></tr> <tr> <td>8 7 3 0</td><td>3</td><td>0 4 4</td></tr> <tr> <td></td><td>4</td><td>5 6</td></tr> <tr> <td></td><td>5</td><td>4</td></tr> </tbody> </table>	Male		Female	8	1	9 9	9 5 2 0	2	1 2 6 7	8 7 3 0	3	0 4 4		4	5 6		5	4
Male		Female																		
8	1	9 9																		
9 5 2 0	2	1 2 6 7																		
8 7 3 0	3	0 4 4																		
	4	5 6																		
	5	4																		
Median	The middle piece of data when in order of size, found using $\frac{n+1}{2}$.	<i>Find the median of the males:</i> 29																		
Range	A measure of spread. Difference between largest and smallest.	<i>Find the range of the males</i> 20																		
Time-series	A graph that shows how data varies over time																			

Pie chart

$$\text{Sector angle} = \frac{f}{\sum f} \times 360$$

Keyword	Definition	Example(s)
Scatter graph	Displays bivariate data. Used to show if there is a relationship.	
Line of best fit	Drawn on a scatter graph to show the trend and predict data values.	
Correlation	A description of the relationship of bivariate data.	<i>Positive, negative, no</i>
Interpolation	Predicting within the range of data.	
Extrapolation	Predicting outside of the range of data	
Anomaly	A piece of data that does not fit the trend.	
Mode	The most common piece of data.	<i>Find the mode of 2, 6, 3, 6, 4</i> = 6
Mean	The sum of all the pieces of data, divided by how many there are	<i>Find the mean of 2, 6, 3, 6, 4</i> = 4.2

$$\text{Mean from grouped data} = \frac{\sum fx}{\sum f}$$

$$\text{Mean from individual data} = \frac{\sum x}{f}$$



Context

Affect The prevailing mood in a Baroque movement or piece

Baroque the dominant style of Western classical music composed from about 1600 to 1750.

Concerto grosso a concerto for more than one soloist

Dance suite A Baroque collection of movements in dance rhythms.

Solo concerto A concerto for a single instrument accompanied by orchestra

Trio sonata A Baroque piece for two melody instruments and continuo

Dynamics

Terraced Dynamics When the dynamics are either forte or piano, with no gradual changes. Common in Baroque music.

Rhythm

Compound time signature when the beat subdivides into 3 rather than 2

Year 9

Unit Bach: 3rd Movement from Brandenburg Concerto no. 5 in D major

Triplets Three notes in the space of two

Texture

Antiphonal Music performed alternately by two groups which are often physically separated.

Basso continuo literally continuous bass line. Accompaniment played by a melodic bass instrument, often a cello, and a chordal instrument such as harpsichord, lute or organ.

Canon parts copy each other in exact intervals, often at the fifth or octave.

Contrapuntal When two melodies are played at the same time and interweave—almost the same as polyphonic

Counterpoint the combination of two or more melodies with independent

Dialoguing Instruments in dialogue—playing one after the other, swapping ideas

Independent parts Instruments or voices doing different things—not doubling or simply harmonising

Monophonic A musical texture with a single line

Passagework a constantly moving passage, often in patterns of quick notes and including sequences and scales

Polyphonic More than one melody at once, or entering at different times so that they overlap

Stretto entries of the subject closer together than before in a fugal recapitulation

Tutti All parts plying at the same time

Structure

Fugal exposition The initial statements of subject and answer in a fugue

Fugue Contrapuntal piece with exposition, development and recapitulation

Ternary form Simple ABA structure



This QR code will take you to a Spotify playlist with audio examples of many of the concepts covered on this sheet and in lessons. You will find it helpful to listen to these as you learn.



Melody

Answer In a fugue, the subject repeated in response to its original appearance, usually a fourth or fifth lower or higher than the preceding subject. If it is an exact transposition of the subject it is a real answer; if not it is a tonal answer.

Appoggiatura An ornament often referred to as a 'leaning' note. An appoggiatura usually takes half the length of the main note and is a step higher.

Conjunct Movement by step

Countersubject the melody played after the subject or answer

Motif A short melodic phrase of just a few notes

Ornament notes that decorate a melody

Sequence repetition of a musical idea at a higher or lower pitch

Subject the main theme of a fugue

Variant A phrase whose shape resembles the original

Year 9

Unit **Bach: 3rd Movement from Brandenburg Concerto no. 5 in D major**

Instrumentation

Concertino the smaller group of soloists in a concerto grosso

Ripieno the larger group in a concerto grosso

Tonality

Relative minor The minor key based on the sixth note of the major scale

Harmony

Cadential A progression of chords forming a cadence

Circle of fifths A series of chords or keys in which the root or tonic is a fifth lower (or a fourth higher) than the previous one.

Consonant Intervals or chords that sound pleasant together

Dominant preparation A passage focused on the dominant chord to create expectation of a return to the tonic.

Dominant seventh Chord V with added minor 7th

Figured bass The numbers a chord instrument player in the basso continuo would read.

Harmonic rhythm the rate at which the chords change

Harmonic sequence When a chord sequence is immediately repeated at a higher or lower pitch

Imperfect cadence An incomplete sounding cadence ending on chord V

Interrupted cadence V-VI—sounds like it's going to be a perfect cadence, but gets interrupted

Inversions triads with the third (1st inversion) or fifth (2nd inversion) in the bass

Pedal a sustained or repeated note in the bass

Perfect cadence V-I

Suspension Prolonging a note to create dissonance with the next chord



This QR code will take you to a Spotify playlist with audio examples of many of the concepts covered on this sheet and in lessons. You will find it helpful to listen to these as you learn.

Keyword	Learn	
Post-16 opportunities	Education or training beyond Year 11.	
County Lines	Where illegal drugs are transported from one area to another, often across police and local authority boundaries, usually by children or vulnerable people who are coerced into it by gangs.	
Disenchantment	A feeling of no longer believing in the values of society	
Trap House	Abase used for drug operations, usually a person's home who has been bribed or threatened into the situation.	
Identity	Refers to our sense of who we are as individuals and as members of social groups.	
Healthy lifestyles	Have a combination of a balanced diet, good sleep habits, daily exercise and hobbies for relaxation.	
Free Sugar	Any sugar added to a food or drink. Or the sugar that is already in honey, syrup and fruit juice. These are free because they're not inside the cells of the food we eat.	
Endorphines	Are a type of "feel-good" brain chemical. They act as natural pain and stress relievers.	

Tips for a healthy lifestyle:

Relaxing -

Try hobbies out, then do what you enjoy.
Hobbies that calm are good.
Hobbies that offer challenge and development are good.

Sleep -

Get at least 7-9 hrs
No devices or social media before bed.
Establish a relaxed routine
Sleep in a cool dark room

Exercise -

Daily exercise is good.
Participate in team sports.
Skill development, challenge and shortterm rewards are best.

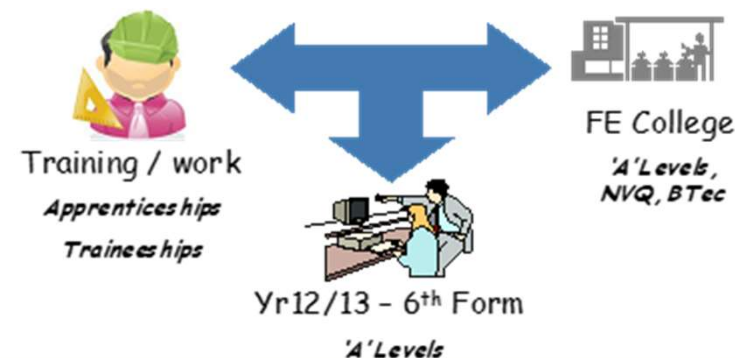
Diet -

Eat 5 portions of fruit and veg a day.
Base meals on starchy carbohydrates (potatoes, bread, rice, pasta - even better if wholegrain).
Have some 'dairy' choosing lower fat & sugar options.
Eat some beans, pulses, fish, eggs, meat and other proteins (2 portions of fish per week, one should be oily).
Choose unsaturated oils and spreads.
Drink 6-8 cups/glasses of fluid a day.
Avoid free sugars.

County Lines - the risks

A criminal record, prison, addiction, isolation from society and family.
Any rewards are ultimately outweighed by the risks.
Remember these gangs prey on vulnerable people and have only their interests at heart.

Post-16 and the law: You may leave school at the end of June 2026 when you are 16 years old BUT you must remain in education or training until you are 18.



How do MUSCLES WORK?

Muscles can only PULL they cannot push. This means that they must work in pairs to allow parts of the body to move back and forth. THESE PAIRS ARE CALLED **ANTAGONISTIC PAIRS**.

Antagonistic Pairs

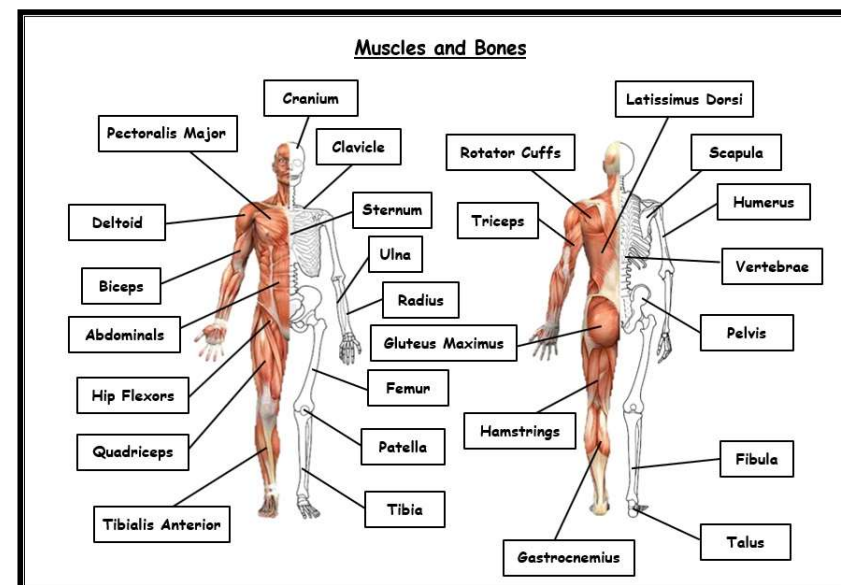
- * A muscle must work in partnership with another muscle to allow movement to occur.
- * The muscle that causes the movement (the pulling muscle) is called the **AGONIST** or **PRIME MOVER**. When this muscle contracts it becomes shorter.
- * During this time the other muscle within this partnership is relaxing. This muscle is called the **ANTAGONIST** and is lengthening while it relaxes.

EXAMPLES:

When we flex our elbow, the biceps are the **agonist** and the triceps are the **antagonist**. However, these roles are reversed when the elbow extends, with the triceps becoming the **agonist** and the biceps becoming the **antagonist**.

When dorsiflexion occurs in our ankle the tibialis anterior is the **agonist** and the gastrocnemius is the **antagonist**. However, these roles are reversed when plantar flexion occurs at the ankle, with the gastrocnemius becoming the **agonist** and the tibialis anterior becoming the **antagonist**.

Muscles of the human body



Antagonistic Pairs

HAMSTRINGS	QUADRICEPS
GASTROCNEMIUS	TIBIALIS ANTERIOR
BICEPS	TRICEPS
HIP FLEXORS	GLUTEALS
DELTOID	LATISSIMUS DORSI

Types of Muscle Contraction

Isotonic Concentric Contraction occurs when the muscle shortens e.g. biceps contracting concentrically during the upwards phase of a bicep curl.

Isotonic Eccentric Contraction occurs when the muscle lengthening (antagonist) is under tension. An eccentric contraction provides the control of a movement on the downward phase e.g. biceps contracting eccentrically when lowering the weight in a bicep curl.

Isometric Contractions occur when the muscle that is contracting doesn't change length.

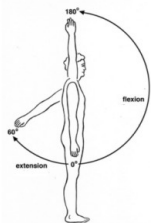
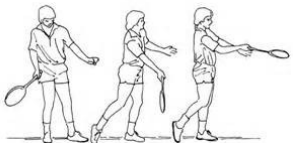
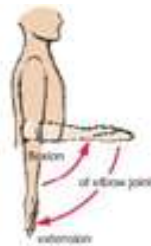

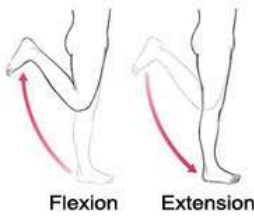

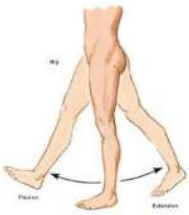
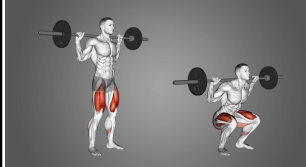


Sporting examples include:

- The rings in gymnastics.
- A rugby scrum.
- A handstand.

Muscle Name

Movement when the agonist

Sternocleidomastoid	Lifts rib cage up and out when exercising
Pectorals	Lifts rib cage up and out when exercising
Intercostals	Lifts rib cage up and out
Triceps	Elbow extension
Biceps	Elbow flexion
Abdominals	Assists with exhaling
Quadriceps	Knee flexion
Hamstrings	Knee extension
Hip flexors	Hip flexion
Gluteal muscles	Hip Extension
Rotator cuffs	Shoulder rotation/Circumduction

Types of movement at a joint		Sporting Examples	
<p><u>Flexion and extension at the shoulder</u></p> <ul style="list-style-type: none"> - The Deltoid causes flexion at the shoulder (upwards) - The Latissimus dorsi causes extension at the shoulder (downwards) 		<p><u>Flexion and extension at the shoulder</u></p> <ul style="list-style-type: none"> • Badminton – smash if flexion at the shoulder, forehand high serve is extension at the shoulder 	
<p><u>Flexion and extension at the elbow</u></p> <ul style="list-style-type: none"> - The Biceps cause flexion at the elbow (upwards) - The Triceps cause extension at the elbow (downwards) 		<p><u>Flexion and extension at the elbow</u></p> <ul style="list-style-type: none"> • Push up – upwards is extension, downwards is flexion • Football throw-in – releasing the ball is elbow extension 	
<p><u>Flexion and extension at the knee</u></p> <ul style="list-style-type: none"> - The Hamstrings cause flexion at the knee (heel to buttock) - The Quadriceps cause extension at the knee (leg down) 		<p><u>Flexion and extension at the knee</u></p> <ul style="list-style-type: none"> • Running – heel lift in recovery leg is flexion, extension in drive leg when contacting the ground 	
<p><u>Flexion and extension at the hip</u></p> <ul style="list-style-type: none"> - The Hip Flexors cause flexion at the hip (leg up) - The Gluteal muscles cause extension at the hip (leg down) 		<p><u>Flexion and extension at the hip</u></p> <ul style="list-style-type: none"> • Squats – upward phase is extension, downwards phase is flexion • Running – drive leg moving backwards is hip extension, recovery leg coming forward is hip flexion 	
<p><u>Plantar Flexion and Dorsiflexion at the ankle</u></p> <ul style="list-style-type: none"> - The Tibialis Anterior causes dorsiflexion at the ankle (toes up) - The Gastrocnemius cause plantar flexion at the ankle (toes down) 		<p><u>Plantar Flexion and Dorsiflexion at the ankle</u></p> <ul style="list-style-type: none"> • Take off in long jump – plantar flexion • Vertical jump – prep is Dorsiflexion, execution is plantarflexion • Drive leg pushing off the ground is plantar flexion 	

Vocabulary taught in Topic 1 - Energy		
Vocabulary	Learn	✓
Data	Information, either qualitative or quantitative, that has been collected	
Fair Test	A fair test is one in which only the independent variable has been allowed to affect the dependent variable	
Interval	The quantity between readings	
Reproducible	If the investigation is repeated by another person, or by using different equipment or techniques, and the same results are obtained	
Resolution	This is the smallest change in the quantity that can be measured by the measuring instrument	
Variables	These are physical, chemical or biological quantities or characteristics	
Categoric variables	These have values that are labels, e.g. names of plants or types of material	
Continuous variables	These can have values that can be given a magnitude either by counting or by measurement	
Control variable	This is one which may, in addition to the independent variable, affect the outcome of the investigation and therefore has to be kept constant or at least monitored	
Dependent variable	The variable of which the value is measured for each and every change in the independent variable	
Independent variable	The variable for which values are changed or selected by the investigator	
Vocabulary taught in Topic 5a – Forces		
Vocabulary	Learn	✓
Accuracy	A measurement result is considered accurate if it is judged to be close to the true value	
Measurement error	The difference between a measured value and the true value	
True value	This is the value that would be obtained in an ideal measurement	
Calibration	Marking a scale on a measuring instrument.	
Systematic error	These cause readings to differ from the true value by a consistent amount each time a measurement is made.	
Zero error	Any indication that a measuring system gives a false reading when the true value of a measured quantity is zero, eg the needle on an ammeter failing to return to zero when no current flows.	
Hypothesis	A proposal intended to explain certain facts or observations	
Prediction	A prediction is a statement suggesting what will happen in the future, based on observation, experience or a hypothesis	

Vocabulary taught in Topic 3 – Particle Model of Matter		
Vocabulary	Learn	
Anomalies	These are values in a set of results which are judged not to be part of the variation caused by random uncertainty	
Random Error	These cause readings to be spread about the true value, due to results varying in an unpredictable way from one measurement to the next. Random errors are present when any measurement is made and cannot be corrected. The effect of random errors can be reduced by making more measurements and calculating a new mean	
Range	The maximum and minimum values of the independent or dependent variables; important in ensuring that any pattern is detected.	
Precision	Precise measurements are ones in which there is very little spread about the mean value. Precision depends only on the extent of random errors – it gives no indication of how close results are to the true value	
Repeatable	A measurement is repeatable if the original experimenter repeats the investigation using same method and equipment and obtains the same results.	
Sketch graph	A line graph, not necessarily on a grid, that shows the general shape of the relationship between two variables. It will not have any points plotted and although the axes should be labelled they may not be scaled	
Vocabulary taught in Topic 8 - Space		
Vocabulary	Learn	✓
Evidence	Data which has been shown to be valid	
Validity	Suitability of the investigative procedure to answer the question being asked	
Valid conclusion	A conclusion supported by valid data, obtained from an appropriate experimental design and based on sound reasoning	

Prefix	Abbreviation	Power of ten
Giga–	G	10^9
Mega–	M	10^6
Kilo–	k	10^3
Centi–	c	10^{-2}
Milli–	m	10^{-3}
Micro–	μ	10^{-6}
Nano–	n	10^{-9}

Physics topic 1 Energy

Keyword	Learn	✓
Energy store	Name the different stores: kinetic, chemical, thermal (internal), gravitational potential, magnetic, electrostatic, elastic potential and nuclear	
Energy transfer	Can be done by waves (light and sound), electrical and work.	
System	An object or a group of objects that interact	
Principle of conservation of energy	Energy can be transferred from one store to another, but energy cannot be created or destroyed	
Kinetic energy	The amount of energy stored in a moving object	
Gravitational potential energy	The amount of energy stored in an object raised above the ground	
Elastic potential energy	The amount of energy stored in a stretched spring	
Spring constant	The force needed to stretch a spring 1 metre	
Work	1 joule of work is done when a force of 1 N causes an object to move 1 m	
Power	The rate at which energy is transferred (or rate at which work is done)	
Specific heat capacity	The amount of energy required to raise the temperature of 1 kg of a substance by 1°C	
Dissipate	To scatter in all directions or to use wastefully	
Thermal conductivity	The higher the thermal conductivity of the material the more the material allows heat to conduct through,	
Efficiency	The proportion of energy that is usefully transferred	
Non-renewable energy resources	Coal, Oil, Gas and Nuclear. These will run out, because there are finite reserves, which cannot be replenished.	
Renewable energy resources	Solar, Wind, Hydroelectric, Wave, Tidal, Geothermal, Biomass/fuel. These will never run out. They are replenished as they are used.	

Quantity	Unit	Symbol
Energy	joule	J
Work	joule	J
Power	watt	W
Mass	kilogram	kg
Extension	metre	m
Height	metre	m
Force	newton	N
Temperature	degrees Celsius	°C
Speed	metres per second	m / s
Spring constant	newtons per metre	N / m
Gravitational field strength	newtons per kilogram	N / kg
Specific heat capacity	joules per kilogram per degree Celsius	J / kg°C

Equations

Kinetic energy = $\frac{1}{2} \times \text{mass} \times \text{speed}^2$ $E_k = \frac{1}{2} \times m \times v^2$

Elastic potential energy = $\frac{1}{2} \times \text{spring constant} \times \text{extension}^2$
 $E_e = \frac{1}{2} \times k \times e^2$

Gravitational potential energy = mass x gravitational field strength x height
 $E_p = m \times g \times h$

Work = force x distance moved in the direction of the force
 $W = F \times s$

$Power = \frac{Energy\ transferred}{Time}$ $P = \frac{E}{t}$ OR $Power = \frac{Work\ done}{Time}$
 $P = \frac{W}{t}$

$Efficiency = \frac{Useful\ output}{Total\ input}$

<p>Incarnation Incarnation - the belief that Jesus was God in human form (becoming flesh, taking a human form) Jesus was fully God and fully human, which helps explain his miracles and resurrection. His words and teachings have authority because they are the word of God. Christians believe that Jesus is the Messiah (saviour)</p> <p>Key quotation -> “The Word became flesh and made his dwelling among us.” John 1:14 NIV</p>	<p>Crucifixion Crucifixion - Roman method of execution by which criminals were fixed to a cross •Jesus was accused of blasphemy (proclaiming to be God) and was crucified on Good Friday •Although he was fully God he still felt pain as he was also fully human •Christians believe God understands suffering as Jesus suffered and therefore accept suffering as a part of life •Jesus’ death on the cross washed away humanities sins Key quotation -> ‘Father, into your hands I commit my spirit.’ Luke 23:46 NIV</p>	<p>Resurrection and ascension Resurrection - rising from the dead. Jesus rising from the dead on Easter Sunday Ascension - the event, 40 days after Jesus’ resurrection, when Jesus returned to God, the Father in heaven Christianity is based on the belief that Jesus died and resurrected Resurrection is important as it teaches Christians not to fear death and that their sins will be forgiven if they follow God’s laws. Ascension is important as it shows Jesus is with God in heaven. Key quotation -> ‘He is risen!’</p>
<p>Resurrection and life after death Christians believe that because Jesus resurrected they will too. There are different Christian beliefs about resurrection: some believe a person’s soul is resurrected straight after death, others believe it happens at the end of time when Jesus returns to play the role of judge.</p> <p>How does the belief in resurrection impact Christians? •Means life after death is real •Gives them confidence in the face of death •Inspires them to live a good life and follow Gods laws Key quotation -> “So it will be the resurrection of the dead.”</p>	<p>The afterlife and judgement Day of Judgement - a time when the world will end and every soul will be judged Christians believe Jesus plays the role of judge as he has lived life as a human and set the path for Christians to follow They will be judged based on their behaviour and actions as shown in the Parable of the Sheep and Goats</p> <p>Key quotation -> “I am the way and the truth and the life. No one comes to the Father except through me” “For I was hungry and you gave me something to eat...”</p>	<p>Heaven and hell Heaven - a state of eternal happiness (with God) Hell - place of eternal suffering (separated from God for eternity) Purgatory - intermediate state where the soul is cleansed (Catholic belief) Christians believe if they have lived a good life and had faith in God they will be rewarded with heaven and if they have lived a bad life they will be punished with hell. Some believe that heaven and hell are physical places, whilst others believe they are spiritual places.</p>
<p>The role of Christ in salvation Atonement - restoring the relationship between God and humans through the life, death and resurrection of Jesus •Jesus’ crucifixion made up for the original sin of Adam and Eve •The death of Jesus restored the broken relationship between God and humans which allowed for salvation to be achieved •Christians can now be forgiven for their sins and go to heaven •Jesus atoned for the sins of humanity Key quotation -> ‘For the wages of sin is death, but the gift of God is eter5al life in Christ Jesus our Lord’ Romans 6:23 NIV</p>	<p>Sin and salvation Sin - any thought or action that separates humans from God Original sin - everyone is built with the urge to sin/Adam and Eve brought sin into the world Salvation - saving the soul from sin, made possible by Jesus Grace - God’s love which humans do not have to earn</p> <p>Salvation through good works -> can be achieved by doing good and following God’s laws: “Faith... without action is dead’ Salvation through grace -> salvation is given by God to show his love, does not have to be earnt ‘For it is by grace you have been saved”</p>	

Opiniones		
Me encanta(n)	I love	
Me chifla(n)	I really love	
Me flipa(n)	I really love	
Me mola(n)	I really love	
Me gustan(n)	I like	
No me gusta(n) (nada)	I don't like (at all)	
No aguanto	I can't stand	
Odio	I hate	
Detesto	I hate	

Verbos importantes		
Soy	I am	
Es	He / she / it is	
Somos	We are	
Son	They are	
Hago	I do	
Hace	He / she / it does	
Hacemos	We do	
Hacen	They do	

Mi semana		
Veo la televisión	I watch TV	
Saco fotos	I take photos	
Toco la guitarra	I play the guitar	
Toco el teclado	I play the keyboard	
Leo libros	I read books	
Bailo	I dance	
Monto en bici	I ride a bike	
Cocino una paella	I cook a paella	

¿Cuándo?		
Siempre	Always	
Nunca	Never	
Todos los días	Every day	
A menudo	Often	
De vez en cuando	From time to time	
Normalmente	Normally	
Los viernes	On Fridays	
Los sábados	On Saturdays	
Los domingos	On Sundays	

Al cine		
Las comedias	Comedies	
las películas de acción	action films	
las películas de animación	animated films	
las películas de aventuras	adventure films	
las películas de ciencia ficción	science-fiction films	
las películas de fantasía	fantasy films	
las películas de superhéroes	superhero films	
las películas de terror	horror films	

The near future:		
It is the equivalent of 'I am going to ...' in English.		
Form of 'ir' +	a	+ infinitive
e.g. Voy	+ a	+ jugar

Common verbs		
voy a ver	I am going to watch	
voy a comer	I am going to eat	
voy a beber	I am going to drink	
va a ser	It is going to be	

La televisión		
Mi programa favorito es...	My favourite programme is...	
un concurso	a game/quiz show	
un programa de deportes	a sports programme	
un reality	a reality show	
un documental	a documentary	
una telenovela	a soap	
una comedia	a comedy	
una serie policiaca	a crime series	
las noticias	the news	

Los adjetivos		
divertido/a	fun	
informativo/a	informative	
aburrido/a	boring	
emocionante	exciting	
más interesante que	more interesting than	
menos interesante que	less interesting than	

Mi móvil		
saco fotos	I take photos	
hablo por skype	I talk on Skype	
mando mensajes	I read messages	
juego	I play	
descargo aplicaciones	I download apps	
chateo con mis amigos	I chat with my friends	
comparto mis vídeos favoritos	I download my favourite videos	
veo vídeos o películas	I watch videos or films	



Describing a photo		
En la foto	In the photo	
Hay	There is/are	
Puedo ver	I can see	
A la izquierda	On the left	
A la derecha	On the right	
En el centro	In the centre	

Mi cumpleaños		
Celebré mi cumpleaños con mi familia / mis amigos.	I celebrated my birthday with my family / my friends.	
Invité a mis amigos a pasar la noche en mi casa.	I invited my friends to sleep over at my house.	
Bebí / Bebimos refrescos.	I drank / We drank soft drinks.	
Comí / Comimos tarta de cumpleaños.	I ate / We ate birthday cake.	
Recibí muchos regalos.	I received lots of presents.	
Fue alucinante / increíble.	It was amazing / incredible.	

Mi rutina diaria		
Me despierto	I wake up	
Me levanto	I get up	
Me ducho	I have a shower	
Desayuno	I have breakfast	
Me afeito	I shave	
Me visto	I get dressed	
Me lavo los dientes	I brush my teeth	
Me acuesto	I go to bed	

Verb endings

You will need to keep revising the present tense and preterite (past) tense endings as these are very important!

-ar verb endings present			
Take off the –ar and add the following endings:			
-o		-amos	
-as		-áis	
-a		-an	

-er verb endings present			
Take off the –er and add the following endings:			
-o		-emos	
-es		-éis	
-e		-en	

-ir verb endings present			
Take off the –ir and add the following endings:			
-o		-imos	
-es		-ís	
-e		-en	

Present tense ir (to go)		
voy	I am going / go	
vas	You are (s) going / go	
va	He/she is going / goes	
vamos	We are going / go	
vais	You are (pl) going / go	
van	They are going / go	

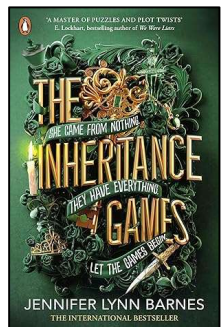
-ar verb endings preterite			
é		amos	
aste		asteis	
ó		aron	

-er / ir verb endings preterite			
í		imos	
iste		isteis	
ió		ieron	

Common irregular verbs (preterite)		
jugué	I played	
fui	I went	
fue	it was	

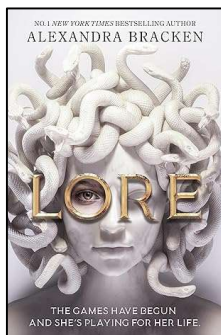
Common irregular verbs (present)		
hago	I do	
tengo	I have	
soy	I am	
estoy	I am	
juego	I play	

Me duele todo		
Me duele(n)...	...hurts/hurt	
La espalda	The back	
La mano	The hand	
La boca	The mouth	
La cabeza	The head	
La pierna	The leg	
El estómago	The stomach	
El pie	The foot	
El brazo	The arm	
Los ojos	The eyes	
Los dientes	The teeth	



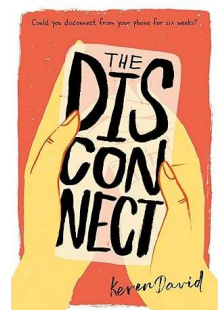
The Inheritance Games by Jennifer Lynn Barnes

A BILLION-DOLLAR FORTUNE TO DIE FOR. An eccentric billionaire dies, leaving Avery almost his entire fortune. And no one, least of all Avery, knows why. A DEADLY GAME. Now she must move into the mansion she's inherited. It's filled with secrets and codes, and the old man's surviving relatives - a family hell-bent on discovering why Avery got 'their' money.



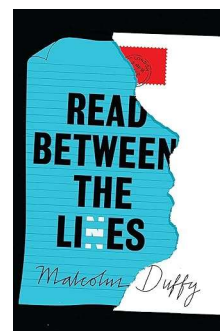
Lore by Alexandra Bracken

A lifetime ago, Lore Perseous left behind the brutal, opulent world of the Agon families - ancient Greek bloodlines that participate in a merciless game every seven years. A game that is about to begin again.



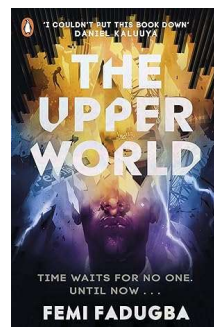
The Disconnect by Keren David

Could you disconnect from your phone for six weeks? An eccentric entrepreneur has challenged Esther's year group to do just that, and the winners will walk away with 1000. For Esther, whose dad, sister and baby nephew live thousands of miles away in New York, the prize might be her only chance to afford flights for a visit.



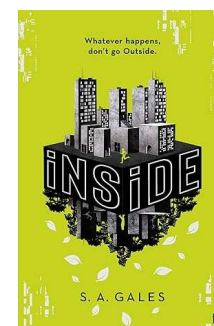
Read Between the Lines by Malcolm Duffy

Two very different boys, one new family, a shared struggle and a big secret. Tommy is talented, cool, a young offender, and dyslexic. Ryan is smart, uncool, well-behaved, and dyslexic. The two develop an unlikely friendship. As Ryan helps Tommy to read, a secret is revealed that will change their lives forever.



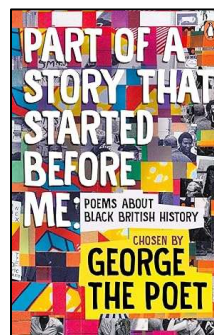
The Upper World by Femi Fadugba

2020: Close to getting expelled and caught up in a deadly feud, the tensions surrounding Esso seem to be leading to a single moment that could shatter his future. 2035: Stripped of everything, football prodigy Rhia has just one thing left on her mind - figuring out how to avert a bullet that was fired fifteen years in the past. An epic, game-changing thriller set outside of time.



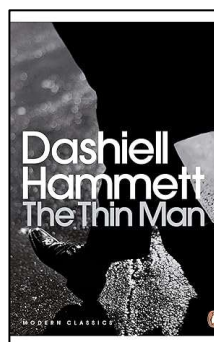
INSIDE by S.A. Gale

Naya has spent her whole life training in an indoor world, but when her mother asks her to take on a dangerous assignment to the Outside, she accepts. Naya knew the risks in leaving the safety of her indoor home, that Outside would be quite so . . . wonderful. What if everything she thought she knew was wrong? How can she complete her mission when she can no longer tell truths from lies?



Part of the Story by George the Poet

Spoken word artist George the Poet brings together an incredible roster of Black British poets in this important and exciting new anthology, exploring people, moments and events from Black British history.



The Thin Man by Dashiell Hammett

Ex-ace detective Nick Charles attracts trouble like a magnet. He thinks his sleuthing days are over, but when Julia Wolf, a former acquaintance, is found dead, her body riddled with bullets, Nick can't resist making a few enquiries.





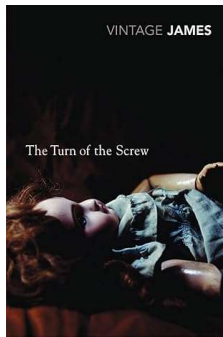
Stone by Finbar Hawkins

When Sam, grieving the death of his father, finds a silver-flecked stone, ice-cold to the touch, strange and eerie things begin to happen. Myth, legend, magic and witchcraft mingle in this gripping fantasy adventure



Across the Nightingale Floor by Lian Hearn

Sixteen-year-old Otori Takeo's family has been murdered by the warlord of the Tohan clan, Lord Iida Sadma. Seeking revenge Otori must navigate the hidden dangers within Iida's, including his famous nightingale floor.



The Turn of the Screw by Henry James

A young governess is left in sole charge of two charming orphans. As she begins to see and hear strange things, she grows increasingly uneasy, and is swiftly drawn into a frightening battle against unspeakable evil. Forced to take action, the governess will soon discover terrible consequence



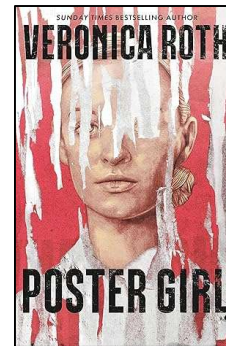
Splinters of Sunshine by Patrice Lawrence

Spey's friend Dee has disappeared off-grid. He has an idea of where she might be, but is he willing to accept help from his estranged father to track her down?



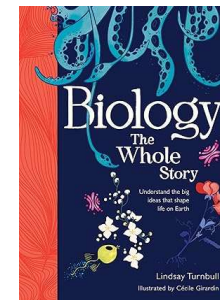
The Awesome Power of Sleep by Nicola Morgan

Just like adults, teenagers are sleeping less now than ever before, yet sleep is crucial to our health and well-being. Tackling the essential subject by asking why we desperately need a good night's sleep, what a lack of sleep does to your brains, and explaining how to have the best sleep possible.



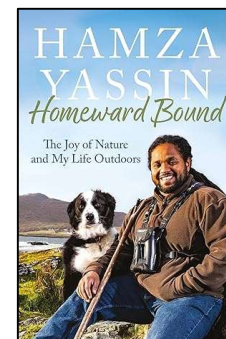
Poster Girl by Veronica Roth

A haunting dystopian mystery. Sonya, former poster girl for the Delegation, has been imprisoned for ten years when an old enemy comes to her with a deal: find a missing girl who was stolen from her parents by the old regime, and earn her freedom. The path Sonya takes to find the child will lead her deeper into the past - and her family's dark secrets...



Biology the Whole Story by Lindsay Turnbull

From the origins of life to the structure of modern ecosystems, this illustrated and full-colour book follows the story of life on Earth, stopping along the way to relate how key developments have influenced events in history.



Homeward Bound by Hamza Yassin

Join TV star Hamza Yassin as he travels around the British Isles to meet the fascinating wildlife at home to our shores.



Timetable

[illegible]