Year 10
Learning Cycle 2

Student Name:_____

Contents

Home Learning timetable - when I am going to complete my home learning

	Mon A	Tue A	Wed A	Thu A	Fri A
Core Activity	1 hour of SPARX Maths XP and target practice				
Subject 1	English	Maths	English	Maths	Science
Subject 2	Option A	Science	Option D	Option B	Option C
	Mon B	**Tue B**	**Wed B**	**Thu B**	**Fri B**
Core Activity	1 hour of SPARX Maths XP and target practice				
Subject 1	English	Maths	English	Maths	Science
Subject 2	Option A	Science	Option D	Option B	Option C

How to Use your Learning Cycle Knowledge Organiser

Poltair School believe that the Learning Cycle Knowledge Organiser should be used daily for classwork and home learning. The Learning Cycle Knowledge Organiser will inform students and parents of topics that are being covered in class during each learning cycle, enabling all students to extend their learning outside of the classroom.

Students should be using their Learning Cycle Knowledge Organiser as a revision guide for assessments and using their SORT strategies to revise for each subject prior to assessments.

What are the SORT strategies?

Select	Organise	Recall	Test
Select your revision materials by topic/subtopic. Traffic light your PLC sheets to identify areas of weakness or gaps (Red/Amber) that need to be prioritised	Organise and condense any class notes, revision guides and revision	Use active recall and spaced repetition to memorise your knowledge organisers until you can recall the information e.g.. Look, cover, write or self-testing	Use low stakes online tests/quizzes and answer high stakes past paper/sample questions to check and apply knowledge and understanding
Strategies			
• How to use your PLC • How to schedule your home learning and stick to it! • How to select the correct knowledge to study	• Cornell Notes • Flash cards • Mind mapping • Revision clocks • Dual coding • Summary	• Look cover & test • Leitner system • Blurt it • Transform it	• Low stakes • Self-quizzing • Quiz each other • Online quizzes • High stakes • Exam style questions

How to use SORT

Step 1: Select	Step 2: Organise	Step 3: Recall	Step 4: Test
When you revise for a specific topic use your knowledge organiser, revision guide, website etc to select the key knowledge you need to learn. a. Use the daily planner on page 10 to identify all the times when you will complete your home learning and when you will complete independent revision b. RAG each of the PLCs so you identify your RED topics – the ones that you are unsure of or you do not fully understand c. Write your RED topics into your daily planner for when you will revise that subject	Organise the knowledge that you have selected using a range of strategies: • Flashcards • Mindmaps • Cornell Notes • Revision Clocks • Summary For more details go to the SORT webpage: https://www.poltairschool.co.uk/sort	Once you have summarized the knowledge, you need to actively memorise it. This is the most important part of the revision process! You could use any of the following strategies to help: • Lietner System • Blurt It • Look, say, cover, write, test	The last step in revision is to be confident that you can recall and retrieve the knowledge. To do this you need to test yourself. Quick and simple ways are to ask someone else to quiz you on the knowledge or to complete an online quiz. You can also answer past exam questions. If you can not confidently recall the knowledge you will need to repeat step 3.

At Poltair we SORT it!

ATTENDANCE FOCUS

POLTAIR

ATTENDANCE FOCUS

POLTAIR

Attendance Reflection Sheet	
What is your current attendance?	
How many sessions have you missed of school?	
How many 'I' coded sessions have you had?	
How many 'M' coded sessions have you had?	
How many 'L' coded sessions have you had?	
How many 'U' coded sessions have you had?	
How many 'O' coded sessions have you had?	
How many days does this equate to so far this year?	
If this attendance continued how many days off would you have this year?	

To improve my attendance, I commit to the following:	
1.	
2.	
3.	
What attendance do you want to end this term with?	
What is your end of year attendance target?	
What is our minimum expected attendance to be rewarded?	

Possible strategies to REACH MY Attendance Goals

- I will make attending school every day a priority.
- I will keep track of my attendance and absences.
- I will set my alarm clock for _____a.m.
- I will attend school everyday unless I am truly sick.
- If I am absent, I will contact my teachers to find out what I missed.
- I will set up medical and dental appointments for weekdays after school. If I must make a medical appointment during the school day, I will try to attend school for most of the day.
- When I am struggling with a challenge that is keeping me from school I will confide in an adult at school and seek help.

Revision Planner

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Time	Saturday	Sunday
8.30am - 4pm						8.30am - 4pm		
4pm - 5pm						4pm - 5pm		
5pm - 6pm						5pm - 6pm		
6pm - 7pm						6pm - 7pm		
7pm - 8pm						7pm - 8pm		
8pm - 9pm						8pm - 9pm		

Revise 50

REVISE FOR 50

Record every 15 minutes that you revise. You are aiming to complete a minimum of 50 hours ahead of your PPEs. This can include time spent in planned revision sessions or independent study.

#revise50

1	11	21	31	41
2	12	22	32	42
3	13	23	33	43
4	14	24	34	44
5	15	25	35	45
6	16	26	36	46
7	17	27	37	47
8	18	28	38	48
9	19	29	39	49
10	20	30	40	50

Personal Learning Checklists

English Language

Language Paper 1	S	O	R	T
Planning an extended descriptive or narrative piece of writing				
Using a range of sophisticated vocabulary precisely in my creative writing				
Using a range of language methods in my creative writing				
Using a range of punctuation accurately in my creative writing				
Using a range of sentence structures and starters in my creative writing				
Proof-reading and editing my creative writing				

Language Paper 2	S	O	R	T
Question 1: focus, timings and how to answer the question				
Question 2: focus, timings and how to answer the question				
Question 3: focus, timings and how to answer the question				
Question 4: focus, timings and how to answer the question				
Understanding information and ideas in a non-fiction text (Q1)				
Making inferences about relevant quotations from two non- fiction texts (Q2)				
Analysing language methods (Q3)				
Identifying writers' viewpoints in two non-fiction texts (Q4)				
Identifying and analysing how writers present their viewpoints – analysing the methods they choose (Q4)				
Planning an extended piece of opinion writing (Q5 / Section B)				
Using a range of sophisticated vocabulary precisely in my opinion writing. (Q5 / Section B)				
Appealing to a specific audience in my opinion writing (Q5 / Section B)				
Using features of form thoughtfully (letter, article, speech, blog, essay, leaflet) (Q5 / Section B)				
Using a range of persuasive methods in my opinion writing. (Q5 / Section B)				
Using a range of punctuation accurately in my opinion writing. (Q5 / Section B)				
Using a range of sentence structures and starters in my opinion writing. (Q5 / Section B)				
Proof-reading and editing my opinion writing. (Q5 / Section B)				

English Literature

Literature Paper 2, Section A (An Inspector Calls)	S	O	R	T
Recalling significant moments in the plot				
Understanding characters and how they develop throughout the play				
Understanding key themes (responsibility, inequality, gender, greed, compassion, power and status, guilt, class politics)				
Identifying and analysing language methods				
Identifying and analysing structure				
Identifying and analysing features of the play form				
Recalling key quotations for all characters and themes				
Understanding how Priestley's beliefs and motivations influence his writing				
Understanding Priestley's intentions and messages				
Recalling key information about the Edwardian context				
Recalling key information about the Post-war context (1945 onwards)				
Planning thoughtfully sequenced responses to exam questions				
Writing thesis introductions				
Developed what, how, why paragraphs				
Using a range of references (including quotations) to support ideas				
Using appropriate connectives				
Developing analysis with relevant contextual ideas				
Using a range of sophisticated vocabulary to enhance analysis				

Personal Learning Checklists

English Literature

Literature Paper 2, Section B (Poetry Anthology)	S	O	R	T
Remains by Simon Armitage:				
Key ideas and meanings				
Context and purpose				
Language				
Structure and form				
Key quotations				
The Charge of the Light Brigade by Alfred Lord Tennyson:				
Key ideas and meanings				
Context and purpose				
Language				
Structure and form				
Key quotations				
Bayonet Charge by Ted Hughes:				
Key ideas and meanings				
Context and purpose				
Language				
Structure and form				
Key quotations				
War Photographer by Carol Ann Duffy:				
Key ideas and meanings				
Context and purpose				
Language				
Structure and form				
Key quotations				

Literature Paper 2, Section B (Poetry Anthology)	S	O	R	T
Poppies by Jane Weir:				
Key ideas and meanings				
Context and purpose				
Language				
Structure and form				
Key quotations				
Kamikaze by Beatrice Garland:				
Key ideas and meanings				
Context and purpose				
Language				
Structure and form				
Key quotations				
Exposure by Wilfred Owen:				
Key ideas and meanings				
Context and purpose				
Language				
Structure and form				
Key quotations				
Extract from The Prelude by William Wordsworth:				
Key ideas and meanings				
Context and purpose				
Language				
Structure and form				
Key quotations				

Literature Paper 2, Section B (Poetry Anthology)	S	O	R	T
Storm on the Island by Seamus Heaney:				
Key ideas and meanings				
Context and purpose				
Language				
Structure and form				
Key quotations				
Responding to the Exam Question:				
Choosing an appropriate comparison poem.				
Planning my response effectively				
Writing a thesis introduction				
Using quotations and references to support my ideas				
Identifying and analysing language methods				
Identifying and structure methods and features of form				
Making thoughtful comparisons between poems				
Using appropriate connectives				
Developing analysis with relevant contextual ideas				

Personal Learning Checklists

Maths

Key Ideas	S	O	R	T
I can calculate with pressure				
I can calculate with density				
I can calculate with speed				
I can calculate using real-life graphs				
I can draw and interpret distance-time graphs				
I can expand single and double brackets				
I can expand triple brackets (Higher only)				
I can factorise single and double brackets				
I can rearrange formulae using function machines				
I can draw quadratic graphs using a table of values				
I can identify roots, turning points and y-intercept of a quadratic graph				
I can recognize and sketch non-linear graphs				
I can use and recognize the correct circle vocabulary				
I can find the area and circumference of circles, semi-circles and fractions of circles, leaving my answer in exact form or in terms of pi				
I can use Pythagoras' theorem to find missing sides in right-angled triangles				

Maths (higher only)

Key Ideas	S	O	R	T
I can calculate with pressure				
I can calculate with density				
I can calculate with speed				
I can calculate using real-life graphs				
I can draw and interpret distance-time graphs				
I can draw and interpret velocity-time graphs				
I can expand single and double brackets				
I can expand triple brackets				
I can factorise single and double brackets				
I can factorise using the difference of two squares and when coefficient of a>1				
I can draw quadratic graphs using a table of values				
I can identify roots, turning points and y-intercept of a quadratic graph				
I can recognize and sketch non-linear graphs				
I can use the quadratic formula				
I can set up and solve quadratics from worded problems				
I know all of the circle theorems				
I can find missing angles using circle theorems				
I can form proofs with circle theorems				
I can use SOHCAHTOA to find side lengths of angles, and can apply to problem solving				
I can use surds in Pythagoras problems				

Personal Learning Checklists

Science - Paper 2 Biology

Key Ideas	S	O	R	T
Describe what biodiversity is, why it is important, and how human activities affect it				
Describe the impact of human population growth and increased living standards on resource use and waste production				
Explain how pollution can occur, and the impacts of pollution				
Describe how humans reduce the amount of land available for other animals and plants				
Explain the consequences of peat bog destruction				
Describe what deforestation is and why it has occurred in tropical areas				
Explain the consequences of deforestation				
Describe how the composition of the atmosphere is changing, and the impact of this on global warming				
Describe some biological consequences of global warming				
Describe both positive and negative human interactions in an ecosystem and explain their impact on biodiversity				
Describe programmes that aim to reduce the negative effects of humans on ecosystems and biodiversity				

Science - Paper 2 Biology

Key Ideas	S	O	R	T
Bio ONLY: Describe the different trophic levels and use numbers and names to represent them				
Bio ONLY: Describe what decomposers are and what they do				
Bio ONLY: Construct pyramids of biomass accurately from data and explain what they represent				
Bio ONLY: State how much energy producers absorb from the Sun and how much biomass is transferred				
Bio ONLY: Explain how biomass is lost between trophic levels, including the consequences of this and calculate efficiency between trophic levels				
Bio ONLY: Explain the term 'food security' and describe biological factors that threaten it				

Science - Paper 1 Chemistry

Key Ideas	S	O	R	T
State that mass is conserved and explain why, including describing balanced equations in terms of conservation of mass				
Explain the use of the multipliers in equations in normal script before a formula and in subscript within a formula				
Explain the use of the multipliers in equations in normal script before a formula and in subscript within a formula				
Calculate the relative formula masses of reactants and products to prove that mass is conserved in a balanced chemical equation				
Explain observed changes of mass during chemical reactions in non-enclosed systems using the particle model when given the balanced symbol equation				
Explain why whenever a measurement is made there is always some uncertainty about the result obtained				

Personal Learning Checklists

Science - Paper 1 Chemistry

Key Ideas	S	O	R	T
HT ONLY: Use the relative formula mass of a substance to calculate the number of moles in a given mass of the substance				
HT ONLY: Calculate the masses of reactants and products when given a balanced symbol equation				
HT ONLY: Use moles to write a balanced equation when given the masses of reactants and products (inc changing the subject of the equation)				
HT ONLY: Explain the effect of limiting the quantity of a reactant on the amount of products in terms of moles or masses in grams				
Calculate the mass of solute in a given volume of solution of known concentration in terms of mass per given volume of solution				
HT ONLY: Explain how the mass of a solute and the volume of a solution is related to the concentration of the solution				
Chem ONLY: Explain why it is not always possible to obtain the calculated or expected amount of a product				
Chem ONLY: Calculate the theoretical amount of a product and percentage yield of a product using the formula % yield = mass of product made/max theoretical mass of product x 100				
Chem & HT ONLY: Calculate the theoretical mass of a product from a given mass of reactant and the balanced equation for the reaction				
Chem ONLY: Describe atom economy as a measure of the amount of reactants that end up as useful products				

Science Paper 1 Chemistry

Key Ideas	S	O	R	T
State that mass is conserved and explain why, including describing balanced equations in terms of conservation of mass				
Explain the use of the multipliers in equations in normal script before a formula and in subscript within a formula				
Describe what the relative formula mass (Mr) of a compound is and calculate the relative formula mass of a compound, given its formula				
Calculate the relative formula masses of reactants and products to prove that mass is conserved in a balanced chemical equation				
Explain observed changes of mass during chemical reactions in non-enclosed systems using the particle model when given the balanced symbol equation				
Explain why whenever a measurement is made there is always some uncertainty about the result obtained				
HT ONLY: State that chemical amounts are measured in moles (mol) and explain what a mol is with reference to relative formula mass and Avogadro's constant				
HT ONLY: Use the relative formula mass of a substance to calculate the number of moles in a given mass of the substance				

Science - Paper 1 Chemistry

Key Ideas	S	O	R	T
HT ONLY: Calculate the masses of reactants and products when given a balanced symbol equation				
HT ONLY: Use moles to write a balanced equation when given the masses of reactants and products (inc changing the subject of the equation)				
HT ONLY: Explain the effect of limiting the quantity of a reactant on the amount of products in terms of moles or masses in grams				
Calculate the mass of solute in a given volume of solution of known concentration in terms of mass per given volume of solution				
HT ONLY: Explain how the mass of a solute and the volume of a solution is related to the concentration of the solution				
Chem ONLY: Explain why it is not always possible to obtain the calculated or expected amount of a product				
Chem ONLY: Calculate the theoretical amount of a product and percentage yield of a product using the formula % yield = mass of product made/max theoretical mass of product x 100				
Chem & HT ONLY: Calculate the theoretical mass of a product from a given mass of reactant and the balanced equation for the reaction				
Chem ONLY: Describe atom economy as a measure of the amount of reactants that end up as useful products				

Personal Learning Checklists

Science - Paper 1 Chemistry

Key Ideas	S	O	R	T
State that mass is conserved and explain why, including describing balanced equations in terms of conservation of mass				
Describe how metals react with oxygen and state the compound they form, define oxidation and reduction				
Describe the arrangement of metals in the reactivity series, including carbon and hydrogen, and use the reactivity series to predict the outcome of displacement reactions				
Recall and describe the reactions, if any, of potassium, sodium, lithium, calcium, magnesium, zinc, iron and copper with water or dilute acids				
Relate the reactivity of metals to its tendency to form positive ions and be able to deduce an order of reactivity of metals based on experimental results				
Recall what native metals are and explain how metals can be extracted from the compounds in which they are found in nature by reduction with carbon				
Evaluate specific metal extraction processes when given appropriate information and identify which species are oxidised or reduced				
HT ONLY: Describe oxidation and reduction in terms of loss and gain of electrons				
HT ONLY: Write ionic equations for displacement reactions, and identify which species are oxidised and reduced from a symbol or half equation				

Science - Paper 1 Chemistry

Key Ideas	S	O	R	T
HT ONLY: Explain in terms of gain or loss of electrons that the reactions between acids and some metals are redox reactions, and identify which species are oxidised and which are reduced (Mg, Zn, Fe + HCl & H_2SO_4)				
Explain that acids can be neutralised by alkalis, bases and metal carbonates and list the products of each of these reactions				
Predict the salt produced in a neutralisation reaction based on the acid used and the positive ions in the base, alkali or carbonate and use the formulae of common ions to deduce the formulae of the salt				
Describe how soluble salts can be made from acids and how pure, dry samples of salts can be obtained				
Required practical 1: preparation of a pure, dry sample of a soluble salt from an insoluble oxide or carbonate using a Bunsen burner to heat dilute acid and a water bath or electric heater to evaporate the solution				
Define the terms acid and alkali in terms of production of hydrogen ions or hydroxide ions (in solution), define the term base				
Describe the use of universal indicator to measure the approximate pH of a solution and use the pH scale to identify acidic or alkaline solutions				

Science - Paper 1 Chemistry

Key Ideas	S	O	R	T
Describe how energy is transferred to or from the surroundings during a chemical reaction				
Explain exothermic and endothermic reactions on the basis of the temperature change of the surroundings and give examples of everyday uses				
Required practical 4: investigate the variables that affect temperature changes in reacting solutions				
Describe what the collision theory is and define the term activation energy				
Interpret and draw reaction profiles of exothermic and endothermic reactions, inc identifying the relative energies of reactants and products, activation energy and overall energy change				
HT ONLY: Explain the energy changes in breaking and making bonds and calculate the overall energy change using bond energies				
Chem ONLY: Describe what a simple cell and a battery is and how they produce electricity				
Chem ONLY: Describe why alkaline batteries are non-rechargeable, state why some cells are rechargeable and evaluate the use of cells				
Chem ONLY: Describe fuel cells and compare fuel cells to rechargeable cells and batteries				
Chem ONLY: Describe the overall reaction in a hydrogen fuel cell				
Chem & HT ONLY: Write half equations for the electrode reactions in a hydrogen fuel cell				

Personal Learning Checklists

Science - Paper 1 Physics

Key Ideas	S	O	R	T
Chem & HT ONLY: Write half equations for the electrode reactions in a hydrogen fuel cell				
Recognise/draw simple diagrams to model the difference between solids, liquids and gases				
Use the particle model to explain the properties of different states of matter and differences in the density of materials				
Required practical 5: use appropriate apparatus to make and record the measurements needed to determine the densities of regular and irregular solid objects and liquids				
Recall and describe the names of the processes by which substances change state				
Use the particle model to explain why a change of state is reversible and affects the properties of a substance, but not its mass				
State that the internal energy of a system is stored in the atoms and molecules that make up the system				
Explain that internal energy is the total kinetic energy and potential energy of all the particles in a system				
alculate the change in thermal energy by applying but not recalling the equation [ΔE =m c Δθ]				
Calculate the specific latent heat of fusion/ vaporisation by applying, but not recalling, the equation: [E = mL]				

Science Paper 1 Physics

Key Ideas	S	O	R	T
Interpret and draw heating and cooling graphs that include changes of state				
Distinguish between specific heat capacity and specific latent heat				
Explain why the molecules of a gas are in constant random motion and that the higher the temperature of a gas, the greater the particles' average kinetic energy				
Explain, with reference to the particle model, the effect of changing the temperature of a gas held at constant volume on its pressure				
Calculate the change in the pressure of a gas or the volume of a gas (a fixed mass held at constant temperature) when either the pressure or volume is increased or decreased				
PHY ONLY: Explain, with reference to the particle model, how increasing the volume in which a gas is contained can lead to a decrease in pressure when the temperature is constant				
PHY ONLY: Calculate the pressure for a fixed mass of gas held at a constant temperature by applying, but not recalling, the equation: [pV = constant]				
PHY & HT ONLY: Explain how work done on an enclosed gas can lead to an increase in the temperature of the gas, as in a bicycle pump				

Science - Paper 1 Physics

Key Ideas	S	O	R	T
Describe the basic structure of an atom and how the distance of the charged particles vary with the absorption or emission of electromagnetic radiation				
Define electrons, neutrons, protons, isotopes and ions				
Relate differences between isotopes to differences in conventional representations of their identities, charges and masses				
Describe how the atomic model has changed over time due to new experimental evidence, inc discovery of the atom and scattering experiments (inc the work of James Chadwick)				
Describe and apply the idea that the activity of a radioactive source is the rate at which its unstable nuclei decay, measured in Becquerel (Bq) by a Geiger-Muller tube				
Describe the penetration through materials, the range in air and the ionising power for alpha particles, beta particles and gamma rays				
Apply knowledge of the uses of radiation to evaluate the best sources of radiation to use in a given situation				
Use the names and symbols of common nuclei and particles to complete balanced nuclear equations, by balancing the atomic numbers and mass numbers				
Use the names and symbols of common nuclei and particles to complete balanced nuclear equations, by balancing the atomic numbers and mass numbers				

Personal Learning Checklists

Science - Paper 1 Physics

Key Ideas	S	O	R	T
HT ONLY: Determine the half-life of a radioactive isotope from given information and calculate the net decline, expressed as a ratio, in a radioactive emission after a given number of half-lives				
Compare the hazards associated with contamination and irradiation and outline suitable precautions taken to protect against any hazard the radioactive sources may present				
Discuss the importance of publishing the findings of studies into the effects of radiation on humans and sharing findings with other scientists so that they can be checked by peer review				
PHY ONLY: State, giving examples, that background radiation is caused by natural and man-made sources and that the level of radiation may be affected by occupation and/or location				
PHY ONLY: Explain the relationship between the instability and half-life of radioactive isotopes and why the hazards associated with radioactive material differ according to the half-life involved				
PHY ONLY: Explain the relationship between the instability and half-life of radioactive isotopes and why the hazards associated with radioactive material differ according to the half-life involved				
PHY ONLY: Evaluate the perceived risks of using nuclear radiation in relation to given data and consequences				
PHY ONLY: Describe nuclear fission				
PHY ONLY: Draw/interpret diagrams representing nuclear fission and how a chain reaction may occur				

Art

Key Ideas	S	O	R	T
Explain and use tone, texture, line, shape, scale and composition to create an interesting observational drawing				
Experiment with a range of materials				
Refine work through annotation				
Record ideas and observations				
Develop ideas through investigation				
Present a personal and meaningful response				
Explain and discuss how decisions have been made through annotation				

Computer Science

Key Ideas	S	O	R	T
I can explain the purpose of a computer network				
I can define the differences between WAN and LAN				
I can identify different network topologies				
I can recall network protocols				
I can explain the effects of different network vulnerabilities.				
I can describe different methods for preventing network threats				
I can explain the different Network protocols and layers				
I can explain computational thinking				
I can explain the roles of an operating system.				

Personal Learning Checklists

Creative Media

Key Ideas	S	O	R	T
I understand the term genre and sub-genre and can give examples of each				
I understand that media products are developed for a specific audience and can give examples relating to media products				
I can explain the term demographics in relation to audience				
I can explain the term psychometrics in terms of audience				
I understand how to document my research and why it is important				
I can define a stereotype in media representation and give examples				

Design Technology

Key Ideas	S	O	R	T
I can interpret details on engineering drawings to understand the features required on the components that I make.				
I can correctly use drawing conventions to produce engineering drawings for the components that I design.				
I can recall and select appropriate stock forms when specifying materials that I select to form prototypes.				
I can describe a range of material properties.				
I can used linked reasoning to account for why certain materials are used to make components on the basis of their properties.				

Geography

Key Ideas	S	O	R	T
Define climate change				
Describe the natural causes of climate change				
Describe the human causes of climate change				
Evaluate the human causes of climate change in the UK and wider world				
Name types of adaptation				
Name types of mitigation				
Explain how adaption reduces the causes of climate change				
Explain how mitigation reduces the effects of climate change				
Evaluate strategies to deal with the effects of climate change globally				

Personal Learning Checklists

History

Key Ideas	S	O	R	T
I can state the traditional way of life of the Indigenous People of the Plains				
I can explain why and how there was increased Westward Migration				
I can state the laws encouraging Westward expansion				
I can explain the impact Westward migration had on the Indigenous People of the Plains				
I can state the reasons for the growth of the cattle industry				
I can explain the impact this had on lawlessness and law and order				
I can state government actions towards the Indigenous People of the Plains				
I can explain how government actions led to conflicts with the Indigenous people				
I can state features of Anglo-Saxon life				
I can explain the succession crisis and how this caused problems in England				
I can explain how William of Normandy was able to win the Battle of Hastings				
I can state examples of changes the Normans made in England				
I can explain the ways the Normans consolidated power (including the Harrying of the North/feudal system etc.)				
I can state the features of aristocracy and Norman systems of government and churches				
I can explain how the personality of William I impacted his relationship with his sons				
I can explain the actions and significance of Bishop Odo				
I can weigh up both sides of an argument and make a judgement				
I can fully explain my points using 2-4 specific factual details and explanation phrases				

Hospitality and Catering

Key Ideas	S	O	R	T
I can explain the sources and functions of macronutrients in the diet				
I can explain the sources and functions of micronutrients, fibre and water in the diet				
I can describe how different life stages impact on the amounts of nutrients required				
I can explain the importance of dovetailing when completing a practical				
I understand the importance of presentation to improve the appearance, taste, textures and aroma of a dish				
I can discuss how nutrients are impacted by different cooking methods				
I can consider a wide range of factors that influence menu planning				

Music

Key Ideas	S	O	R	T
I understand and can recognise the concepts, characteristics, key features and influential artists of African Drumming				
I understand and can recognise the concepts, characteristics, key features and influential artists of The Delta Blues				
I understand and can recognise the concepts, characteristics, key features and influential artists of Britpop				
I understand and can recognise the concepts, characteristics, key features and influential artists of Synth Pop				
I understand and can recognise the concepts, characteristics, key features and influential artists of Film Music				
I understand and can recognise the concepts, characteristics, key features and influential artists of Minimalism				
I can accurately perform, compose or produce music from each of these genres that shows off the characteristics				

Personal Learning Checklists

Performing Arts

Key Ideas	S	O	R	T
I can understand the different roles in creating theatre				
I am able to understand the roles for rehearsing and running a theatre production				
I know about Stanislavski and the theories and styles behind his techniques				
I understand the Frankenstein plot as well the characters and motives of each character				
I understand the purpose and creative intention behind the creation of Nick Dear's Frankenstein				
I can explain the techniques, processes and approaches used in the creation of Frankenstein				

PSHE

Key Ideas	S	O	R	T
I can identify methods to keep us safe online				
I can explain the term Online Fraud				
I can give examples of Online Fraud				
I can describe the purpose of Social Media				
I could give advantages and disadvantages of social media use				
I could describe what is meant by the term "community".				

Spanish

Key Ideas	S	O	R	T
I can talk about where I live				
I can use 'deber' + infinitive to talk about what I must do				
I can talk about healthy lifestyles				
I can use 'ir + a' +infinitive to talk about what I **am going** to do				
I can use the conditional tense to talk about ideal and future plans				
I can discuss my personal world, relations and freetime				
I can describe a photo				

English Literature Paper 2 - 'An Inspector Calls' by J.B. Priestley

1. Plot

1a. ACT ONE

1. The Birling family live in a 'fairly large suburban house' and, at rise of curtain, they are 'pleased with themselves'.
2. Birling remarks awkwardly that 'it's a pity Sir George and – er – Lady Croft can't be with us'.
3. Gerland presents Sheila with an engagement ring and she exclaims, 'Oh – it's wonderful!'
4. Birling makes predictions about the future; he says, 'we're in for a time of steadily increasing prosperity'.
5. Birling is unrepentant about his role in the suicide of Eva Smith, remarking that 'it's a free country'.
6. Eric disagrees by saying that 'it isn't if you can't go and work somewhere else'.
7. Eva does manage to find another job because 'Milwards suddenly found themselves short-handed'.
8. Sheila feels deeply guilty about using her influence to get Eva sacked; she says that 'if I could help her now, I would -'.
9. The Inspector reveals that Eva changed her name to Daisy Renton, which prompts Gerald to ask '[startled] what?'
10. Gerald asks Sheila not to tell the Inspector about his relationship with Daisy; he says, 'we can keep it from him'.

1b. ACT TWO

1. Gerald tries to deter Sheila from staying to witness the questions and answers that are 'bound to be unpleasant'.
2. Mrs Birling notes Eric's absence and remarks that he 'seems to be in an excitable silly mood'.
3. Gerald concedes to the Inspector that he met the 'quite different' and 'young and pretty' Daisy in the disreputable Palace Bar.
4. Gerald says that he 'broke it off' with her before he went away for 'several weeks' on business.
5. The Inspector reveals that Daisy kept a diary, in which she wrote that 'she felt there'd never be anything as good again for her'.
6. Obviously upset, Gerald excuses himself and leaves; however, he says, 'I'm coming back'.
7. Mrs Birling claims that she 'did nothing I'm ashamed of or that won't bear investigation'.
8. She refused Eva charity money, stating that it is the father's 'responsibility' to support her.
9. Mrs Birling defiantly says, 'I blame the young man who was the father of the child she was going to have'.
10. When it is implied that Eric is the father, Mrs Birling becomes agitated and says, 'I won't believe it'.

1c. ACT THREE

11. Eric says bitterly to his mother that 'you haven't made it any easier for me'.
12. Eric admits that he was 'a bit squiffy' when he met Eva and 'was in that state when a chap easily turns nasty'.
13. He saw Eva again; he 'liked' her, but 'wasn't in love with her or anything'.
14. Eric tells the Inspector that Eva 'didn't want me to marry her'.
15. Eric admits to taking money from his father; Birling reacts angrily and says that Eric has been 'spoilt'.
16. As the Inspector prepares to leave, he highlights to the Birlings and Gerald that each of them 'helped to kill' Eva.
17. He asks them to remember that 'there are millions and millions and millions of Eva Smiths and John Smiths still left with us'.
18. The Inspector leaves and Birling says that he is 'absolutely ashamed' of Eric; Eric says that he is 'ashamed' of his father 'as well'.
19. Birling believes that he and the rest of the family were 'bluffed'; he later confidently concludes that the Inspector was a 'fake!'
20. The play ends with the telephone ringing 'sharply' and Mr Birling reporting that 'a police inspector is on his way here – to ask some – questions'.

2. Characters

2a. Inspector Goole

- ✓ Priestley's mouthpiece
- ✓ Commanding
- ✓ Persuasive
- ✓ Didactic
- ✓ Social justice and reform
- ✓ Socialist
- ✓ Omnipotent

2b. Mr Arthur Birling

- ✓ Capitalist
- ✓ Arrogant
- ✓ Verbose
- ✓ Stubborn
- ✓ Ignorant
- ✓ Exploitative

2c. Mrs Sybil Birling

- ✓ Judgmental
- ✓ Old money
- ✓ Condescending
- ✓ Traditional, etiquette
- ✓ Ignorant
- ✓ Callous

2d. Sheila Birling

- ✓ Astute
- ✓ Materialistic
- ✓ Emotional
- ✓ Compassionate
- ✓ Transformed
- ✓ Empowered

2e. Eric Birling

- ✓ Irresponsible
- ✓ Spoilt
- ✓ Product of his environment
- ✓ Reckless
- ✓ Immature
- ✓ Transformative

✓ 2f. Gerald Croft

- ✓ Aristocratic
- ✓ Secretive
- ✓ Duplicitous
- ✓ Privileged
- ✓ Evasive
- ✓ Emotional

2g. Eva Smith / Daisy Renton

- ✓ Working class
- ✓ Determined
- ✓ Oppressed and mistreated
- ✓ Vulnerable
- ✓ Allegorical

English Literature Paper 2 - 'An Inspector Calls' by J.B. Priestley

3. Context

3a. J.B. Priestley Priestley was born into a working class family who lived in Bradford, Yorkshire. It was here that he noticed that many people lived in poverty and the city's 'respectable' folk could be smug, even hypocritical. He fought for England in WWI and witnessed the social inequalities present amongst the commanding officers and the lower ranking soldiers. Priestley held a strong socialist political view and was part of a group that set up the socialist Common Wealth Party in 1942. During WWI he delivered his 'Postscripts' radio broadcasts, calling for a better, fairer society after the war was over.

3b. Women in Edwardian and post-war England At the start of the C20th, women had very conventional roles in society. The Edwardian period was a patriarchal one. If married, women usually stayed at home to look after children while their husband worked. If single, they did work which usually involved some form of service. During the world wars, women were required to work, as men were called up to fight. Women were praised for their wartime work but expected to make way for the returning troops; there was an assumption that their temporary roles had been specifically linked to wartime. By 1951 the number of working women had returned almost to the pre-war level and a bar on married women working continued in many jobs.

3c. Edwardian society and social norms There was a big divide between the rich and the poor with unwritten rules maintaining the status quo. The rich often perceived poor people to have no manners or sophistication, and there was a very low level of social mobility (very few working class people would be able to become middle class).

3d. The Great Unrest Between 1911 and 1914, Britain and Ireland were rocked by a series of mass strikes of miners, railway, dock, and tramway workers, as well as those from other industries that went on solidarity strikes.

3e. Post-war Britain Following the end of WWII, the majority of the British people, did not want a return to pre-war Conservative policies, which they blamed for the hardship of the 1930s, and there was a mood for social reform. At the 1945 general election, Winston Churchill was defeated by the Labour Party headed by Clement Attlee. A welfare state (a society in which the government provides services like healthcare, financial help for those who need it) was established in 1948 and the NHS founded.

4. Authorial Intent

J.B. Priestley wrote this didactic play for a number of reasons...

4a - To encourage... his audience to considers its own attitude towards the working and middle classes, entrepreneurs and gender issues.

4b – To expose... the hypocrisy and double standards of certain strands of Edwardian society.

4c – To refute... Capitalist ideologies and highlight the exploitative nature of Capitalism.

4d – To warn... of the terrifying consequences of forsaking social responsibility and neglecting the needs of those who are less fortunate

4e - The text is relevant today as... social inequality, prejudice and injustice still affect many people in modern Britain, as evidenced by the cost-of-living crisis and the rising number of people accessing food banks.

5. Vocabulary

5a = ostentatious (adj) Characterized by pretentious or showy display

5b = condescending (adj) Having or demonstrating an attitude of patronizing superiority

5c = patriarchy (noun) A system of society in which men hold the power and women are largely excluded from it.

5d = privileged (adj) Granted a special right, advantage, or immunity available only to a particular person or group

5e = culpable (adj) Deserving of blame

5f = avarice (noun) Extreme greed

5g = disparage (verb) To speak down to another in an insulting and rude manner

5h = infantile (adj) Acting like or likened to a young child

5i = objectify (verb) To degrade something or someone to the status of a mere object

5j = didactic (adjective) Intended to teach, or to improve morals by teaching

5k = remorseful (adjective) Full of regret for something they have done; sorry for past actions

5l = ignorant (noun) Lacking knowledge or awareness of something.

5m = oppressed (adjective) treated in an unfair or cruel way, preventing someone from having opportunities and freedom

5n = unashamedly (adverb) Openly, without guilt or embarrassment

5o = Socialism (noun) The belief that ways of making money and wealth should be shared more equally in society.

5p = Capitalism (noun) The belief that ways of making money and wealth should in control of individuals and people should be able to control how much profit they earn.

5q = plight (noun) A difficult or unfortunate position; struggle

English Literature Paper 2 - 'An Inspector Calls' by J.B. Priestley

6. Subject Vocabulary

6a = play (noun) In literature, a dramatic work designed to be performed on stage.

6b = allegory A story that can be interpreted to reveal a hidden meaning, typically a moral or political one

6c = morality play (noun phrase) An allegorical drama popular in Europe especially during the C15th and C16th, in which the characters personify moral qualities (such as charity or greed).

6d = act (noun) A section of a play.

6e= stage direction (noun phrase) An instruction in the text of a play how an actor moves or speaker, or the sound effects, props and lighting

6f = prop (noun) An object used on the set of a play.

6g =polemic (noun) a piece of writing expressing a strongly critical attack someone or something.

6h = dramatic irony (noun phrase) A point in a play at which the audience of a play knows something that the characters do not know.

6i = context (noun) The circumstances surrounding writing; social issues, historical events, author's background and beliefs, and how they influence a writer's choices

6j = characterisation (noun) A method used by writers to create and craft characters.

6k = foil (noun) A character who contrasts with another

6l = symbol (noun) A character, idea, image or setting that represents a bigger idea

6m = imagery (noun) The use of language to create vivid pictures in the readers' minds

6n = metaphor (noun) Comparing one thing to another directly – as if one thing is another – to highlight their similarities.

6o = simile (noun) Comparing one thing to another using the words 'like' or 'as', to highlight their similarities.

6p = irony (noun) A situation in which something which was intended to have a particular result has the opposite or a very different result.

7. Themes

7a. Wealth, power and influence

The Birlings are a family of wealth and power, who take pride in their high social position. Mr Birling is a successful businessman, and the family inhabits a nice home with a maid (and likely other servants). The play begins with the family celebrating and feeling generally pleased with themselves and their fortunate circumstance. Throughout the Inspector's investigation, however, it comes out that several of the Birlings have used their power and influence immorally, in disempowering and worsening the position of a girl from a lower class: Mr. Birling used his high professional position to force Eva Smith out of his factory when she led a faction of workers in demanding a raise; Sheila, in a bad temper, used her social status and her family's reputation to have the girl fired from Milward's; Mrs. Birling used her influence in the Women's Charity Organization to deny the girl monetary aid. Both Sheila and Mrs. Birling acted upon petty motivations in injuring the girl; Mr. Birling acted upon selfish, capitalist motivations.

7b. Blame and Responsibility

The question asked throughout the play is: who is responsible for the suicide of Eva Smith? Who is to blame? The arc of the play follows the gradual spreading of responsibility, from Mr. Birling, to Mr. Birling and Sheila, to Mr. Birling and Sheila and Gerald, and so on and so forth. Each of the characters has different opinions about which of them is most responsible for the girl's suicide. Mrs. Birling, most extremely, ends up blaming her own son, by suggesting that the person most responsible is the man that impregnated the girl, before realizing that the person in question is Eric.

In the end, the Inspector universalizes the shared responsibility that the Birlings feel for the girl's death, into a plea for something like Socialism: "We are members of one body. We are responsible for each other. And I tell you that the time will soon come when if men will not learn that lesson, then they will be taught it in fire and blood and anguish." The lesson of the Inspector, and of the play at large, is that our actions have an influence beyond themselves and therefore that we are already responsible for each other so long as we are responsible for ourselves and our own actions.

7c. Class Politics

Mr. Birling describes the politics of the day as revolving around "Capital versus Labor agitations." Mr. Birling is a representative Capitalist, who cares only about his company's profit. He speaks of himself as "a hard-headed, practical man of business," and looks forward to the prospect of being knighted. The girls who lead a worker's strike in his factor, meanwhile, represent the Labor side of the conflict in trying to improve the rights and wages of laborers and the lower classes.

The Inspector speaks the voice of Socialism, of the Labour side of the conflict; he seeks to make the Birlings realise the implicit corruption of Capitalism by emphasizing how easy it was for them to cause pain for the lower class without even realizing at the time the significance of their own actions.

7d. Age

Age is an important theme in An Inspector Calls. Priestley uses it to show how he believed that there was hope in the younger generation's ability to learn and change.

The older characters' opinions and behaviours are stubbornly fixed. Mr Birling refuses to learn and Mrs Birling cannot see the obvious about herself and her children. Eric and Sheila however are younger - they accept their mistakes and offer the chance for a brighter future.

7e. Gender

An Inspector Calls was written after World War Two. As many British men went away to fight during the war, their positions in work had to be filled by women. This helped change existing perceptions. Men had to acknowledge the fact that women were just as capable as them. As a result of this, many women enjoyed a newfound freedom that working and earning money allowed them.

Not all men saw this change in attitude as a good thing and stayed stuck in the past. Priestley explores the impact of these new gender roles through the independence of Eva Smith and the sexist attitudes of Mr. Birling and Alderman Meggarty.

English Literature Paper 2 - 'An Inspector Calls' by J.B. Priestley

8. Key Quotations and Methods

8a. "The lighting should be pink and intimate until the INSPECTOR arrives, and then it should be brighter and harder." Stage directions, contrast – the Inspector will bring about change in the family, altering some of the characters' world view by removing their 'rose-tinted spectacles' and expose their flaws.

8b. "Lower costs and higher prices." Mr Birling contrast highlights Mr Birling's capitalist ideology, increasing his own profit and wealth.

8c. "The Titanic... unsinkable, absolutely unsinkable." Mr Birling Dramatic irony – Mr Birling presented as ignorant, foolish and untrustworthy from the outset.

8d. "As if we were all mixed up together like bees in a hive – community and all that nonsense." Mr Birling Simile and contemptuous tone – derides socialist values, collective responsibility.

8e. "This girl. Eva Smith, was one of them, she'd had a lot to say – far too much – so she had to go." Mr Birling Repeated pronoun 'she' and blunt tone; Mr Birling aware of his power and control as employer. Lack of workers' rights. Gender – females oppressed in patriarchal Edwardian England.

8f. "But these girls aren't cheap labour – they're people." Sheila Transforming attitudes, taking on board socialist ideology.

8g. "You used the power you had, as a daughter of a good customer and also of a man well known in the town, to punish the girl?" Inspector Goole Question highlights Sheila's selfishness and ignorance, but also as a product of her upbringing. Forces her to question her immoral actions. Verb 'punish' – power imbalance.

8h. "I know I'm to blame – and I'm desperately sorry." Sheila Adverb 'desperately', Sheila as emotional and remorseful.

8i. "I don't suppose for a moment that we can understand why the girl committed suicide. Girls of that class." Mrs Birling Condescending tone – creates a divide between her affluent upper-middle class family and the working class.

8j. ""I insisted on Daisy moving into those rooms and I made her take some money." Gerald Verbs suggest Gerald took control of the situation, perhaps taking advantage of a vulnerable girl.

8k. "(massively) Public men, Mr Birling, have responsibilities as well as privileges." Inspector Goole Stage direction highlights importance of this message. Abstract noun 'responsibilities' conveys Priestley's socialist message – compassion and care for those less fortunate.

8l. "You slammed the door in her face." Inspector Goole Metaphor highlights how cruel and uncompromising Mrs Birling's treatment of Eva Smith was.

8m. "" She was here alone, friendless, almost penniless, desperate." Inspector Goole List of emotive adjectives augments Eva's plight.

8n. "I was in that state when a chap easily turns nasty – and I threatened to make a row." Eric Connotations of violence. Affluent male abusing their power.

8o. "One Eva Smith has gone – but there are millions and millions and millions of Eva Smiths and John Smiths still left with us." Inspector Goole Repetition highlights the sheer number of struggling working class people. Eva Smith and John Smith symbols of the poorest and most vulnerable in society.

8p. "We don't live alone. We are members of one body. We are responsible for each other." Inspector Goole Metaphor captures Priestley's socialist message.

8q. "The money's not the important thing. It's what happened to the girl and what we all did to her that matters." Eric Accepts responsibility; distancing himself from capitalist values. Symbol of hope for a more compassionate younger generation.

8r. "(tensely) I want to get out of this. It frightens me the way you talk." Sheila Stage direction and troubled tone, reveals how much Sheila has changed. Divide in the family.

8s. ."(Holds up the ring.) What about this ring?" Gerald Eager to forget the events of the evening; ring symbolic of the relationship and Sheila's newfound independence when she rejects it.

8t. "(The telephone rings sharply)" Stage direction and adverb – jolts the Birlings back to reality. Circular structure – no escape from punishment. Ouspensky's theory of time.

English Literature Paper 2 - Anthology Power and Conflict 'War' Poems

1. Remains by Simon Armitage

1a. Content and Meaning

- The speaker describes shooting a looter dead in Iraq and how it has affected him, even when he returns home.
- Written to coincide with a TV documentary about those returning from war with PTSD.
- Based on Guardsman Tromans, who fought in Iraq in 2003.

1b. Context and Purpose

- "These are poems of survivors – the damaged, exhausted men who return from war in body but never, wholly, in mind." Simon Armitage
- Poem coincided with increased awareness of PTSD amongst the military, and aroused sympathy amongst the public – many of whom were opposed to the war.
- Armitage shows show the reader that mental suffering can persist long after physical conflict is over.

1c. Language

- Title 'Remains' – double meaning - images/ suffering stays after the event; a person's dead body.
- 'Tosses his guts back into his body' - colloquial language suggests solider is desensitised; authentic voice
- 'He's here in my head when I close my eyes / dug in behind enemy lines' – metaphor for a 'war in his head'; the PTSD is entrenched.
- 'His bloody life in my bloody hands" – blood as symbol of guilt

1d. Structure and Form

- Monologue, told in the present tense to convey a flashback (a symptom of PTSD).
- First 4 stanzas are set in Iraq; last 3 are at home, showing the aftermath.
- 'But I blink / and he bursts again' mirrors the unstoppable nature of the memories; conveys his conversational tone and gives it a fast pace, especially when conveying the horror of the killing
- Repetition of 'Probably armed, possibly not' conveys guilt and bitterness.

1e. Key Quotations

- 'Tosses his guts back into his body'
- 'Probably armed, possibly not'
- 'His bloody life in my bloody hands'

2. The Charge of the Light Brigade by Alfred Lord Tennyson

2a. Content and Meaning

- Describes a cavalry charge against Russians who shoot at the lightly- armed British with cannon from three sides of a long valley.
- Of the 600 hundred who started the charge, over half were killed, injured or taken prisoner.

2b. Context and Purpose

- Published six weeks after a disastrous battle against the Russians in the (unpopular) Crimean War
- A celebration of the men's courage and devotion to their country, symbols of the might of the British Empire; as Poet Laureate, he had a responsibility to inspire the nation and portray the war in a positive light (propaganda).

2c. Language

- "Into the valley of Death": this Biblical image portrays war as a supremely powerful, or even spiritual, experience.
- "Jaws of Death" and "mouth of Hell": presents war as an animal that consumes its victims.
- "Honour the Light Brigade/Noble six hundred": imperative and language glorifies the soldiers, even in death. The 'six hundred' become a celebrated and prestigious group.
- "Shot and shell": sibilance creates whooshing sounds of battle.

2d. Structure and Form

- A ballad, a form of poetry to remember historical events.
- 6 stanzas, each representing 100 men who took part.
- Dactylic dimeter (HALF-a league / DUM- de-de) mirrors the sound of horses galloping and increases the poem's pace.
- Repetition of 'the six hundred' at the end of each stanza (epistrophe) emphasises huge loss.

2e. Key Quotations

- 'Half a league, half a league, / Half a league onward.'
- 'Jaws of Death... mouth of Hell'
- 'Honour the Light Brigade, / Noble six hundred!'

3. Bayonet Charge by Ted Hughes

3a. Content and Meaning

- Describes the terrifying experience of 'going over the top': leaving a trench to charge directly at the enemy.
- Steps inside the body and mind of the speaker to show how this act transforms a soldier Hughes dramatises the struggle between a man's thoughts and actions.

3b. Context and Purpose

- Most- likely set in WWI.
- Hughes' father had survived WWI, and so he may have been drawing attention to the hardships of trench warfare.
- He draws a contrast between the idealism of patriotism and the reality of fighting and killing. ("King, honour, human dignity, etcetera")

3c. Language

- 'Patriotic tear... Sweating like molten iron': sense of duty turned into fear/ pain.
- 'Cold clockwork': plosive alliteration - soldier as part of a cold and uncaring machine of war.
- 'Yellow hare': impact of war on nature – the hare is distressed like the soldiers; sometimes seen as an omen of death in folklore.
- 'King, honour, human dignity, etcetera.' list and dismissive tone trivialises reasons for going to war – these are forgotten in the midst of battle.

3d. Structure and Form

- Begins 'in medias res': in the middle of the action, to convey shock and pace.
- Enjambment maintains momentum.
- Time stands still in the second stanza to convey the soldier's bewilderment and reflective thoughts. "His foot hung like statuary in midstride.": the caesura (full stop) jolts him back to reality.
- Shifts between the chaotic imagery of battle with the internal thoughts of the soldier = adds to the confusion.

3e. Key Quotations

- 'Suddenly he awoke and was running.'
- 'King, honour, human dignity, etcetera."
- 'His terror's touchy dynamite.'

English Literature Paper 2 - Anthology Power and Conflict 'War' Poems

4. War Photographer by Carol Ann Duffy

4a. Content and Meaning

- Tells the story of a war photographer developing photos at home in England. As a photo develops he begins to remember and reflect on the horrors of war - painting a contrast to the safety of his dark room and his home.
- He appears to be returning to a warzone at the end of the poem.

4b. Context and Purpose

- Duffy conveys both the brutality of war and the indifference of those who might view the photos in newspapers and magazines: those who live in comfort and are unaffected by war.
- Inspired to write this poem by her friendship with a war photographer, Duffy explores the challenge faced by these people whose job requires them to record terrible events without being able to directly help their subjects.
- The location is ambiguous and therefore universal.

4c. Language

- 'Spools of suffering set out in ordered rows': sibilance, adjective 'ordered' suggesting he is trying to organise and settle his thoughts, impose order on chaos
- 'He has a job to do': like a soldier, the photographer has a sense of duty.
- 'Running children in a nightmare heat': emotive imagery with connotations of hell.
- 'A half-formed ghost': metaphor highlights the death of the man; suggests he is haunted by the memory (PTSD?)
- 'Blood stained into a foreign dust': lasting impact of war.

4d. Structure and Form

- Final line – "he earns a living and they do not care": pronoun 'they' is ambiguous – it could refer to readers or the wider world, sense of frustration.
- Enjambment – reinforces the sense that the world is out of order and confused.
- Rhyme reinforces the idea that he is trying to bring order to a chaotic world – to create an understanding.
- Contrasts: imagery of rural England and nightmare war zones.

4e. Key Quotations

- 'The cries of this man's wife.'
- 'Fields which don't explode beneath the feet of running children in a nightmare heat.'
- 'He earns a living and they do not care.'

5. Poppies by Jane Weir

5a. Content and Meaning

- A modern poem that offers an alternative interpretation of bravery in conflict; it focuses on a soldier's mother who is left behind and must cope with his possible death.
- The narration covers her visit to a war memorial, interspersed with images of the soldier's childhood and his departure for war.

5b. Context and Purpose

- Set around the time of the Iraq and Afghan wars, but the conflict is deliberately ambiguous to give the poem a timeless relevance to all mothers and families.
- There are hints of criticism of war, how soldiers can become intoxicated by the glamour or the military and the grief of loved ones after death.

5c. Language

- Contrasting semantic fields of home and childhood ('cat hairs', 'play at being Eskimos', 'bedroom') with war and injury ('blockade', 'bandaged', 'reinforcements')
- Aural (sound) imagery and metaphor: 'All my words flattened, rolled, turned into felt' shows pain and inability to speak, and 'I listened, hoping to hear your playground voice catching on the wind' shows longing for dead son.
- 'The world overflowing like a treasure chest' – simile suggests excitement and optimism of soldier, irony – son's life might end prematurely.

5d. Structure and Form

- This is an elegy, a poem of mourning.
- Strong sense of form despite the free verse, stream of consciousness.
- Addressing her son directly – poignant.
- Many lines include caesura – she is trying to remain composed, but cannot speak fluently as she is finding her emotions difficult to manage.

5e. Key Quotations

- 'A split second and you were away, intoxicated.'
- 'The world overflowing like a treasure chest'
- 'I listened, hoping to hear your playground voice catching on the wind.'

6. Kamikaze by Beatrice Garland

6a. Content and Meaning

- This poem explores a kamikaze pilot's journey towards battle, his decision to return, and how he is shunned when he returns home.
- As he looks down at the sea, the beauty of nature and memories of childhood make him decide to turn back.

6b. Context and Purpose

- In World War 2, Japanese Kamikaze pilots would fly manned missiles into targets such as ships.
- Cowardice or surrender was a great shame in wartime Japan; to surrender meant shame for you and your family, and rejection by society.

6c. Language

- The Japanese word 'kamikaze' means 'divine wind' or 'heavenly wind'.
- 'Powerful incantations' – incantations
- 'Dark shoals of fish flashing silver': sibilance and visual image links to a Samurai sword – conveys the conflict between his love for nature/life and his sense of duty.
- 'They treated him as though he no longer existed' - cruel irony – he chose to live but now must live as though he is dead.

6d. Structure and Form

- Narrative and speaker is third person, representing the distance between her and her father, and his rejection by society.
- Only full stop is at the end of stanza five: he has made his decision to turn back.
- Final two stanzas in italics, represent the consequence of his decision: his life has shifted and will no longer be the same.
- Moving final lines – shame and regret.

6e. Key Quotations

- 'A shaven head full of powerful incantations.'
- 'They treated him as though he no longer existed.'
- 'He must have wondered which had been the better way to die.'

English Literature Paper 2 - Anthology Power and Conflict 'Nature' Poems

7. Exposure by Wilfred Owen

7a. Content and Meaning

- The speaker describes war as a battle against the weather.
- Focuses on the sheer monotony of daily life for many soldiers, as well as the harsh conditions they must endure.
- The ideas of the warm reflect the delusional mind of a man dying from hypothermia and the ending focuses on the deaths of soldiers waiting for active conflict.

7b. Context and Purpose

- Owen wanted to draw attention to the suffering, monotony and futility of war.
- Written in 1917 before Owen was then killed in battle in 1918: the poem has authenticity as it is written by an actual soldier.
- Of his work, Owen said: "My theme is war and the pity of war".
- Despite highlighting the tragedy of war and mistakes of senior commanders, he had a deep sense of duty: "not loath, we lie out here" shows that he was not bitter about his suffering

7c. Language

- '"Our brains ache" physical (cold) suffering and mental (PTSD or shell shock) suffering. - Semantic field of weather: weather is the enemy, the aggressor that attacks the soldiers.
- "The merciless iced east winds that knive us..." – personification (cruel and murderous wind); sibilance (cutting/slicing sound of wind); ellipsis (never-ending).
- The visual image of the men cowering away emphasises the dehumanising effects of war: 'We cringe in holes, back on forgotten dreams.'
- Rhetorical question conveys confusion and hopelessness: 'Is it that we are dying?'

7d. Structure and Form

- Contrast of cold, warm, cold imagery conveys suffering, delusions, death of the hypothermic soldier.
- Refrain "but nothing happens" creates circular structure implying never ending suffering.
- Rhyme scheme ABBA emphasises the monotony.
- Half rhymes ("nervous / knife us") only barely hold the poem together, like the men.

7e. Key Quotations

- "Our brains ache in the merciless iced east winds that knive us."
- "Is it that we are dying?"
- ' "But nothing happens."

8. Extract from The Prelude by William Wordsworth

8a. Content and Meaning

- The story of a night-time adventure in a rowing boat that instils a deep and fearful respect for power of nature.
- At first, the speaker is calm and confident, but the sight of a huge mountain that comes into view scares the boy and he flees. He is in awe of the mountain and fearful of the power of nature.

8b. Context and Purpose

- We should respect nature and not take it for granted.
- Published shortly after his death, The Prelude was an epic poem that told the story of Wordsworth's life.
- Like Percy Shelley, Wordsworth was a Romantic poet and his poetry explores themes of nature, human emotion and how humans are shaped by their interaction with nature.

8c.. Language

- 'One summer evening (led by her)': 'her' might be nature personified – this shows his love for nature but nature in control.
- 'Troubled pleasure': confident, but oxymoron suggests he knows it's wrong; forebodes troubling events that follow.
- 'A huge peak, black and huge': the repetition and the unsettling image of the mountain is shocking (contrasts the earlier tranquility).
- 'Upreared its head' and 'measured motion like a living thing': mountain is personified as a powerful beast, but calm – contrasts with his own panic.

8d. Structure and Form

- First person narrative – creates a sense that it is a personal poem.
- The regular rhythm and enjambment add to the effect of natural speech and a personal voice.
- The extract can be split into three sections, each with a different tone to reflect his shifting mood: Lines 1-20: (rowing) carefree and confident; lines 21-31: (the mountain appears) dark and fearful; lines 32-44: (following days) reflective and troubled.

8e. Key Quotations

- 'A huge peak, black and huge':
- 'With... measured motion like a living thing, strode after me.'
- 'Huge and mighty forms... were a trouble to my dreams.'

9. Storm on the Island by Seamus Heaney

9a. Content and Meaning

- The narrator describes how a rural island community prepared for a coming storm, and how they were confident in their preparations.
- When the storm hits, they are shocked by its power: its violent sights and sounds are described, using the metaphor of war.
- The final line of the poem reveals their fear of nature's power.

9b. Context and Purpose

- Seamus Heaney was Northern Irish and his poem was published in 1966 at the start of 'The Troubles' in Northern Ireland: a period of deep unrest and violence between those who wanted to remain part of the UK and those who wanted to become part of Ireland.
- The first eight letters of the title spell 'Stormont': this is the name of Northern Ireland's parliament.
- The poem conveys the power of nature but it might be a metaphor for the political turmoil that was building in the country at the time.

9c. Language

- 'Nor are there trees which might prove company': the island is a lonely, barren place. Nature is not a comfort here, but a violent aggressor.
- Violent verbs describe the storm: 'pummels', 'exploding', 'spits'.
- Semantic field of war: 'Exploding comfortably' (with the oxymoron to contrast fear/safety); 'wind dives and strafes invisibly' (the wind is a fighter plane); 'We are bombarded by the empty air' (under ceaseless attack). This also reinforces the metaphor of war / troubles.
- Simile 'spits like a tame cat turned savage': compares the nature to an unpredictable animal that has turned on its owner.

9d. Structure and Form

- Written in blank verse and use of enjambment creates a conversational and anecdotal tone.
- The poem can split into three sections: Confidence: 'We are prepared:' (ironic) The violence of the storm: 'It pummels your house' Fear: 'it is a huge nothing that we fear.' The contrast between the opening confidence and the apprehensive ending emphasises the power of nature and the powerlessness of human beings.
- There is a turning point (a volta) in Line 14: 'But no:'. The lines that follow this monosyllabic phrase and caesura reveal how dangerous nature can be.

9e. Key Quotations

- 'We are prepared.'
- 'Spits like a tame cat turned savage.'
- 'Strange, it is a huge nothing that we fear.'

English – Language Paper 1 Writing

40 marks (50% of Language Paper 1 – 45 minutes)

1. Approaching the Question

Plan!
5 minutes

Write
35 minutes

Proof-read
5 minutes

Section B: Writing

You are advised to spend about 45 minutes on this section.
Write in full sentences.
You are reminded of the need to plan your answer.
You should leave enough time to check your work at the end.

Q5: Your school has asked for creative writing pieces to include in their newsletter to parents.

EITHER: Write a description as suggested by this picture:

OR: Write the opening of a story set at night.

(24 marks for content and organisation
16 marks for technical accuracy)
[40 marks]

DISCO!

Drop into your **setting** (action!)

Zoom **I**n to your **character** description

Shift in time (**flashback**)

Comment (one line of **reported speech**)

Overview (return to opening description but change something significant)

2. The Mark Scheme

Have you:

Content and Organisation /24	a) Register matches audience and purpose	• Used a descriptive, creative style? • Included a range of descriptive methods, including simile, metaphor, personification and imagery?
	b) Vocabulary and linguistic devices	• Used a range of interesting and challenging word choices? • Used thoughtful, challenging descriptive methods,
	c) Structural features	• Crafted an engaging opening and a thoughtful ending? • Included foreshadowing, a flashback or flashforward, a motif or circular structure?
	d) Ideas	• Included interesting and convincing ideas? • Linked your ideas together coherently throughout the narrative or description?
	e) Paragraphing	• Used paragraphs in your extended writing and linked them together? • Used a range of paragraph lengths for effect?
Technical Accuracy /16	f) Sentence demarcation	• Ended your sentences correctly, using a full stop, exclamation mark or question mark? • Avoided comma splicing?
	g) Punctuation	• Used basic punctuation correctly, including full stops, commas and capital letters? • Used more complex punctuation e.g. semi-colon, colon and dash?
	h) Sentence forms	• Used a range of minor, simple, compound and complex sentences? • Used a range of sentence starters?
	i) Standard English	• Used formal word choices? • Used grammatically correct phrases?
	j) Spelling	• Used correct spellings? • Selected correct homophones e.g. there/their/they're; to/too/two; weather/whether.
	k) Vocabulary	• Used a range of challenging word choices precisely?

English – Language Paper 1 Writing

40 marks (50% of Language Paper 1 – 45 minutes)

3. Vocabulary

Key Terms	Description
alluring	powerfully attractive or interesting
awe	a feeling of great respect and wonder
captivating	capable of holding someone's interest
emanates	comes out from or spreads out from
enlightened	showing understanding to act positively
ethereal	light and delicate, in a way that makes something seem heavenly
euphoric	extremely happy or excited
dreary	depressingly dull or gloomy
grave	serious in behaviour or appearance or a place where dead bodies are buried
inescapable	unable to get away from
loathsome	causing hatred or disgust
luminous	giving off light; bright or shining
merciless	showing no kindness
melancholy	sadness; downheartedness
morose	unhappy and unwilling act in a happy way
oppressed	treated harshly and cruelly
serene	calm, peaceful, untroubled
shrouded	covered up, making it hard to see or wrapped in material ready to be buried
tumultuous	very loud or full of confusion
triumphantly	in a way that shows great happiness at a victory (winning something) or achievement.
tyrant	a cruel leader
vivacious	full of energy and enthusiasm
wither	to become dry, wrinkled or shrivelled

4. Punctuation

Commas are used:

- to separate clauses (groups of words) that add extra information but wouldn't make sense on their own
- after an introductory word or phrase in a sentence
- to separate items in a list

Full stops are used to separate full sentences. We never use a comma to separate two full sentences.

Semi-colons are used to separate two full sentences closely linked in meaning.

Deafeningly, the thunder roared overhead. The merciless iced wind whipped the faces of the survivors; they cowered from each malicious gust that stung like a knife wound. The rain kept up a relentless attack.

"Help us!" they screamed.

Speech marks are used to show a character is saying something. A full stop, comma, exclamation mark or question mark always needs to be used before the closing speech marks.

Their shouts disappeared into the tempestuous night – torn away by the tyrannical wind. Nature's wrath was unrelenting.

Apostrophes are used show that something belongs to something else (possession) or letters have been taken away (omission).

The writer's metaphor is.... *It's a cold night...*

Dashes are used to separate extra information in a sentence that wouldn't make sense on its own and to show this extra information is important.

English Language Paper 2 Section A (Reading)

40 marks (50% of Language Paper 2 – 1 hour)

1. The Questions

Question 1: Select four true statements [4]

- ✓ 5 minutes
- ✓ Mark out the line numbers.
- ✓ Shade the oval once you are certain of your answers.

Question 2: Summary, comparison and inference.[8]

- ✓ 10 minutes
- ✓ Focusing on the narrow focus in the question, highlight key quotes.
- ✓ Write your answer using two SQI> Connective> SQI paragraphs.

Question 3: Language [12]

- ✓ 10 minutes
- ✓ Select important language methods features to analyse, including word choice.
- ✓ Write your answer using What, How, Zoom, Why paragraphs.

Question 4: Question 4: Comparing writers' viewpoints and methods [16]

- ✓ 20 minutes
- ✓ Use all of both sources
- ✓ Compare viewpoints and methods used to present these viewpoints
- ✓ Language, tone, structure
- ✓ What, How, Zoom (Method), Why > Connective > What, How, Zoom, Why paragraphs

2. Question 2 (SQI> Connective> SQI)

- Whilst source A…source B…which shows…
- The writer in source A…however in source B this is…
- In contrast to source A, source B…
- This differs to source A as…which implies…

3. Words to identify writers' viewpoints

3. Words to identify writers' viewpoints					
☺	**Meaning**	**Synonyms**	☹	**Meaning**	**Synonyms**
awe-struck	filled with great respect and wonder	captivated, impressed	**indifferent**	having no interest, sympathy or concern	uninterested, unconcerned
astonished	greatly surprised and amazed	amazed, astounded			
determined	having made a firm decision to do something	resolute, resolved	**incredulous**	not wanting or able to believe something	disbelieving, skeptical
competent	feeling able to do something	proficient, capable	**regretful**	feeling sorry about something	remorseful, sorry
content	in a state of peaceful happiness	happy, gratified	**sorrowful**	sadness and grief	sad, mournful
adoring	feeling deep love and affection	devoted, doting,	**contemptuous**	lack of respect; dislike for something or someone	scornful, disdainful
sympathetic	feeling pity or sadness for someone else's pain	concerned, compassionate	**intimidated**	frightened because of a lack of confidence	daunted, apprehensive
unperturbed	not worried	calm, untroubled	**unsettled**	feeling worried	uneasy, anxious
			alarmed	feeling fear and panic	fearful, terrified

4. Verbs for analysis

Shows For explicit/ obvious meanings	Suggests For what the writer wants us to work out based on clues, inferences implicit meanings	Highlights For ideas made very clear and stressed by the writer as very important	Links to For making connections between quotations from different parts of a text	Other
• Reveals • demonstrates • Exposes • Tells the reader/ audience • Conveys • Presents • Depicts	• Implies • Hints at • Connotes • Intimates • Indicates • Alludes to	• Emphasises • Underlines • Reiterates (for something shown more than once) • Accentuates • Underscores	• Relates to • Echoes • Mirrors • Augments • Develops • Contrasts • Juxtaposes • Diverges from	• Evokes • Establishes • Symbolises

English Language Paper 2 Section A (Reading)

40 marks (50% of Language Paper 2 – 1 hour)

5. Connectives for Developing Ideas

To order ideas:

- Firstly…secondly
- Finally
- Lastly
- To conclude

To add:

- This also
- In addition
- Furthermore
- Moreover
- Again
- Therefore
- Consequently
- What is more
- Then again
- Subsequently

To add a different idea:

- By contrast
- On the contrary
- Although
- However
- Alternatively
- On the other hand
- Conversely
- Despite

To sum up:

- Ultimately
- Above all
- It is evident that

6. Inference (Q2)

Inference means working things out based on the evidence in a text. It does not mean writing the meaning of a quotation – this is paraphrasing.

Example:

The writer describes the footballer as "assuring his place in history with the quickest goal". We can infer that he is an incredibly skilled footballer and that people will admire him for a long time for his ability. We might also infer that he has worked hard to hone his skills and develop his strategy on the pitch.

7. Language Methods Terms (use these in Q3 and Q4

noun	identifies a person, thing, idea or state
adjectives	words that describe the noun
verb	describes an action, event, situation or change
adverb	gives information about a verb
sensory imagery	when the writer crafts mental 'pictures' using the senses in their description
repetition	Using a word or phrase more than once
simile	something is presented as like something else, using the words 'like' or 'as'
metaphor	something is described as if it is something else
personification	giving human traits to something non-human
semantic field	a set of words related in meaning
alliteration	repetition of the same sound at the start of a series of words

sibilance	repetition of the 's' sound at the start of a series of words
plosive sounds	harsh letter sounds such as 't', 'd' and 'k'
onomatopoeia	sound words
pathetic fallacy	weather reflects the mood
hyperbole	purposely exaggerated ideas
juxtaposition	two opposing ideas
list	connected words, ordered one after the other
symbol	the use of characters, events or ideas to represent something broader
pathos	evoking strong emotions in the reader e.g. sympathy or sadness
ethos	using information or research to present the writer as knowledgeable and credible

logos	using logic to give ideas that cannot be argued with
rhetorical question	a question worded in such a way to make a reader think from a particular perspective
direct address	using the word 'you' to speak directly to the reader
personal anecdote	a story about an experience or event the writer has been involved in
triple / tricolon	using three words or short phrases to emphasise a point
reported speech	words spoken by someone, marked out using speech marks
analogy	a comparison between things that have similar features e.g. you might use the analogy of a box of chocolates to explain the variety of life

8. Structure Methods Terms (use these Q4)

opening	the way the extract begins
character introduction	the first description of a person in the text
cyclical	ends the same way it begins
focusing attention	our attention is aimed at something
building	when an idea/ tension is increased
developing	an earlier point is extended
narrative shift	a swift or change of focus
zooming in	detailed description of something
zooming out	showing the reader the bigger picture
flash-forward	presents future events

foreshadowing	hints at what's to come
climax	the most intense point
dialogue	lines spoken by characters
flashback	presents past events
internal thoughts	description of what a character is thinking or feeling
external action	description of events outside the character
ending	the last ideas/ events in the Source

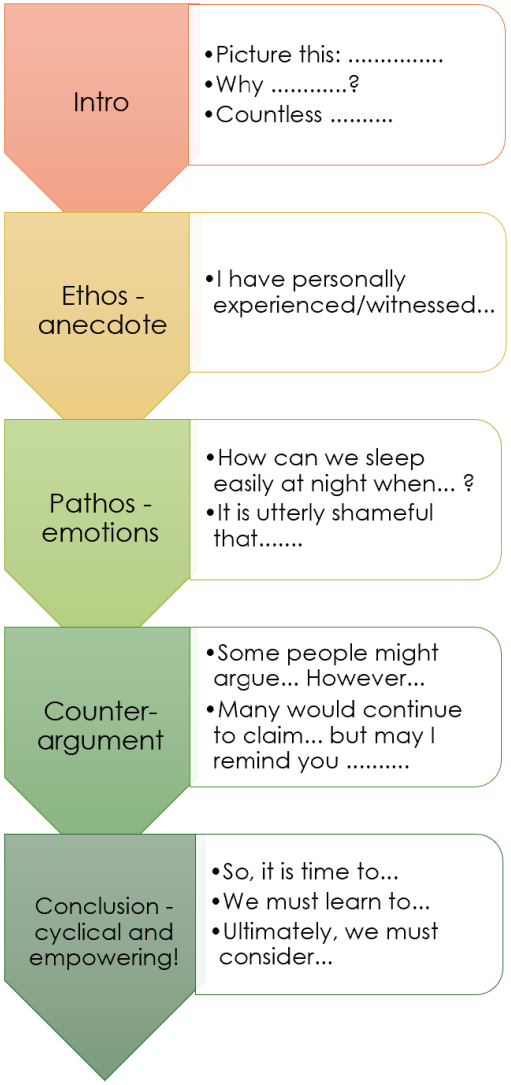
English Language Paper 2 Section B (Writing)

40 marks (50% of Language Paper 2 – 45 minutes)

9. Approaching the Question

Plan – 5 minutes > Write 30 minutes > Proof-read 5 minutes

10. Suggested structure



11. The Mark Scheme

Have you:

Content and Organisation /24	a) Register matches audience and purpose	• Used a persuasive style? • Included a range of persuasive methods, including pathos, ethos, logos, personal anecdote, imperative?
	b) Vocabulary and linguistic devices	• Used a range of interesting and challenging word choices? • Used thoughtful, challenging persuasive methods?
	c) Structural features	• Crafted an engaging opening and a thoughtful ending? • Included a circular structure?
	d) Ideas	• Included interesting and convincing ideas? • Linked your ideas together coherently throughout the article, speech, letter, blog, essay or leaflet?
	e) Paragraphing	• Used paragraphs in your extended writing and linked them together? • Used a range of paragraph lengths for effect?
Technical Accuracy /16	f) Sentence demarcation	• Ended your sentences correctly, using a full stop, exclamation mark or question mark? • Avoided comma splicing?
	g) Punctuation	• Used basic punctuation correctly, including full stops, commas and capital letters? • Used more complex punctuation e.g. semi-colon, colon and dash?
	h) Sentence forms	• Used a range of minor, simple, compound and complex sentences? • Used a range of sentence starters?
	i) Standard English	• Used formal word choices? • Used grammatically correct phrases?
	j) Spelling	• Used correct spellings? • Selected correct homophones e.g. there/their/they're; to/ too/two; weather/whether.
	k) Vocabulary	• Used a range of challenging word choices precisely?

English Language Paper 2 Section A (Reading)

40 marks (50% of Language Paper 2 – 1 hour)

12. Vocabulary

☺	☹
exhilarating	infuriating
inspiring	exasperating
gratifying	outrageous
enchanting	maddening
uplifting	enraging
empowering	appalling
heartening	irksome
delightful	galling
captivating	disheartening
refreshing	disappointing

Fantastic phrases:

Herculean effort a task that requires an extraordinary amount of effort or determination to complete, alluding to the ancient Greek hero Hercules

Sisyphean task a task that seems both endless and pointless. From the Greek myth of Sisyphus, a figure forced by the gods to roll a heavy boulder up a hill, only for it to roll back down each time, forcing him to repeat the task for eternity.

Naysayers will claim… some people will always share a negative opinion about something

13. Punctuation

Full stops are used to separate full sentences. We never use a comma to separate two full sentences.

Commas are used:

- to separate clauses (groups of words) that add extra information but wouldn't make sense on their own
- after an introductory word or phrase in a sentence
- to separate items in a list

Dashes are used to separate extra information in a sentence that wouldn't make sense on its own and to show this extra information is important.

We are under pressure. We cannot escape from the burden of expectations placed upon us. Every day feels like a monotonous, uphill battle - a battle with ourselves, our workload, our stress.

One problem is more influential than any other: homework. It disrupts our sleep, as we are often given so much that we are forced to complete it into the early hours, which then leaves us exhausted, which makes it harder to learn at school, which leads to less understanding of what is being taught, which increases stress, which further impacts our ability at school. Homework must be abolished; it cannot continue to be a hindrance to our learning.

Colons are used to introduce or explain an idea, problem or situation that has been presented in the sentence that comes before OR to introduce a complicated list.

Semi-colons are used to separate two full sentences closely linked in meaning.

14. Sentence Structures

Triple

Crisp packets, coffee cups and chewing gum are the most common things discarded on our street – just minutes from the coast - and left to blow into the ocean.

Double adjective starter

Unattractive and dangerous, litter is the scourge of our society.

Brackets although

Some young people do take this issue seriously (although not everyone credits them with this) and there is already an emerging positive impact.

Question

Why are we not able to reject this way of living?

Colon one word/phrase

We can adopt one lifestyle change immediately: recycling.

Verb beginning

Showing your support is simple.

Anaphora

Imagine a world in which forest paths were lined with greenery, not plastic. Imagine a world where flowers were not outshone by a pile of lurid dog poo bags. Imagine a world where you could breathe fresh, clean air.

The more the more the more

The more litter that is dropped, the more unsightly our world becomes, and the more we lose respect for our beautiful surroundings.

English Literature Paper 1 Section A (Macbeth)

1. Plot

1a

Act 1, Scene 1: Three witches gathering amidst thunder and lightning. They plan to meet with Macbeth.

Act 1, Scene 2: A captain tells the king that Macbeth and Banquo fought bravely against the rebel forces led by Macdonald. Ross arrives from Fife with further news of victory. The Norwegian king is pleading for peace and the rebellious Thane of Cawdor has been captured. Duncan decides to give the title of Thane of Cawdor to Macbeth.

Act 1, Scene 3: The witches meet and plot to ruin a sailor's life. Macbeth and Banquo meet the witches. They hail Macbeth by his title Thane of Glamis, as Thane of Cawdor and as King. They also predict that Banquo's children will be kings. Ross and Angus arrive, telling Macbeth that he has been given the title Thane of Cawdor.

Act 1 Scene 4: Duncan thanks Macbeth and Banquo for their part in the battle and announces that his eldest son, Malcolm, will inherit the throne from him when he dies. Duncan says they will visit Macbeth's castle and Macbeth goes on ahead to tell Lady Macbeth.

Act 1 Scene 5: Lady Macbeth reads a letter from her husband the witches' prophecies. She fears that her husband is too kind to achieve the position of King by committing regicide. She calls on the spirits to 'unsex' her and make her strong and remorseless. Macbeth arrives Lady Macbeth advises him to hide his malicious intentions from their guests.

Act 1 Scene 6: Duncan and the thanes arrive at Dunsinane Castle, welcomed by Lady Macbeth.

Act 1 Scene 7: Macbeth struggles with his conscience and decides against the regicide. Lady Macbeth chastises and emasculates him. He changes his mind and is settled upon the murder.

1b

Act 2, Scene 1: In the middle of the night, Banquo and his son Fleance meet Macbeth. Banquo tells him that he dreamed of the witches, but Macbeth lies and says he has not thought about them. As he goes towards Duncan's chambers, Macbeth sees a vision of a bloody dagger.

Act 2, Scene 2: Macbeth returns after committing regicide. He is guilty and anxious. Lady Macbeth dismisses his fears. Seeing that he has brought the guards' daggers with him, she returns them to Duncan's rooms. Someone knocks on the door of the castle. Lady Macbeth returns with bloody hands and reassures Macbeth that water will erase any memory of the murder.

Act 2, Scene 3: The Porter answers the door of the castle to Macduff and Lennox. Macduff uncovers the murder. Macbeth kills the guards. Malcolm flees to England and Donalbain to Ireland.

Act 2, Scene 4: Ross talks about a series of unusual things in nature that have that have occurred. Ross reports that Macbeth has been named king. Macduff heads home to Fife.

1c

Act 3, Scene 1: Banquo suspects Macbeth of acting immorally. Lady Macbeth and Macbeth invite Banquo to a banquet. Macbeth then talks about his fears that Banquo's children will become future kings. He convinces two murderers to kill Banquo and his son Fleance.

Act 3, Scene 2: Lady Macbeth urges Macbeth not to think on past deeds but he is plagued by fears about potential threats. He will not tell her what he has done to Banquo.

Act 3, Scene 3: The murderers attack and kill Banquo but Fleance escapes.

Act 3, Scene 4: As the banquet begins, the ghost of Banquo sits in Macbeth's place at the table and Macbeth is visibly shaken. Lady Macbeth calms the guests by saying that it is a momentary fit. Lady Macbeth criticises Macbeth for his irrational behaviour. The ghost reappears. Lady Macbeth tells the guests to leave. Macbeth decides that he will visit the witches again.

Act 3, Scene 5: Hecate is angry with the witches for giving prophecies to Macbeth without consulting her.

Act 3, Scene 6: Lennox is suspicious about the murders of Duncan and Banquo. A lord recounts how Macduff has gone to England to seek help in overthrowing Macbeth.

1d

Act 4, Scene 1: Macbeth visits the witches and is shown three apparitions: an armed head saying 'beware Macduff'; a bloody child appears, saying 'none of woman born shall harm Macbeth' and a crowned child saying that he will never be defeated 'until Great Birnam Wood to high Dunsinane hill shall come against him'. He is also shown an apparition of eight kings following Banquo's ghost. Macbeth is terrified and angry. Lennox arrives with word that Macduff has fled to England. Privately, Macbeth vows to kill all of Macduff's family.

Act 4, Scene 2: Lady Macduff worries about why her husband has fled but Ross reassures her that Macduff is wise. Murderers arrive and kill Macduff's son and wife.

Act 4, Scene 3: In England, Macduff tells Malcolm of how Scotland is suffering under the tyrannical Macbeth. Malcolm is suspicious of Macduff and tests his loyalty. Malcolm is satisfied and tells Macduff that he is ready - with Old Siward and 10,000 men - to invade Scotland. Ross arrives to tell Macduff about the death of his wife and children. Malcolm comforts Macduff.

English Literature Paper 1 Section A (Macbeth)

1. Plot

1e

Act 5, Scene 1: A doctor and a gentlewoman watch Lady Macbeth sleepwalk. She speaks in her sleep and tries to wash her hands, believing they are covered in blood.

Act 5, Scene 2: The English forces advance, led by Malcolm, Siward and Macduff. Macbeth is in Dunsinane but his men are rising up against him.

Act 5, Scene 3: Macbeth angrily dismisses those who bring him reports of attack. He calls for his armour to be brought to him. The doctor tells Macbeth that he cannot help Lady Macbeth.

Act 5, Scene 4: The Scottish lords gather with Malcolm, Macduff and their army. They cut down boughs of the trees in Birnam Wood to use as camouflage.

Act 5, Scene 5: Macbeth continues to stand his ground against the siege. Seyton reports that Lady Macbeth is dead. Macbeth reflects on the pointless nature of life. A messenger informs Macbeth that he has seen Birnam Wood moving towards Dunsinane hill. Macbeth is unnerved that the prophecy has come true but vows he will die fighting.

Act 5, Scene 6: Malcolm's army arrive at the castle. They throw down their camouflaging branches to reveal themselves. Malcolm talks through the battle plan.

Act 5, Scene 7: Macbeth declares that he will fight, but remains reassured by the prophecy that he cannot be defeated by anyone born of a woman. Macbeth kills Young Siward. Macduff enters the castle, seeking vengeance on Macbeth. Malcolm and Siward enter the castle.

Act 5, Scene 8: Macduff confronts Macbeth and they fight. Macduff reveals that he was born via caesarean. Macduff kills Macbeth.

Act 5, Scene 9: Macduff arrives with Macbeth's severed head. He hails Malcolm the new King of Scotland. Malcolm honours those who have fought alongside him and invites them to see him crowned.

2. Characters – Summaries

2a = Macbeth

Macbeth is introduced as a heroic warrior. Despite his fearlessness in battle, Macbeth is enthralled by the Witches' prophecies, exposing his dark ambition. Emasculated by his wife, Lady Macbeth, he commits regicide. Consequently, he is tormented by guilt. His ambition spurs him toward further terrible deeds and he eventually acts independently of his wife. Concerned that his own descendants will not be Kings, he arranges for Banquo to be murdered but is haunted by his ghost. He returns to the witches, whose equivocal advice leads to Macbeth feeling unbeatable. Macbeth's hubris is now his dominant character trait and eventually he is killed by Macduff.

2b = Lady Macbeth

Macbeth's wife is one of the most powerful female characters in literature. She longs to rid herself of compassion and humanity, calling on spirits to remove her feminine instincts. She taunts Macbeth for his lack of courage but in public she acts gracefully. Ultimately, she is greatly affected by her own hardened ruthlessness. Macbeth begins to act independently and she becomes mentally unstable, a mere shadow of her former commanding self, sleep-walking and sleep-talking before dying.

2c = The Witches

The witches are supernatural beings who embody chaos and malevolence, influencing events with their prophecies. They inspire Macbeth's dark ambition by predicting his rise to power, setting him on a path of murder and tyranny. They use equivocal language to deceive leading to Macbeth's downfall.

2d = King Duncan

Duncan is the supreme example of a graceful, orderly and honourable king. Duncan also expresses humility when he admits his misplaced trust in the treacherous previous Thane of Cawdor. Duncan is depicted as the representative of God on earth, ruling by divine right (ordained by God), a feature of kingship strongly endorsed by King James I, and his death leads to a disruption in order in nature and the wider world. His benevolent reign contrasts the tyranny of Macbeth's rule.

2e = Banquo

Like Macbeth, Banquo is presented as a courageous and loyal warrior at the start of the play. He is depicted as open to human desires but able to think rationally, following the witches' opening prophecies. He is told that his descendants will be kings but he is able to balance his ambition with his moral compass, showing restraint and caution. Macbeth sees him as a threat to his own power and orders his murder. Fleance, his son, escapes. His ghost returns to haunt Macbeth.

2f = Macduff

Macduff is portrayed as a loyal and principled nobleman, acting in an honourable and just way. He is appalled to discover the body of Duncan. Driven by a sense of duty to his country, he leaves his family to visit Malcolm in England, to plead with him to save Scotland from Macbeth's tyranny. He is deeply affected by the murder of his family, which intensifies his resolve to overthrow Macbeth. Macduff embodies justice, playing a crucial role in Macbeth's downfall by killing him in the final act.

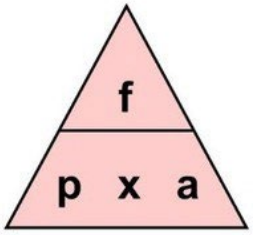
Maths

Keywords	Definition
Linear Graph	A straight line graph
Conversion graph	A graph used to link two units. Can be used to convert between units.
Gradient	A measure of how steep a line is
Speed	The rate at which an object is travelling
Velocity	Speed, with a given direction
Factorise	Put into brackets
Quadratic	An expression containing x^2
Linear	Straight line
Diameter	A line which cuts across the centre of a circle
Tangent	A straight line which touches the circumference of the circle at a single point
Chord	A straight line that cuts across a circle, but does not go through the centre
Arc	A section of the circumference
Radius	A straight line from the centre of a circle to the circumference
Segment	A piece of a circle enclosed by the circumference and a chord
Sector	A piece of a circle enclosed by the circumference and two radii
Hypotenuse	The longest side of a right-angled triangle. Opposite the right angle.

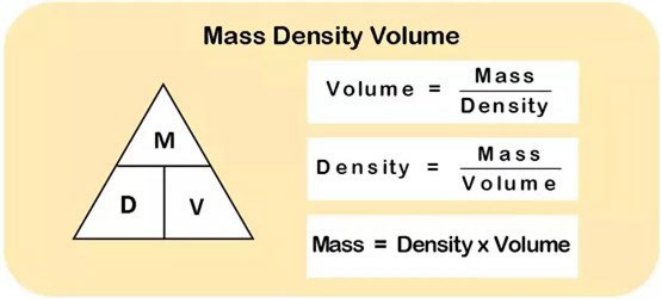
Maths - Compound measures and Real life graphs

1. Pressure

$$\text{pressure} = \frac{\text{force}}{\text{area}}$$



2. Density



3. Speed

Speed= distance:time

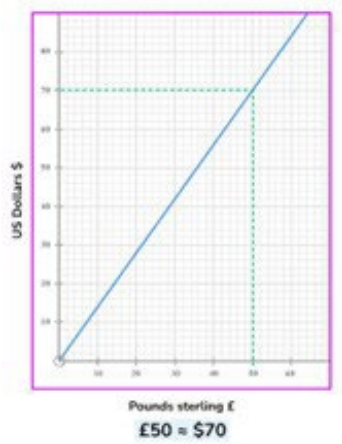
20km/h means

Distance: time 20km: 1 hour 40km: 2hours

60km: 3hours 10km: 1/2hour

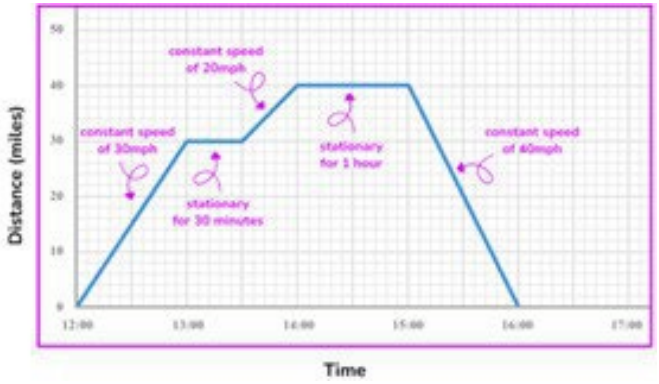
4. Conversion graphs

- Straight line graph
- Show the relationship between two units
- Can be used to convert from unit to another



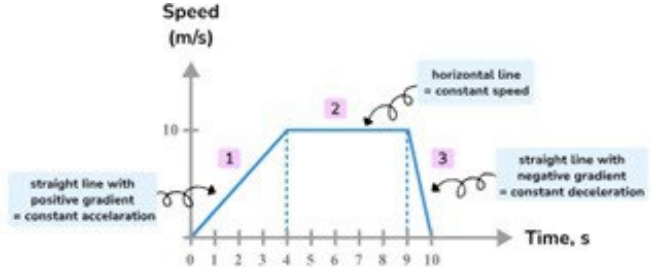
5. Distance-time graphs

- Show the distance an object has travelled against time
- Time goes on the x-axis
- Distance goes on the y-axis



6. Velocity-time graphs

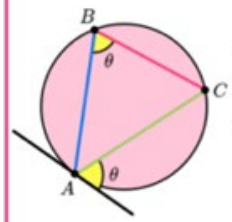
- Show the motion of an object against time
- Time on x-axis
- Speed/velocity on the y-axis



Maths - Circles

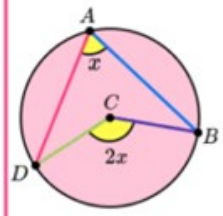
1. Circle theorem (Higher only)

Alternate segment theorem



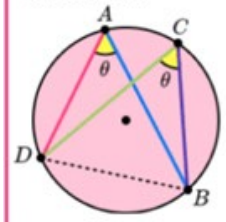
The angle that lies between a tangent and a chord is equal to the angle subtended by the same chord in the alternate segment.

Angle at the centre theorem



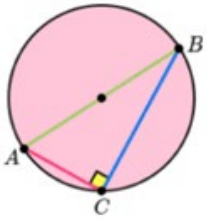
The angle at the centre is twice the angle at the circumference.

Angles in the same segment theorem



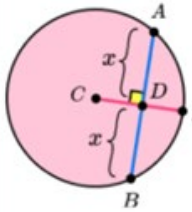
Angles in the same segment are equal.

Angles in a semicircle



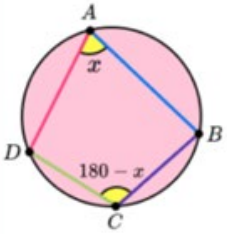
The angle in a semicircle is 90 degrees.

Chord of a circle



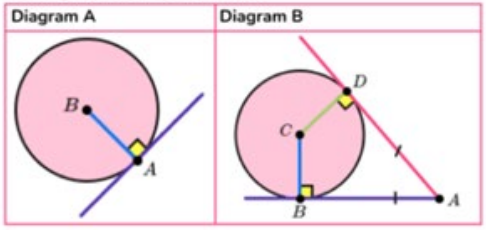
The perpendicular from the centre of a circle to a chord bisects the chord (splits the chord into two equal parts).

Cyclic quadrilateral



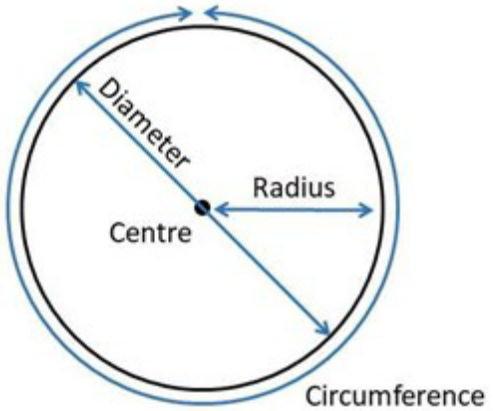
The opposite angles in a cyclic quadrilateral total 180°.

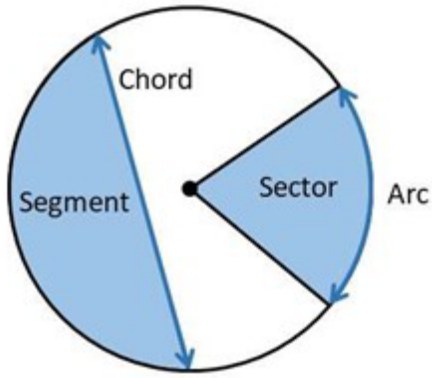
Tangent of a circle



A. The angle between a tangent and radius is 90 degrees.
B. Tangents which meet at the same point are equal in length.

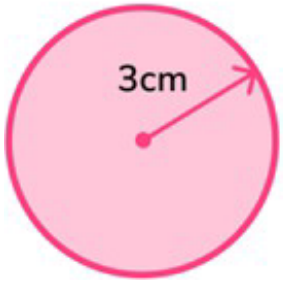
2. Circle vocabulary





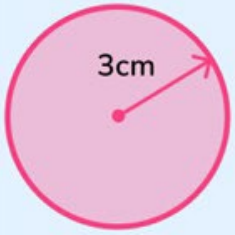
3. Area of a circle

What is the area of a circle with radius 3cm?



$$\begin{aligned} Area &= \pi r^2 \\ &= \pi \times 3^2 \\ &= 9\pi cm^2 \\ &= 28.3cm^2 (1.d.p) \end{aligned}$$

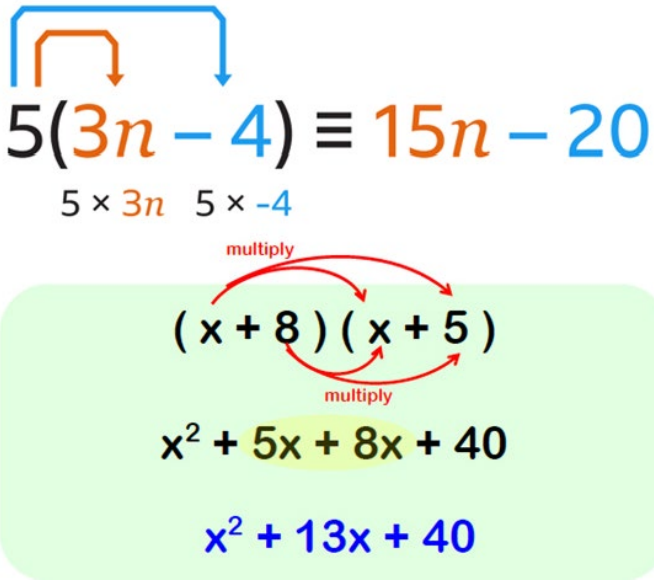
4. Circumference



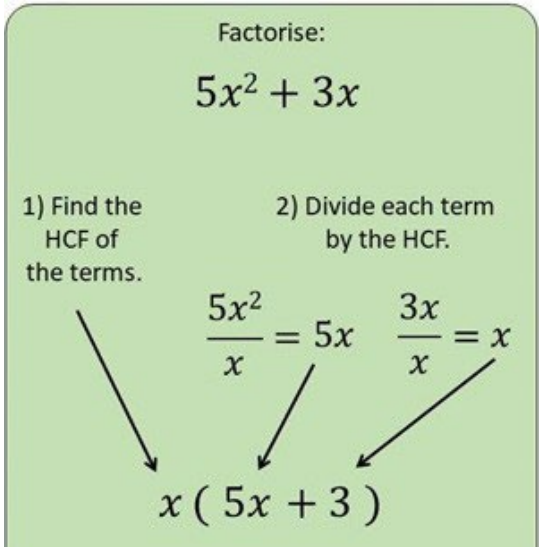
$$\begin{aligned} Circumference &= \pi \times d \\ &= \pi \times 6 \\ &= 6\pi cm \\ &= 18.8cm (1.d.p) \end{aligned}$$

Maths - Algebraic thinking

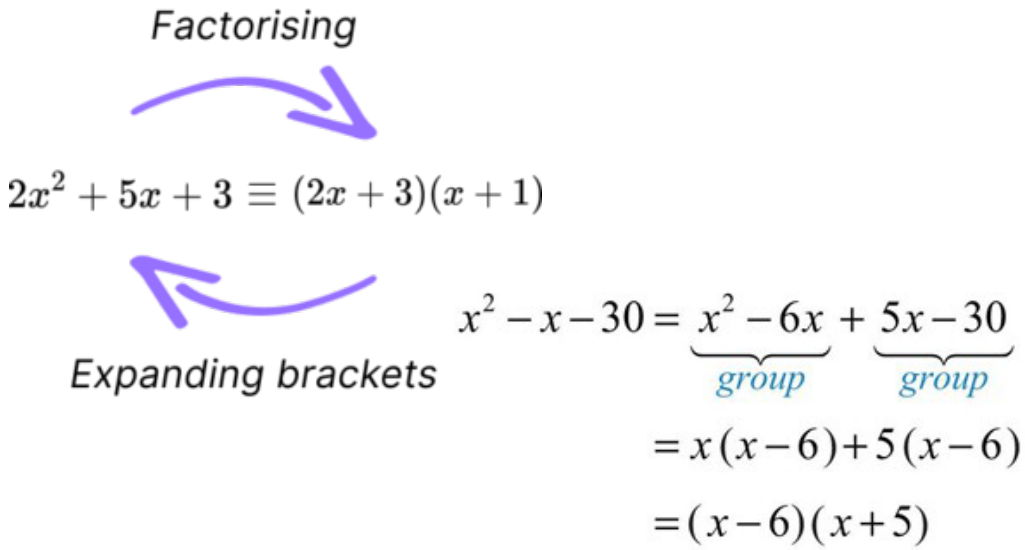
1. Expanding single, double and triple brackets



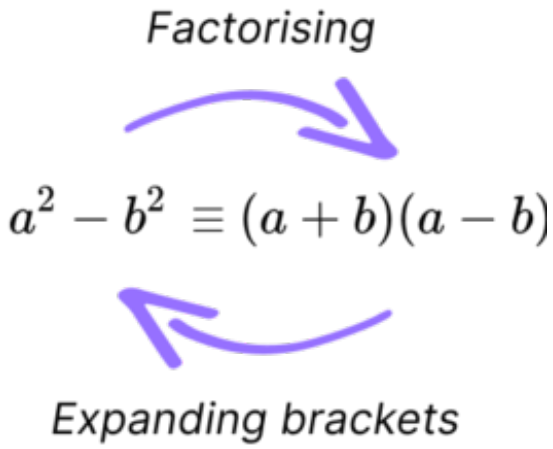
2. Factorising single bracket



3. Factorising quadratic

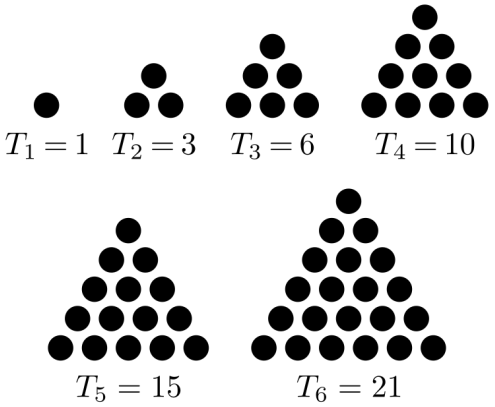


4. Factorising using Difference Of Two Squares (higher only)



Maths - Sequences

1. Special sequences

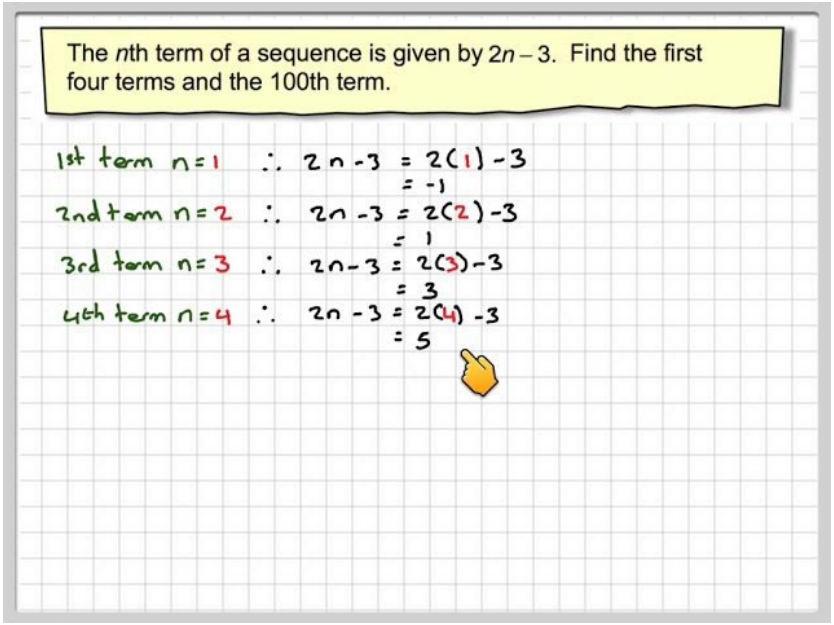


The Fibonacci Sequence

1,1,2,3,5,8,13,21,34,55,89,144,233,377…

1+1=2	13+21=34
1+2=3	21+34=55
2+3=5	34+55=89
3+5=8	55+89=144
5+8=13	89+144=233
8+13=21	144+233=377

2. Is a number in the sequence



3. Finding the nth term

15, 9, 3, –3, –9 The sequence decreases by 6, so the nth term starts with –6n

–6 –6 –6 –6

Now compare the sequence to the –6 times table

15, 9, 3, –3, –9 Each term is 21 bigger than the –6 times table

+21 +21 +21 +21 +21

–6, –12, –18, –24, –30 So the nth term is –6n + 21

4. Quadratic sequences

Let's compare the sequence with the sequence of n^2:

	3	9	17	27	39
-	1	4	9	16	25
	2	5	8	11	14

n^2

$3n + 1$

This is the Linear Sequence 3n + 1

The n^{th} term of the sequence

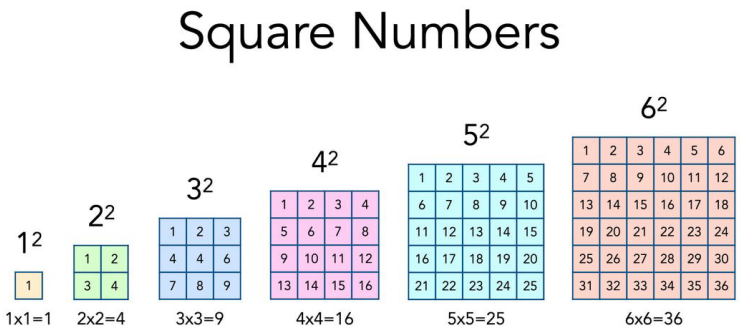
3 9 17 27 39

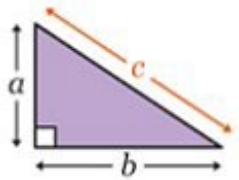
is $n^2 + 3n + 1$

Maths - Pythagoras and non-linear graphs

1. Square numbers

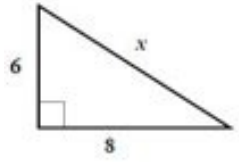
Squaring a number means to multiply it by itself.





$a^2 + b^2 = c^2$

Example:



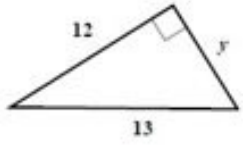
$6^2 + 8^2 = x^2$

$36 + 64 = x^2$

$100 = x^2$

$\sqrt{100} = \sqrt{x^2}$

$x = 10$



$12^2 + y^2 = 13^2$

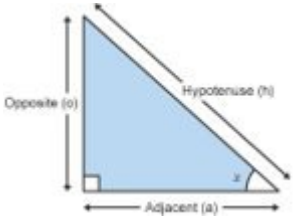
$144 + y^2 = 169$

$y^2 = 25$

$\sqrt{y^2} = \sqrt{25}$

$y = 5$

3. Right-angled trigonometry



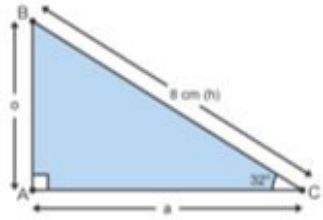
SOH $\sin\theta = \frac{\text{Opposite}}{\text{Hypotenuse}}$

CAH $\cos\theta = \frac{\text{Adjacent}}{\text{Hypotenuse}}$

TOA $\tan\theta = \frac{\text{Opposite}}{\text{Adjacent}}$

Remember: SOHCAHTOA

Example:



Label the sides of the triangle o, a and h.

Next choose the correct ratio from $s\frac{o}{h}$ $c\frac{a}{h}$ $t\frac{o}{a}$.

The length h is known and the length o must be calculated.

Use $\sin x = \frac{o}{h}$

$\sin 32 = \frac{o}{8}$

Make AB (o) the subject by multiplying both sides by 8.

$AB = 8 \times \sin 32$

$AB = 4.2$ cm

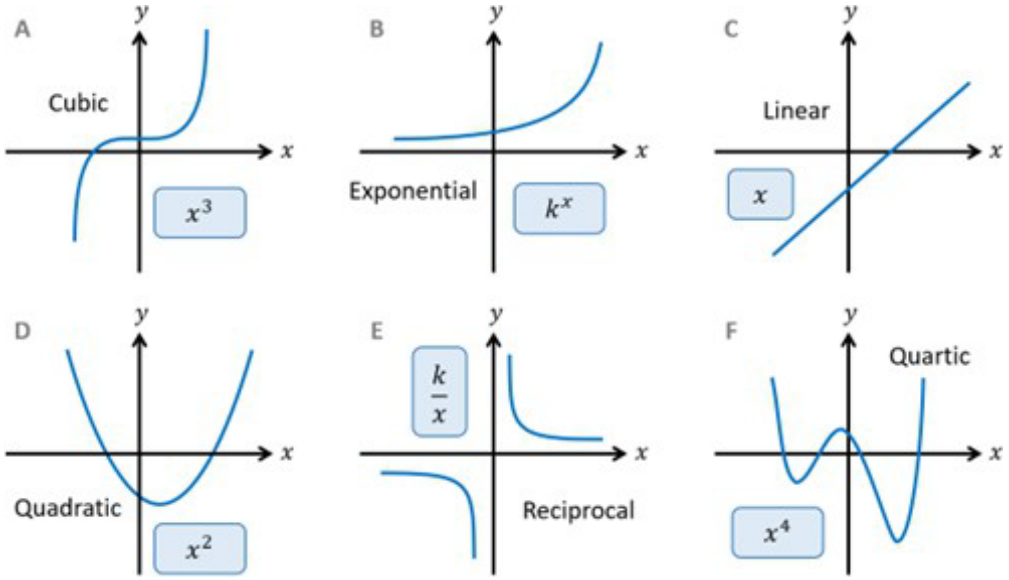
4. Exact Values (H)

There are some angles for which you need to learn the values of sin, cos and tan.

	0°	30°	45°	60°	90°
sin	0	$\frac{1}{2}$	$\frac{1}{\sqrt{2}}$	$\frac{\sqrt{3}}{2}$	1
cos	1	$\frac{\sqrt{3}}{2}$	$\frac{1}{\sqrt{2}}$	$\frac{1}{2}$	0
tan	0	$\frac{1}{\sqrt{3}}$	1	$\sqrt{3}$	–

Maths - Non-linear graphs

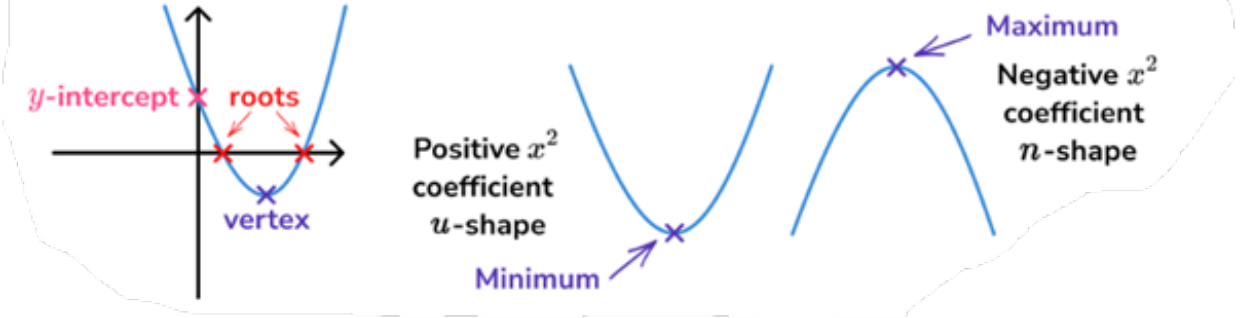
1. Non-linear graphs



2. Quadratic graphs

A **sketch** of a **quadratic graph** shows the key points of a quadratic function:

- **Roots**: the values of the x -coordinates where the function crosses the x -axis
- **y-intercept**: where the function crosses the y -axis
- **Vertex**: the minimum or maximum value (also called the **turning point**)



3. Plotting quadratic graphs

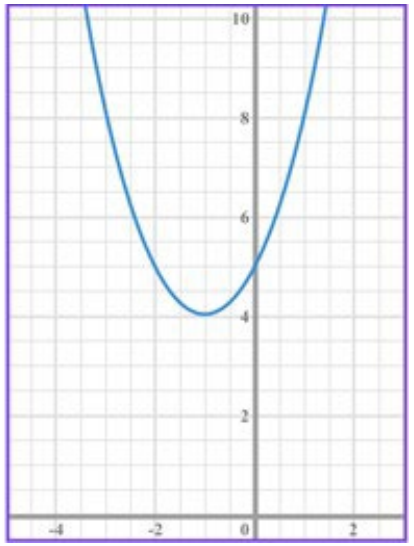
Plotting a quadratic graph involves drawing a table of values for the x and y coordinates of a quadratic function, and then plotting these on a set of axes.

Example

$y = x^2 + 2x + 5$

x	-3	-2	-1	0	1	2
y	8	5	4	5	8	13

Substitute each x value into $x^2 + 2x + 5$ to get the corresponding y value.



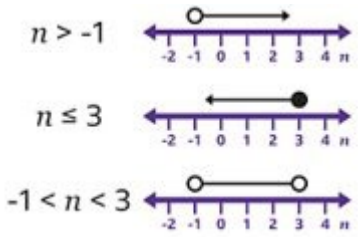
Maths – Inequalities

1. Vocabulary

An inequality links two expressions with a greater than or less than symbol.

Expression	$2x + 7$
Equation	$2x + 7 = 9$
Formula	$A = lw$
Identity	$2x + 7 \equiv x + 1 + x + 6$

2.Inequalities on a number line



An open circle means the value is not included.

A closed circle means that it is.

3.Solving linear inequalities

Use the same method which we use for solving equations- tramlines.

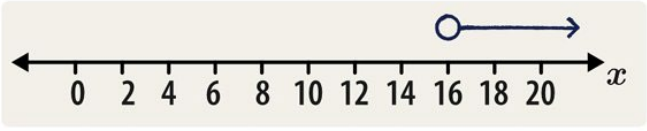
Example:

a) Solve $\frac{x}{5} - 1.3 > 1.9$

$$\begin{array}{r|l|r} +1.3 & \frac{x}{5} - 1.3 > 1.9 & +1.3 \\ & \frac{x}{5} > 3.2 & \\ \times 5 & x > 16 & \times 5 \end{array}$$

Answer: $x > 16$

b) Draw your answer on the number line.

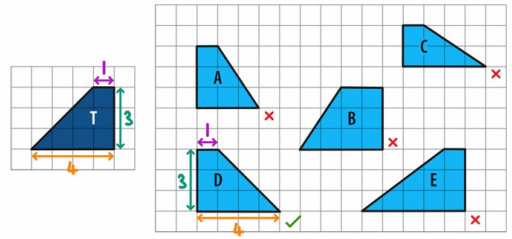


Maths – Congruence and similar shapes

1. Congruence

Shapes are said to be congruent if they have the same side lengths and same angles. They may be translated, rotated of reflected.

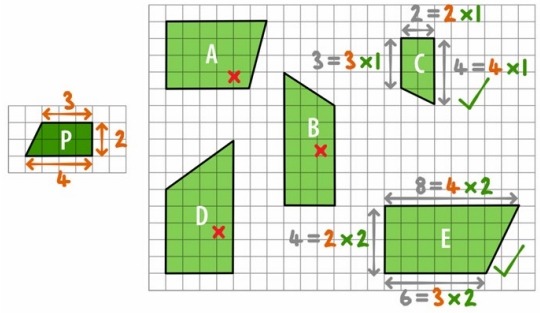
Which of these shapes is congruent to shape T?



2. Similarity

Shapes are said to be similar if one is an enlargement of the other. The angles remain the same, but the side lengths are all multiplied by a scale factor.

Which shapes are similar to shape P?



3. Similar triangles

The three sides are equal (SSS: side, side, side)

Two angles are the same and a corresponding side is the same (ASA: angle, side, angle)

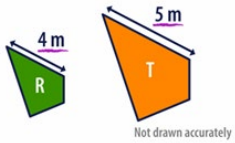
Two sides are equal and the angle between the two sides is equal (SAS: side, angle, side)

A right angle, the hypotenuse and a corresponding side are equal (RHS, right angle, hypotenuse, side)

4. Similar areas and volumes (Higher only)

Area Scale Factor (ASF) = (Linear Scale Factor)^2

Shapes R and T are similar.
Shape R has an area of $24\ m^2$
Calculate the area of shape T



$4 \times \text{scale factor} = 5$

$\text{scale factor} = \frac{5}{4}$

$\text{Area of R} = 24$

$\text{Area of T} = \text{Area of R} \times \left(\frac{5}{4}\right)^2$

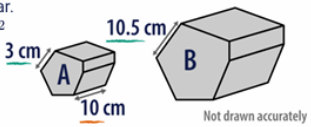
$= 24 \times \frac{25}{16}$

$= 37.5$

Answer: 37.5 m^2

Volume Scale Factor (VSF) = (Linear Scale Factor)^3

The prisms below are mathematically similar.
Prism A has a cross-sectional area of $4\ cm^2$
Work out the volume of prism B



$\text{Vol of A} = \text{area of cross-section} \times \text{length}$

$\text{Vol of A} = 4 \times 10$

$\text{Vol of A} = 40$

$3 \times \text{scale factor} = 10.5$

$\text{scale factor} = \frac{7}{2}$

$\text{Vol of A} \times \left(\frac{7}{2}\right)^3 = \text{Vol of B}$

$40 \times \frac{343}{8} = \text{Vol of B}$

$1715 = \text{Vol of B}$

Answer: 1715 cm^3

Maths – Formulae sheet

Higher Tier Formulae Sheet

Perimeter, area and volume

Where a and b are the lengths of the parallel sides and h is their perpendicular separation:

Area of a trapezium $= \frac{1}{2}(a + b)h$

Volume of a prism = area of cross section × length

Where r is the radius and d is the diameter:

Circumference of a circle $= 2\pi r = \pi d$

Area of a circle $= \pi r^2$

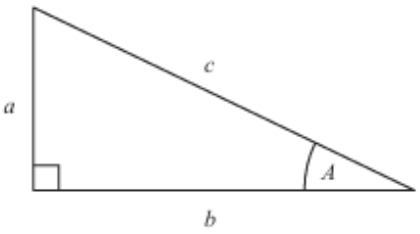
Quadratic formula

The solution of $ax^2 + bx + c = 0$

where $a \neq 0$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Pythagoras' Theorem and Trigonometry

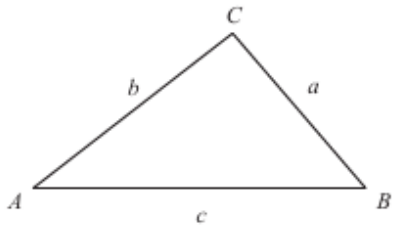


In any right-angled triangle where a, b and c are the length of the sides and c is the hypotenuse:

$a^2 + b^2 = c^2$

In any right-angled triangle ABC where a, b and c are the length of the sides and c is the hypotenuse:

$\sin A = \frac{a}{c}$ $\cos A = \frac{b}{c}$ $\tan A = \frac{a}{b}$



In any triangle ABC where a, b and c are the length of the sides:

sine rule: $\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$

cosine rule: $a^2 = b^2 + c^2 - 2bc \cos A$

Area of triangle $= \frac{1}{2} a b \sin C$

Compound Interest

Where P is the principal amount, r is the interest rate over a given period and n is number of times that the interest is compounded:

Total accrued $= P\left(1 + \frac{r}{100}\right)^n$

Probability

Where P (A) is the probability of outcome A and P (B) is the probability of outcome B:

P (A or B) = P (A) + P (B) – P (A and B)

P (A and B) = P (A given B) P(B)

Foundation Tier Formulae Sheet

Perimeter, area and volume

Where a and b are the lengths of the parallel sides and h is their perpendicular separation:

Area of a trapezium $= \frac{1}{2}(a + b)h$

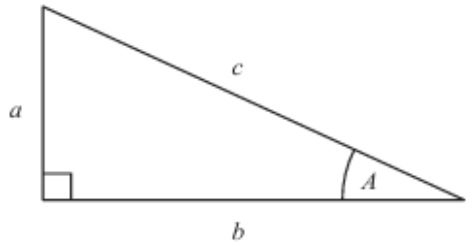
Volume of a prism = area of cross section × length

Where r is the radius and d is the diameter:

Circumference of a circle $= 2\pi r = \pi d$

Area of a circle $= \pi r^2$

Pythagoras' Theorem and Trigonometry



In any right-angled triangle where a, b and c are the length of the sides and c is the hypotenuse:

$a^2 + b^2 = c^2$

In any right-angled triangle ABC where a, b and c are the length of the sides and c is the hypotenuse:

$\sin A = \frac{a}{c}$ $\cos A = \frac{b}{c}$ $\tan A = \frac{a}{b}$

Compound Interest

Where P is the principal amount, r is the interest rate over a given period and n is number of times that the interest is compounded:

Total accrued $= P\left(1 + \frac{r}{100}\right)^n$

Probability

Where P (A) is the probability of outcome A and P (B) is the probability of outcome B:

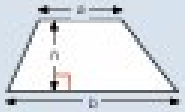
P (A or B) = P (A) + P (B) – P (A and B)

edexcel

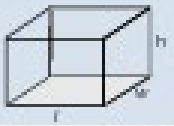
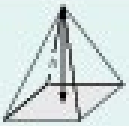
Edexcel GCSE (9-1) Maths: need-to-know formulae

www.edexcel.com/gcsemathsformulae

Areas

Rectangle = $l \times w$	
Parallelogram = $b \times h$	
Triangle = $\frac{1}{2} b \times h$	
Trapezium = $\frac{1}{2}(a + b)h$	

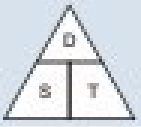
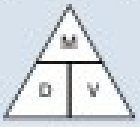
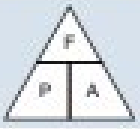
Volumes

Cuboid = $l \times w \times h$	
Prism = area of cross section × length	
Cylinder = $\pi r^2 h$	
Volume of pyramid = $\frac{1}{3}$ × area of base × h	

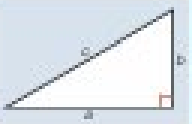
Circles

Circumference = π × diameter, $C = \pi d$	
Circumference = 2 × π × radius, $C = 2\pi r$	
Area of a circle = π x radius squared $A = \pi r^2$	

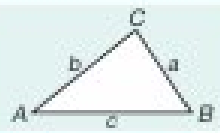
Compound measures

Speed: $\text{speed} = \frac{\text{distance}}{\text{time}}$	
Density: $\text{density} = \frac{\text{mass}}{\text{volume}}$	
Pressure: $\text{pressure} = \frac{\text{force}}{\text{area}}$	

Pythagoras

Pythagoras' Theorem For a right-angled triangle, $a^2 + b^2 = c^2$	
Trigonometric ratios (new to F) $\sin x° = \frac{\text{opp}}{\text{hyp}}$, $\cos x° = \frac{\text{adj}}{\text{hyp}}$, $\tan x° = \frac{\text{opp}}{\text{adj}}$	

Trigonometric formulae

Sine Rule $\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$	
Cosine Rule $a^2 = b^2 + c^2 - 2bc \cos A$	
Area of triangle = $\frac{1}{2} ab \sin C$	

Quadratic equations

The Quadratic Equation

The solutions of $ax^2 + bx + c = 0$, where $a \neq 0$, are given by $x = \frac{-b \pm \sqrt{(b^2 - 4ac)}}{2a}$

Foundation tier formulae

Higher tier formulae

Science - How can I use the Periodic Table?

Group 1 – Alkali Metals

Group 7 – **Halogens**

Group 0 – **Noble gases**

Group number – tells you the number of **electrons** in an elements **outer** shell.

Element **symbol**
Element **name**

Mass Number = number of **protons** and **neutrons** added together.

Atomic / Proton Number = number of **protons** which is the same as the number of **electrons**.

Neutrons = Mass number – Atomic number

Elements in the **same group** have **similar properties**.

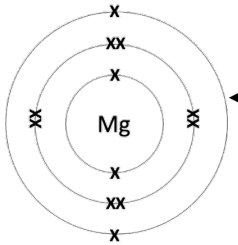
Noble gases have a **full outer shell** of electrons E.g., Neon (Ne)

1	2										3	4	5	6	7	0
																4 He helium 2
7 Li lithium 3	9 Be beryllium 4										11 B boron 5	12 C carbon 6	14 N nitrogen 7	16 O oxygen 8	19 F fluorine 9	20 Ne neon 10
23 Na sodium 11	24 Mg magnesium 12										27 Al aluminium 13	28 Si silicon 14	31 P phosphorus 15	32 S sulfur 16	35.5 Cl chlorine 17	40 Ar argon 18
39 K potassium 19	40 Ca calcium 20	45 Sc scandium 21	48 Ti titanium 22	51 V vanadium 23	52 Cr chromium 24	55 Mn manganese 25	56 Fe iron 26	59 Co cobalt 27	59 Ni nickel 28	63.5 Cu copper 29	65 Zn zinc 30	70 Ga gallium 31	73 Ge germanium 32	75 As arsenic 33	79 Se selenium 34	80 Br bromine 35	84 Kr krypton 36
85 Rb rubidium 37	88 Sr strontium 38	89 Y yttrium 39	91 Zr zirconium 40	93 Nb niobium 41	96 Mo molybdenum 42	[97] Tc technetium 43	101 Ru ruthenium 44	103 Rh rhodium 45	106 Pd palladium 46	108 Ag silver 47	112 Cd cadmium 48	115 In indium 49	119 Sn tin 50	122 Sb antimony 51	128 Te tellurium 52	127 I iodine 53	131 Xe xenon 54
133 Cs caesium 55	137 Ba barium 56	139 La* lanthanum 57	178 Hf hafnium 72	181 Ta tantalum 73	184 W tungsten 74	186 Re rhenium 75	190 Os osmium 76	192 Ir iridium 77	195 Pt platinum 78	197 Au gold 79	201 Hg mercury 80	204 Tl thallium 81	207 Pb lead 82	209 Bi bismuth 83	[209] Po polonium 84	[210] At astatine 85	[222] Rn radon 86
[223] Fr francium 87	[226] Ra radium 88	[227] Ac* actinium 89	[267] Rf rutherfordium 104	[270] Db dubnium 105	[269] Sg seaborgium 106	[270] Bh bohrium 107	[270] Hs hassium 108	[278] Mt meitnerium 109	[281] Ds darmstadtium 110	[281] Rg roentgenium 111	[285] Cn copernicium 112	[286] Nh nihonium 113	[289] Fl flerovium 114	[289] Mc moscovium 115	[293] Lv livermorium 116	[293] Ts tennessine 117	[294] Og oganesson 118

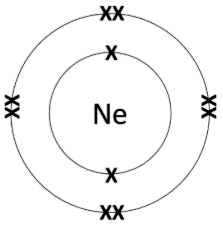
relative atomic mass
atomic symbol
name
atomic (proton) number

Non-Metals

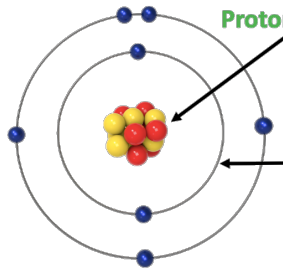
Transition Metals



Magnesium (Mg) has **12 electrons** in total. It is in **group 2** so has 2 electrons in its **outer** shell. Mg's electronic configuration is 2,8,2.



Subatomic Particle	Mass	Charge
Proton	1	+1
Neutron	1	0
Electron	Negligible	-1



Science - Experiments

1. Key Terms

1. Key Terms	Description
Independent variable	The variable you change in an investigation
Dependent variable	The variable you measure in an investigation
Control variable	The variable you keep the same in an investigation
Hypothesis	A prediction of what will happen in an investigation
Reliability	We use control variables to ensure a reliable experiment
Reproducible	To re-do our experiment and get similar results due to a reliable method
Mean	Doing an experiment 3 times then dividing by 3 to get an average
Fair test	An experiment where only the independent variable changes
Anomalous result	Result that does not fit with the rest of the data

2. Designing and performing experiments

1. ***Repeatable*** – The **same** person gets the **same results** after repeating the experiment using the same method and equipment.
2. ***Reproducible*** – Similar results can be achieved by **someone else** or using a **different method**/piece of equipment.
3. ***Accurate*** – Results are close to the true answer
4. ***Precise*** – data is **close** to the **mean** (or the average!)

For data to be reliable, it must be **repeatable** and **reproducible**

3. The Variables

Independent variable – the thing we change!

Independent variable – I want to see if how hot water is increases the rate of diffusion from a teabag. So, I am changing the temperature (degrees Celsius) of water.

Control variables – these are things we **keep the same** to ensure a reliable experiment (one we can repeat and reproduce.

Variable | Example

Control variables – I want **keep everything else the same**, e.g., the type of teabag, the volume of water (mL) used, the timer started at the same time, the same end point.

Dependent variable – the thing we are **measuring** overall.

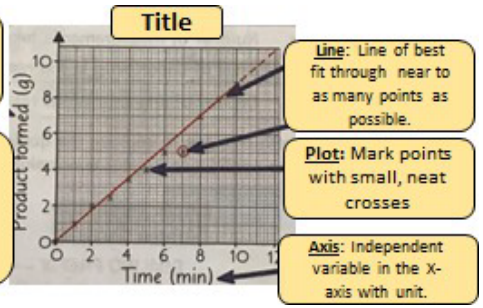
Dependent variable – I want to know if increasing water temperature increases the rate of diffusion from a tea bag. Therefore, I want to **measure** the rate of diffusion!

4. Presenting Data

- Scale – evenly spread
- Plot – draw with a small, neat 'x'
- Line of best fit
- Axis – both X (bottom) and Y (side) axis have titles and units!
- Title

Axis: Dependent variable on Y-axis with Unit.

We must always draw a graph with a pencil and a ruler!



Drawing conclusions from data:

1. State the relationship between the independent and dependent variable, e.g., 'as the time increases the product formed increases.'
2. Use statistics to support your answer. 'For example, at 10 minutes there was 50g of product, compared to 160g at 20 minutes'
3. Refer to the original hypothesis – does the data support this?

When evaluating think of the positives and negatives of the method (the validity - did they use enough controls? And of the results – were results reliable, accurate, reproducible?) and come to an overall conclusion.

Science - How can I use the Physics equation sheet? How can I use the Physics equation sheet?

HT = Higher Tier only equations

Triple only equations

kinetic energy = 0.5 × mass × (speed)^2	$E_k = \frac{1}{2} m v^2$
elastic potential energy = 0.5 × spring constant × (extension)^2	$E_e = \frac{1}{2} k e^2$
gravitational potential energy = mass × gravitational field strength × height	$E_p = m g h$
change in thermal energy = mass × specific heat capacity × temperature change	$\Delta E = m c \Delta\theta$
power = $\frac{\text{energy transferred}}{\text{time}}$	$P = \frac{E}{t}$
power = $\frac{\text{work done}}{\text{time}}$	$P = \frac{W}{t}$
efficiency = $\frac{\text{useful output energy transfer}}{\text{total input energy transfer}}$	
efficiency = $\frac{\text{useful power output}}{\text{total power input}}$	
charge flow = current × time	$Q = I t$
potential difference = current × resistance	$V = I R$
power = potential difference × current	$P = V I$
power = (current)^2 × resistance	$P = I^2 R$
energy transferred = power × time	$E = P t$
energy transferred = charge flow × potential difference	$E = Q V$
density = $\frac{\text{mass}}{\text{volume}}$	$\rho = \frac{m}{V}$

	thermal energy for a change of state = mass × specific latent heat	$E = m L$
	For gases: pressure × volume = constant	$p V = \text{constant}$
	weight = mass × gravitational field strength	$W = m g$
	work done = force × distance (along the line of action of the force)	$W = F s$
	force = spring constant × extension	$F = k e$
	moment of a force = force × distance (normal to direction of force)	$M = F d$
	pressure = $\frac{\text{force normal to a surface}}{\text{area of that surface}}$	$p = \frac{F}{A}$
HT	**pressure due to a column of liquid = height of column × density of liquid × gravitational field strength**	$p = h \rho g$
	distance travelled = speed × time	$s = v t$
	acceleration = $\frac{\text{change in velocity}}{\text{time taken}}$	$a = \frac{\Delta v}{t}$
	(final velocity)^2 – (initial velocity)^2 = 2 × acceleration × distance	$v^2 - u^2 = 2 a s$
	resultant force = mass × acceleration	$F = m a$
HT	**momentum = mass × velocity**	$p = m v$
HT	**force = $\frac{\text{change in momentum}}{\text{time taken}}$**	$F = \frac{m \Delta v}{\Delta t}$
	period = $\frac{1}{\text{frequency}}$	$T = \frac{1}{f}$
	wave speed = frequency × wavelength	$v = f \lambda$
	magnification = $\frac{\text{image height}}{\text{object height}}$	
HT	**force on a conductor (at right angles to a magnetic field) carrying a current = magnetic flux density × current × length**	$F = B I l$
HT	**$\frac{\text{potential difference across primary coil}}{\text{potential difference across secondary coil}} = \frac{\text{number of turns in primary coil}}{\text{number of turns in secondary coil}}$**	$\frac{V_p}{V_s} = \frac{n_p}{n_s}$
HT	**potential difference across primary coil × current in primary coil = potential difference across secondary coil × current in secondary coil**	$V_p I_p = V_s I_s$

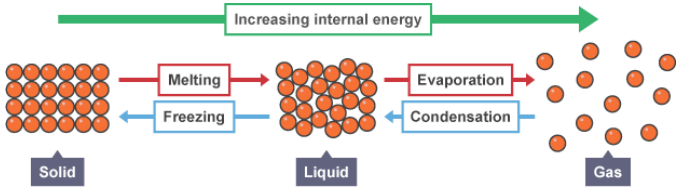
Give
Give
Want

1. What does it give you? What does it want you to calculate?
2. Do you need to rearrange?
3. Do you need to convert?
4. Include the figures
5. Do you need to put it into standard form?
6. Do you need to include the unit?
7. Do you need to give the answer in significant figures?

Science - Particle model of matter

1. Key Terms	Description
Evaporation	Turning from a liquid to a gas
Condensation	Turning from a gas to a liquid
Melting	Turning from a solid to a liquid
Freezing	Turning from a liquid to a solid
Density	The amount of mass in a certain volume of a substance
Specific heat capacity	The amount of energy required to raise the temperature of 1kg of a substance by 1°C
Specific latent heat of fusion/ vaporization	The amount of energy required change the state of 1kg of a substance

2. States of matter

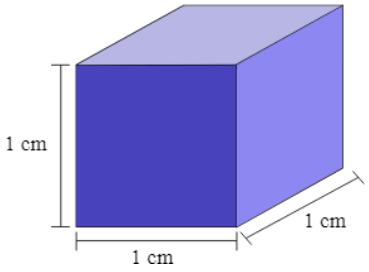


Solid	Liquid	Gas
Very close	Close	Far apart
Regular pattern	Randomly arranged	Randomly arranged
Vibrate around a fixed position	Move around each other	Move quickly in all directions
Low energy	Greater energy	Highest energy

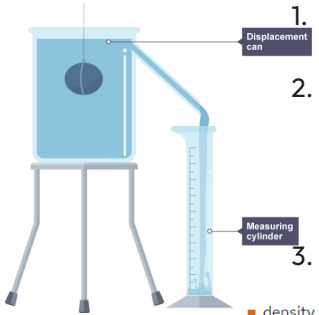
3. Density

Required practical – investigating density of a regular shape

1. Record the mass of an object using a balance
2. Calculate its volume using length x width x height.
3. Calculate density.



Required practical – investigating density of an irregular shape

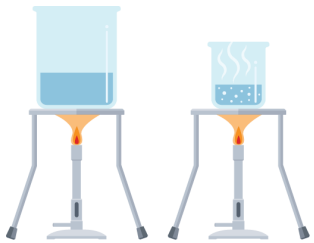


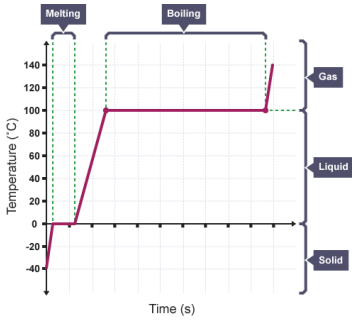
1. Record the mass of an object using a balance
2. Carefully add the object to a full displacement can and record the volume of displaced water using a measuring cylinder.
3. Calculate density.

$$density = \frac{mass}{volume}$$

- density (ρ) is measured in kilograms per metre cubed (kg/m^3)
- mass (m) is measured in kilograms (kg)
- volume (V) is measured in metres cubed (m^3)

4. Energy and temperature



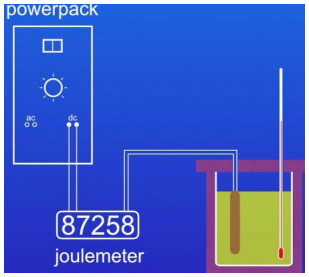


5. Specific heat capacity

$$\Delta E_t = m \times c \times \Delta\Theta$$

- change in thermal energy (ΔE_t) is measured in joules (J)
- mass (m) is measured in kilograms (kg)
- specific heat capacity (c) is measured in joules per kilogram per degree Celsius (J/kg°C)
- temperature change ($\Delta\theta$) is measured in degrees Celsius (°C)

Required practical – investigating specific heat capacity

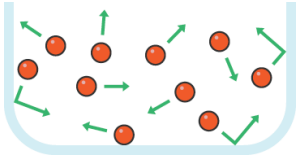


1. Record the mass of an object using a balance
2. Record the start temperature of the object
3. Use a heater to heat the object for 10 minutes, recording the amount of energy transferred
4. Record the end temperature and calculate temperature change
5. Calculate specific heat capacity

6. Particle motion of gases

$$pressure = \frac{force}{area}$$

- pressure (p) is measured in newtons per metre squared (N/m^2)
- force (F) is measured in newtons (N)
- area (a) is measured in metres squared (m^2)



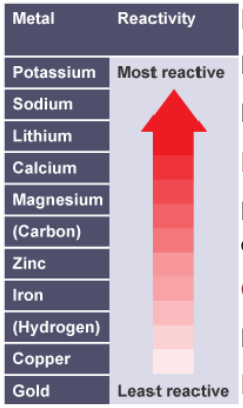
Gas pressure is caused by the frequency of the collisions between gas particles and the walls of the container.

Gas pressure can be changed by changing the temperature of the substance, or the volume of the container.

Science - Chemical and energy changes

1. Key Terms	Description
Endothermic reaction	A reaction which takes energy in from the surroundings to break chemical bonds
Exothermic reaction	A reaction which releases energy from the surroundings when chemical bonds are made
Electrolysis	The splitting up of a molten or dissolved ionic compound using electricity
Titration	A technique used to determine the concentration of an acid or alkali
Acid	A technique used to determine the concentration of an acid or alkali
Alkali	A solution with more OH- ions than H+ ions
Salt	A compound containing a metal and a non-metal
Neutralisation reaction	A reaction between an acid and alkali, making a salt plus water

2. Reactivity



Equations to remember

Metal + water -> metal hydroxide + water

Metal + acid -> salt + hydrogen

Metal extraction using carbon

Metal oxide + carbon -> metal + carbon dioxide

Oxidation

Metal + oxygen -> metal oxide

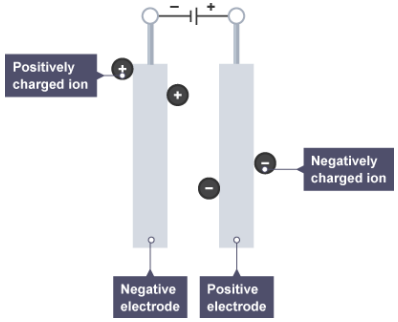
Neutralisation

Acid + base -> salt + water

3. Electrolysis

Electrolysis is used to extract metals which are more reactive than carbon.

Positive ions move to the negative electrode (cathode), whilst negative ions move to the positive electrode (anode).



Molten substances

At the cathode (-) The metal will form At the anode (+)

The non-metal will form

Substances in solution

At the cathode (-)

If the metal ion is less reactive than hydrogen, a metal will be formed

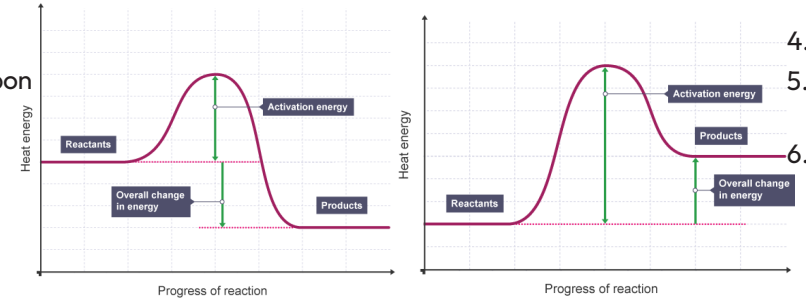
If the metal ion is more reactive than hydrogen, hydrogen will be formed.

At the anode (+)

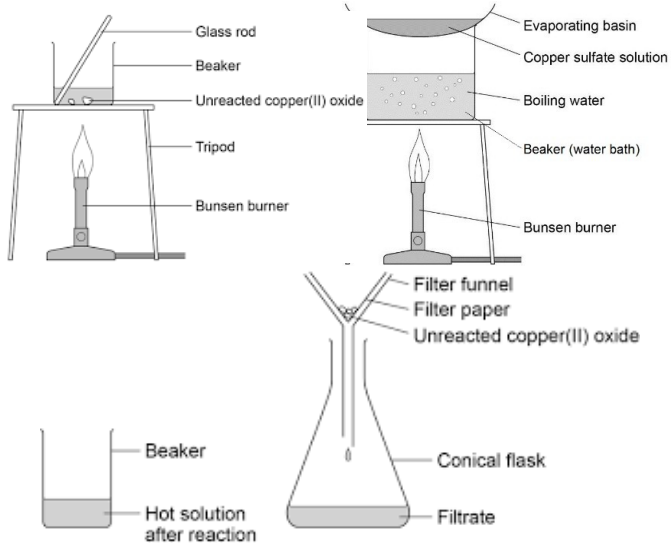
If the non-metal ion is in group 7, a group 7 molecule will be formed.

If the non-metal ion is not a halide, oxygen will be formed.

4. Endothermic & exothermic reactions

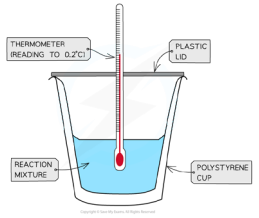


5. Making a soluble salt



6. Temperature changes required practical

Reacting two solutions, e.g. acid and alkali



1. Place the polystyrene cup inside the glass beaker to make it more stable.
2. Measure an appropriate volume of each liquid, e.g. 25 cm3.
3. Place one of the liquids in a polystyrene cup.
4. Record the temperature of the solution.
5. Add the second solution and record the highest or lowest temperature obtained.
6. Change your independent variable and repeat the experiment. Your independent variable could be the concentration of one of the reactants, or the type of acid/alkali being used, or the type of metal/metal carbonate being used.

Science - Quantitative chemistry

1. Key Terms	Description
Conservation of mass	No atoms are lost or gained in a chemical reaction
Reactants	Substances found on the left side of a chemical equation
Products	Substances found on the right side of a chemical equation
Uncertainty	A measure of how precise a value is
Concentration	A measure of the number of particles dissolved in a certain volume of solution
HT only – Avogadro's constant	6.02×10^{23}. the number of particles in 1 mole of a substance
HT only – limiting reactant	The reactant which is used up in a reaction
HT only – reactant in excess	The reactant which is left over at the end of a reaction

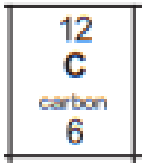
2. Conservation of mass

- No atoms are lost or gained in a chemical reaction
- Equations are balanced so that there is the same number of atoms of each element in the reactants as there is in the products

2Cu + O_2 -> **2**CuO

3. Relative formula mass and percentage by mass

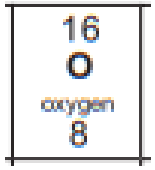
- The relative formula mass (Mr) is the sum of the mass numbers of the atoms found in the formula.



Example: Calculate the relative formula mass (Mr) of carbon dioxide (CO2)

12 + (16 X 2) = 44

- Percentage by mass is calculated by dividing the atomic mass by the formula mass and then multiplying by 100.



Example: Calculate the percentage by mass of carbon in carbon dioxide (CO2)

(12 ÷ 44) x 100 = 27.27%

4. Concentration

$$concentration\ in\ g/dm^3 = \frac{mass\ of\ solute\ in\ g}{volume\ in\ dm^3}$$

Example: 8g of sodium hydroxide is dissolved in 2dm3 of water. Calculate the concentration of the solution.

$$concentration = \frac{mass\ of\ solute\ in\ g}{volume\ in\ dm^3}$$

$$concentration = \frac{8\ g}{2\ dm^3}$$

$$concentration = 4\ g/dm^3$$

5. Mass changes in a reaction

When a reactant of product is a gas, the reactants can appear to have gained of lost mass.

Example: magnesium reacting with oxygen to make magnesium oxide

2 Mg(s) O_2(g) 2MgO(s)

6. HT only – moles

1 mole is equal to 6.02×10^{23} particles.

Important equations

Number of moles = mass (g) ÷ formula mass

Concentration (mol/dm^3) = moles ÷ volume (dm^3)

A chemical equation tells you the ratio in which the substances react.

Mg + 2HCl -> $MgCl_2$ + H_2

1 mole of magnesium reacts with 2 moles of hydrochloric acid to make 1 mole of magnesium chloride and 1 mole of hydrogen.

Example question: If 12g of magnesium reacts completely with hydrochloric acid, what mass of hydrochloric acid reacts?

1. How many moles of magnesium react?
   12 ÷ 24 = 0.5 moles of magnesium
2. How many moles of hydrochloric acid reacts?
   2 X 0.5 = 1 mole of hydrochloric acid
3. What is the mass of 1 mole of hydrochloric acid?
   1 X 36.5 = 36.5g of hydrochloric acid

Science - Atomic structure

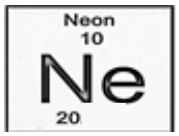
1. Key Terms	Description
Isotope	Atoms of an element with the same number of protons and electrons but a different number of neutrons
Radioactive decay	Unstable nuclei break apart or change, and release radiation
Alpha radiation	Subatomic particle consisting of 2 protons and 2 neutrons
Beta radiation	A type of ionizing radiation consisting of one electron
Gamma radiation	A type of ionising radiation that is also part of the EM spectrum
Half-Life	The time taken for the number of radioactive nuclei in an isotope to halve
Contamination	When an object is touched or mixed with a source of radiation
Irradiation	When an object is exposed to a source of radiation

2. Recap of Atomic Structure

Central nucleus	Contains protons and neutrons
Electron shells	Contains electrons

Name of Particle	Relative Charge	Relative Mass
Proton	+1	1
Neutron	0	1
Electron	-1	Very small

Atomic number: the number of protons in the atom. This is also the number of electrons

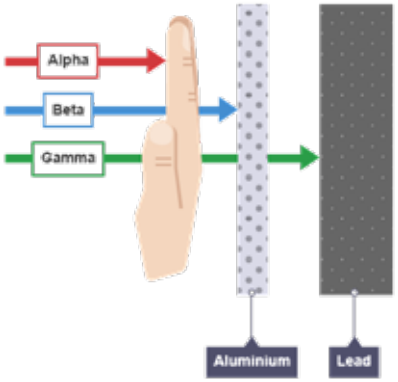


Mass number: the sum of the protons and neutrons

3. Alpha, Beta and Gamma Properties

Nuclei with too many, or too few, neutrons do exist naturally but are unstable and will decay by emitting an alpha particle, a beta particle, a gamma particle or in some cases a single neutron.

	Symbol	Penetrating power	Ionising power	Range in air
Alpha	α	Skin/paper	High	< 5 centimetre (cm)
Beta	β	3 mm aluminium foil	Low	~ 1 metre (m)
Gamma	γ	Lead/concrete	Very low	> 1 kilometre (km)



4. Nuclear Equations

A nucleus changes into a new element by emitting alpha or beta particles. These changes are described using nuclear equations.

$$^{219}_{86}\mathrm{Rn} \rightarrow ^{215}_{84}\mathrm{Po} + ^{4}_{2}\mathrm{He}$$

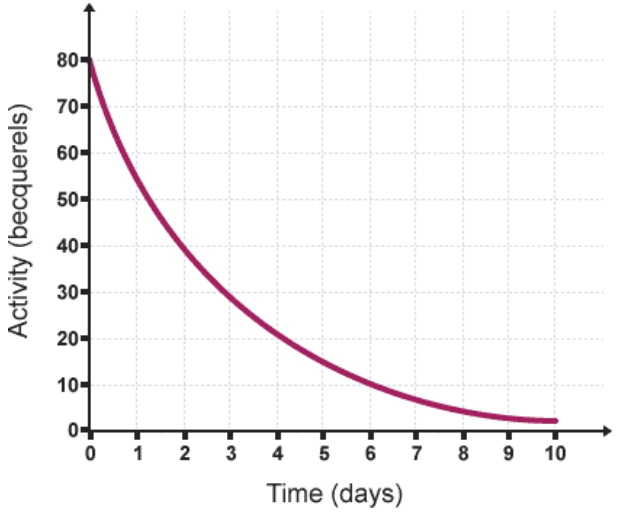
Alpha decay will always emit 2 protons and 2 neutrons, like a helium atom

$$^{14}_{6}\mathrm{C} \rightarrow ^{14}_{7}\mathrm{N} + ^{0}_{-1}\mathrm{e}$$

Beta decay will always emit 1 electron

Gamma is pure energy and will not change the structure of the nucleus in any way.

5. Half- Life



Half-life is the time it takes for half of the unstable nuclei in a sample to decay

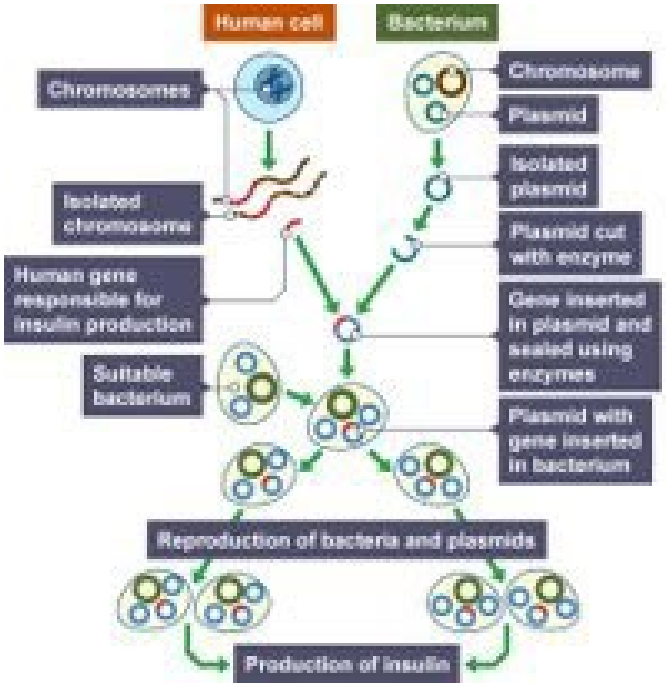
6. Contamination and Irradiation

Irradition	Contamination
Occurs when an object is exposed to a source of radiation outside the object	Occurs if the radioactive source is on or in the object
Doesn't cause the object to become radioactive	A contaminated object will be radioactive for as long as the source is on or in it
Can be blocked with suitable shielding or moving away	Once an object is contaminated, the radiation cannot be blocked from it
Stops as soon as the source is removed	It can be very difficult to remove all of the contamination

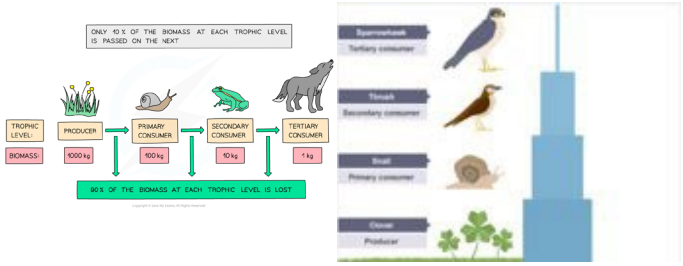
Science - Triple science only

1. Key Terms	Description
Producer	Green plants that photosynthesise.
Biomass	The dry mass of an organism
Trophic level	The position of an organism in a food chain, food web or pyramid
Sustainable	An activity which does not consume or destroy resources or the environment
Biotechnology	The use of selective breeding and genetic modification techniques in farming

2. Production of insulin



3. Biomass transfer



4. Mycoprotein production

Mycoprotein - the process of creating food from a fungus

- The fungus Fusarium is cultured (grown) on an industrial scale in fermenters
- These fermenters are large vats that can be kept at the optimum pH and temperature for Fusarium to grow
- The fungus is grown in aerobic conditions (it is provided with oxygen) and provided with glucose syrup as a food source (to allow the fungus to respire)
- The fungus grows and multiplies within the fermenter
- The fungal biomass is then harvested and purified to produce mycoprotein
- Mycoprotein is a protein-rich food suitable for vegetarians
- For example, it is used in Quorn™ products

5. Food security and farming techniques

Modern farming technique	Advantages	Disadvantages
Livestock raised in small pen and cages	Livestock use less energy for movement, leaving more energy available for growth	Keeping animals confined in such small spaces is seen as unethical by many people. Disease can spread easily as many animals are kept very close together
Livestock fed antibiotics in their food	Antibiotics prevent diseases and bacterial infections in livestock	Scientists think this may be leading to antibiotic resistance in bacteria
Monocultures	Farmers only grow a single crop type across vast areas of land as this maximises the amount of food produced and their profits	Monocultures only support a low level of biodiversity
Fertiliser use	Increase plant growth and therefore maximises food production	Runoff occurs from agricultural land if fertilisers are applied in too high a concentration, causing fertilisers to enter watercourses. This can lead to eutrophication and eventually the death of aquatic organisms
Hedgerow removal	This has made fields bigger and easier to maintain with big farm machinery	Reduces biodiversity as hedgerows provide a habitat for a large number of species

Factor	How is it threatening food security
Changing population	An increased population due to increasing birth rate has threatened food security in some countries (the birth rate of many developing countries is rising very quickly)
Changing diets	Changing diets in developed countries means scarce food resources (often from developing countries) are transported around the world, meaning these food sources become even more scarce in the countries that need them most
Changing environment	Environmental changes can affect food production, leading to widespread famine occurring in some countries (e.g. if the rains fail in a particular year)
Pests and pathogens	Farming is often threatened by new pests and pathogens (e.g. bacteria and viruses) that affect crops or livestock
Costs	Farming has high input costs. The costs of irrigation (watering crops), machinery and livestock can make farming too expensive, leading to a lack of farming and food production in some areas
Conflicts	Conflicts in some parts of the world have already affected the availability of water or food and will continue to do so as these resources become increasingly scarce in some areas for many of the reasons above

Science - Chemical and energy changes (Triple Science only)

1. Fuel Cells

Fuel cells work in a different way than chemical cells. Fuel cells produce a voltage continuously, as long as they are supplied with:

- a constant supply of a suitable fuel
- oxygen, e.g. from the air

The fuel is oxidised electrochemically, rather than being burned, so the reaction takes place at a lower temperature than if it was to be burned. Energy is released as electrical energy, not thermal energy (heat).

Hydrogen-oxygen fuel cells

Hydrogen-oxygen fuel cells are an alternative to rechargeable cells and batteries. In a hydrogen-oxygen fuel cell, hydrogen and oxygen are used to produce a voltage. Water is the only product. The overall reaction in a hydrogen-oxygen fuel cell is:

hydrogen + oxygen ➔ water

$2H_2(g) + O_2(g) \rightarrow 2H_2O(l)$

Electrode half equations - Higher

At the negative electrode: $2H_2 + 4OH^- \rightarrow 4H_2O + 4e^-$

At the positive electrode: $O_2 + 2H_2O + 4e^- \rightarrow 4OH^-$

When you add these two half equations together, you get the following overall equation:

$2H_2 + 4OH^- + O_2 + 2H_2O + 4e^- \rightarrow 4H_2O + 4e^- + 4OH^-$

The hydroxide ions, electrons and two H_2O molecules will now cancel because they are on both sides, leaving the overall equation:

$2H_2 + O_2 \rightarrow 2H_2O$

2. Chemical cells

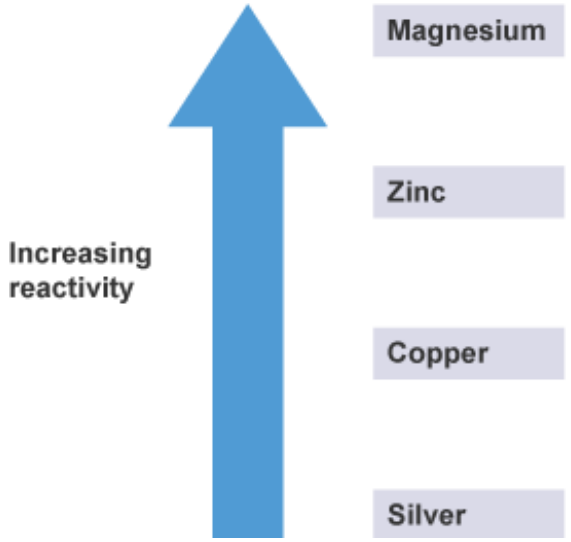
Chemical cells use chemical reactions to transfer energy by electricity. The voltage of a cell depends upon a number of factors, including what the electrodes are made from, and the substance used as the electrolyte.

	Magnesium -2.37	Zinc -0.76	Copper +0.34
Magnesium	0.00V	1.61V	+2.71
Zinc	-1.61V	0.00V	+1.10V
Copper	2.71V	-1.10V	0.00V

A simple cell can be made by connecting two different metals in contact with an electrolyte. A number of cells can be connected in series to make a battery, which has a higher voltage than a single cell.

In non-rechargeable cells e.g. alkaline cells, a voltage is produced until one of the reactants is used up. When this happens, we say the battery 'goes flat'.

In rechargeable cells and batteries, like the one used to power your mobile phone, the chemical reactions can be reversed when an external circuit is supplied

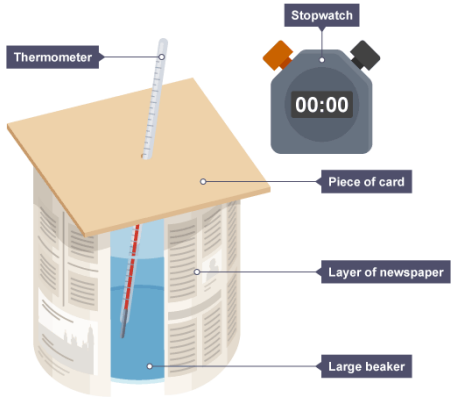


Science – Triple science only

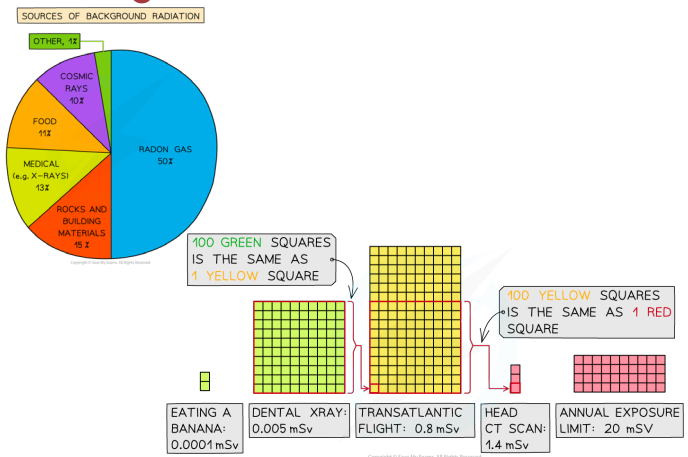
1. Key Terms	Description
Insulator	A material which does not let heat or electricity pass easily through it
Fission	The splitting of a large, unstable nucleus into two smaller nuclei
Fusion	When two light nuclei join to form a heavier nucleus

2. Required practical – investigating methods of insulation

1. Add 100cm^3 of boiling water to a beaker with a lid fitted
2. Record the start temperature of the water
3. Record the temperature of the water every 2 minutes for 60 minutes
4. Repeat steps 1-3 with different types of insulation around the beaker.



2. Background radiation



3. Boyle's law

For a fixed mass of gas at a constant temperature:

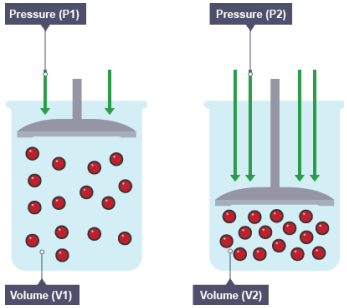
pressure x volume = constant

pV = constant

This is when:

pressure (p) is measured in pascals (Pa)

volume (V) is measured in metres cubed (m^3)

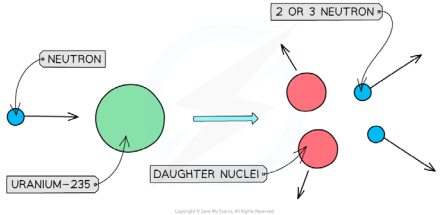


4. Nuclear fission and fusion

Nuclear fission is defined as:

The splitting of large, unstable nucleus into two smaller nuclei

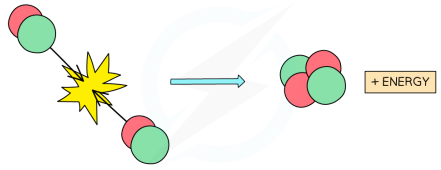
- Isotopes of uranium and plutonium both undergo fission and are used as fuel cells in nuclear power stations
- During fission, when a neutron collides with an unstable nucleus, the nucleus splits into two smaller nuclei (called daughter nuclei) as well as two or three neutron
- gamma rays are also emitted



Nuclear fusion is defined as:

When two light nuclei join to form a heavier nucleus

- This process requires extremely high temperatures to maintain
- This is why nuclear fusion has proven very hard to reproduce on Earth
- Stars use nuclear fusion to produce energy
- In most stars, hydrogen atomsare fused together to form helium and produce lots of energy



Science - Chemical and energy changes (Triple Science only)

1. Key Terms	Description
Scalar	A quantity with only magnitude (size)
Vector	A quantity having direction as well as magnitude
Distance	The total movement of an object
Magnitude	The size of a physical quantity
Speed	is the rate of change of distance - it is the distance travelled per unit time. Like distance, speed does not have an associated direction, so it is a scalar quantity
Velocity	The velocity of an object is its speed in a particular direction
Acceleration	Acceleration is the rate of change of velocity. It is the amount that velocity changes per unit time
Displacement	Displacement is a vector quantity and includes the distance travelled in a straight line from start to finish, and the direction of the straight line

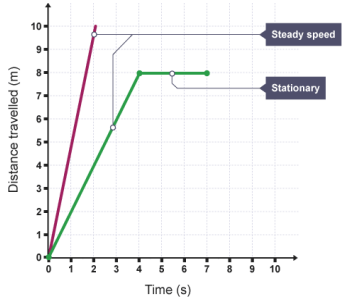
2. Speeds

Some typical values for speed in metres per second (m/s) include:

Method of travel	Typical speed (m/s)
walking	1.5
running	3
cycling	6
car	13-30
train	50
aeroplane	250

3. Distance-time Graph

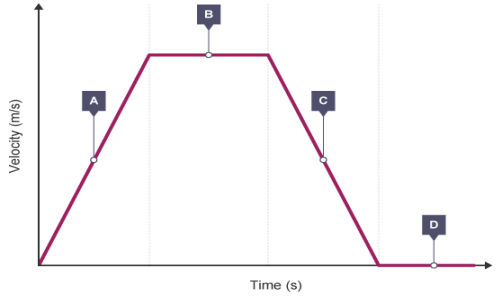
In a distance-time graph, the gradient of the line is equal to the speed of the object. The greater the gradient (and steeper the line) the faster the object is moving.



4. Velocity-time Graphs

Determining acceleration

If an object moves along a straight line, its motion can be represented by a velocity-time graph. The gradient of the line is equal to the acceleration of the object.



The table shows what each section of the graph represents:

Section of the graph	Gradient	Velocity	Acceleration
A	Positive	Increasing	Positive
B	Zero	Constant	Zero
C	Negative	Decreasing	Negative
D (v = 0)	Zero	Stationary (at rest)	Zero

5. Acceleration

Acceleration is the rate of change of velocity. It is the amount that velocity changes per unit.

The change in velocity can be calculated using the equation:

change in velocity = final velocity - initial velocity

$$\Delta v = v - u$$

The average acceleration of an object can be calculated using the equation:

$$acceleration = \frac{change\ in\ velocity}{time\ taken}$$

$$\alpha = \frac{\Delta v}{t}$$

This is when:

- acceleration (a) is measured in metres per second squared (m/s^2)
- change in velocity (Δv) is measured in metres per second (m/s)
- time taken (t) is measured in seconds (s)

If an object is slowing down, it is decelerating (and its acceleration has a negative value).

This equation applies to objects in uniform acceleration:

(final velocity)^2 - (initial velocity)^2 = 2 x acceleration x distance

$$v^2 - u^2 = 2\,a\,s$$

Science - How to Approach 6 Mark Questions

1. How to approach 6 mark questions in Science - Atomic structure

Question	Explain how the properties of _____ radiation affect the level of hazard at different distances
Info	You could be asked this question alpha, beta or gamma radiation. To answer this question, you need to: 1. Describe how penetrating the radiation is 2. Describe the range of radiation 3. Describe the ionising power of radiation 4. Describe the risk at a short range and give a reason why 5. Describe the risk at a long range and give a reason why
Top tip	The examiner may not use the key terms alpha, beta or gamma but use the symbols α, β, γ watch out for this Be clear in your work how far the radiation can travel and what materials it is unable to penetrate
Model answer	Explain how the properties of alpha radiation affect the level of hazard at different distances 1. Alpha radiation is the least penetrating and is unable to pass through a sheet of paper. 2. It also has the least range in air and can only travel 5cm through the air. 3. Alpha radiation is the most ionising 4. At a short range alpha radiation is very dangerous because of how ionising it is. 5. At a long range alpha radiation is not dangerous because it does not have a long range.
Practice	1. Learn and practice the model answer above. 2. Prepare and learn model answers to explain how dangerous beta and gamma radiation are at different distances.

2. How to approach 6 mark questions in Science - Particle model of matter

Question	Identify and explain the properties of _____
Info	You could be asked this question for solids, liquids and gases. To answer this question, you need to: 1. Describe its shape and if it can flow 2. Link the state of matters shape and ability to flow to the forces of attraction between particles. 3. Describe its density and if it can be squashed or compressed. 4. Link the density and ability to be compressed of the state of matter to the closeness of the particles.
Top tip	Link the properties of the states of matter to the arrangement of particles.
Model answer	Identify and explain the properties of a gas. 1. A gas can flow and will completely fill a container that they are in. 2. This is because there are very little forces of attraction between the molecules and so they are able to move freely. 3. A gas has a very low density and can be squashed and compressed. 4. This is because the particles are very far apart and so there is lots of space between them.
Practice	1. Learn and practice the model answer above. 2. Prepare and learn model answers to identify and explain the properties of solids and gases.

Science - How to Approach 6 Mark Questions

3. How to approach 6 mark questions in Science - Quantative chemistry

Question	Calculate the concentration of a solution
Info	You could be given a volume of a solution and the mass of a substance that it contains and be asked to use this to calculate a concentration To answer this question, you will need to do the following: 1. Check the volume you have been given in the question is in the same units as the units you have been asked to give in your answer. If not convert! 2. Check the mass you have been given is in the same units as the units you have been asked to give in your answer. If not convert! 3. Divide the known mass by the volume you have been given. 4. Check your answer is to the correct number of significant figures. 5. Add units
Top tip	To convert from cm^3 into dm^3 divide by 1000.
Model answer	Calculate concentration of hydrochloric acid when it contains 3.2g of hydrogen chloride in 50cm^3 of solution. Give your answer to 2 s.f in g/dm^3 1. Check volume units: 50/1000 = 0.05dm^3 2. Check mass units: 3.2g 3. Divide mass by volume: 3.2/0.05 = 64 4. Round to correct sig fig: 64 5. Add units: 64g/dm^3
Practice	1. Learn and practice the model answer above. 2. Calculate the concentrations of hydrochloric acid in g/dm^3 when 6.8g is dissolved in 100cm^3, when 12.2g in 250cm^3, when 0.1kg is dissolved in 750cm^3 and when 0.25kg is dissolved in 1.5dm^3

4. How to approach 6 mark questions in Science - Chemical and energy changes

Question	Identify what forms at the _____ electrode and explain how this happens.
Info	You will usually be given a diagram of the electrolysis and the name of the solution that is undergoing electrolysis. You will then be asked what forms at one or both electrodes and be asked to explain how this happens. To answer this question: 1. Identify what forms at the electrode. You can use the tips below to help you with this 2. Identify the charge of the ion. 3. Identify that they are attracted to the oppositely charged electrode. 4. Identify if the ion loses or gains electrons. 5. Identify if they are reduced of oxidised. 6. Identify (again) what is formed.
Top tip	Anode: At the positive electrode negative ions lose their electrons and are oxidised. If the solution doesn't contain halides oxygen is made. This oxygen reacts with the carbon in the electrode to make carbon dioxide. Cathode: At the negative electrode positive ions gain electrons and are reduced. If the metal is more reactive than hydrogen, then hydrogen forms at the electrode instead.
Model answer	Explain what forms at the cathode during the electrolysis of copper sulfate 1. Copper forms at the negative electrode. 2. Copper ions have a positive charge... 3. ...and so are attracted to the oppositely charged negative electrode. 4. The copper ions gained electrons... 5. ...and are reduced to form copper Explain what forms at the anode during electrolysis of copper sulfate 1. Oxygen forms at the negative electrode. 2. Oxygen ions have a negative charge... 3. ...and so are attracted to the oppositely charged positive electrode. 4. The oxygen ions lose electrons... 5. ...and are oxidised to form oxygen, the oxygen then goes on to react with the carbon in the electrode to make carbon dioxide gas.
Practice	1. Explain what forms at the electrodes during electrolysis of iron sulfate 2. Explain what forms at the electrodes during electrolysis of copper chloride 3. Explain what forms at the electrodes during electrolysis of sodium chloride

Science - How to Approach 6 Mark Questions

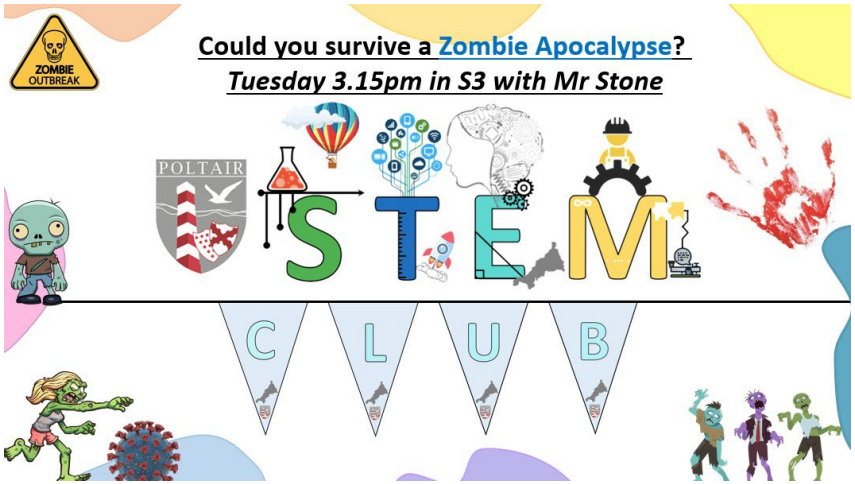
1. How to approach 6 mark questions in Science - Biodiversity

Question	Describe why deforestation is taking place and how it is changing gases in the atmosphere. Describe methods to maintain biodiversity Describe factors which affect food security
Info	At least one of these questions is likely to come up. The examiner is going to be looking for a clear answer written in a logical sequence.
Top tip	Be careful that you use key words/phrases accurately (these are in bold in your model answer below).
Model answer	Describe why deforestation is taking place and how it is changing gases in the atmosphere. Deforestation is occurring because land is required for growing biofuels, growing crops such as rice and rearing animals such as cattle. The wood is also required as a fuel for construction. This deforestation is causing changes in the atmosphere. It is causing carbon dioxide on the atmosphere to rise due to burning and less photosynthesis taking place. Due to the land being used for rice and cattle it is also causing methane levels to increase.
Model answer	Describe methods to maintain biodiversity There are lots of different ways to maintain biodiversity including the use of breeding programmes to increase the population size. We can also protect or regenerate rare habitats to ensure that an animal has a habitat it can survive in. Farmers can also reintroduce field margins such as hedges to provide somewhere for organisms to live. We can also reduce deforestation and recycle our resources.
Model answer	Describe factors which affect food security. (Separate Science only) There are many different factors that can affect food security. One of these factors is rising birth rates, with more people on the Earth, more food is required to feed them. Changing diets can also affect food security as scarce resources are being transported around the world so that people have a variety of foods. Communities are depending on buying food rather than growing it. New pests and pathogens can also damage crops decreasing yield so there is less food to eat. Environmental changes such as flooding and droughts can also cause there to be a decreased yield in crops. Agriculture is also becoming more expensive due to more expensive seeds that have been genetically modified, and increased cost of fertilisers and pesticides so it can be more difficult for farmers to meet all their costs. Finally conflicts (war) can make it difficult to access food and water.
Practice	1. Learn and practice the model answers above.

2. How to approach 6 mark questions in Science - Particle model of matter

Question	Explain how to determine the density of _____
Info	You could be asked this question for any object that is either a regular shape, or irregular shape. Some that have come up in the past include: • A small rock • A metal cube • A small statue • A chess piece • A rock cut into a cuboid To answer this question, you will need to do the following: 1. Identify if the object is a regular or irregular shape. 2. Describe how to measure mass 3. Describe how to measure volume 4. Explain how you will use the results to determine density
Top tip	For each measurement required identify the equipment you will use and describe how to use it.
Model answer	Explain hot to determine the density of a small rock 1. Measure the mass of a rock by placing it on a balance. 2. To find the volume of the rock set a displacement can filled up to be level with the spout. Place a measuring cylinder underneath. Add the small rock to the displacement can. Record the volume of water that was displaced into the measuring cylinder. 3. Calculate the density by dividing the mass by the volume.
Practice	1. Learn and practice the model answer above. 2. Prepare and learn a model answer to explain how you will determine the density of a metal cube, a small statue, a chess piece, and a rock cut into a cuboid.

Science - Clubs and Reading



Post 16 GCSE transition activities to explore:

1. AQA | Subjects | Science | AS and A-level

2. Undergraduate Science Courses (thecompleteuniversityguide.co.uk)

3. The official website of the Nobel Prize - NobelPrize.org

4. National Geographic

5. Discover | Natural History Museum (nhm.ac.uk)

6. NASA

7. http://learn.genetics.utah.edu/

8. Science_A_Level_skills_pack.pdf (oup.com)

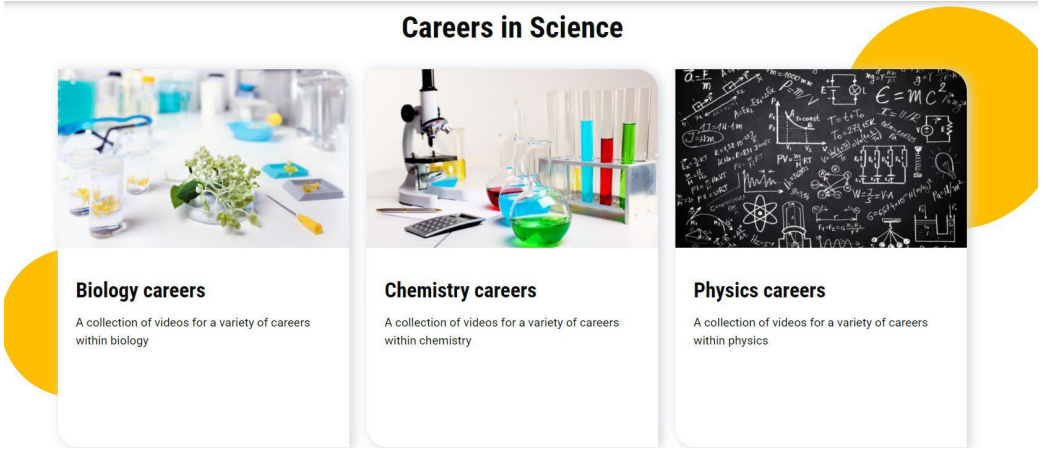
9. Summer Start for A-Level Chemistry – YouTube

10. Why is biodiversity so important? - Kim Preshoff | TED-Ed

11. KS5 Physics Transition workbook 2019.docx - Google Drive

Post 16 GCSE inspirational journals to explore:

1. Physics World
2. New Scientist



Art - Art has value in unequal measures

1. Tier Three Vocabulary

Key Words	Definitions
Portrait	A picture, drawing, painting or 3D sculpture of a person's face, shoulders and body.
Profile	The face from the side.
Negative space	The space and shapes around an object.
Continuous Line	Drawing without lifting the pencil, creating one long line.
Contextualisation	The meaning, message or idea behind an image.
Grid	Using a grid to draw in detail and enlarge a drawing.
Composition	How the artist arranges the objects to create more interesting image that draws the viewer into the image.

2. Art has Value

The value of art can be measured in different ways - personal, cultural, social, economic, political, and so on. Works of art and artists are not equally valued. Artists can be marginalised because of prevailing social attitudes. Attitudes to art change over time.

3. What will I learn

How and why portraits have been created historically and their relevance in this digital world. You will be introduced to a range of artists' portraits and look at the meaning or message behind them. You will develop a high-quality observational drawing using tone through the grid method used by artists such as Chuck Close. This will culminate in a number of outcomes where you will explore techniques, materials and symbolism in your work.

4. Artists that use art as vocabulary

Jean-Michel Basquiat

Basquiat is the most successful black artist. He wanted to be treated equally in the white elite art world. His work is full of symbols and emotions.

Rembrandt

Rembrandt was a Dutch artist that painted over 200 self portraits throughout his life. We have the opportunity to watch him age.

Frida Kahlo

Kahlo became a pioneer for equality and female representation. She used herself in all of her work and shared hr pain and joy with us.

5. Links and Further Reading

Rembrandt (1606 - 1669) | National Gallery, London

Art - Annotation

Annotations are written explanations or critical comments added to your artwork that record and communicate your thoughts and ideas. It is important that you annotate your work as it progresses: **explaining**, **describing** and **evaluating.**

Key Vocabulary Describing the Formal Elements				
Shape , Form, Space	Tone	Texture & Pattern	Line	Colour
Closed, open, distorted, flat, organic, geometric, Negative/ positive, perspective, scale, depth, composition, 2D/3D, volume	Value, dark/medium/light, faded, contrasting, intense, sombre, faint, graduated, dramatic, shadow, highlight, grey	Repeated, structured, geometric/organic, uniform, random, symmetrical, irregular, rough/smooth, broken, fine, flat, uneven, soft	Controlled, continuous, bold, sketched, free, rough, light, flowing, thick/thin, broken, overlapping, angular	Hue, tint, bright, pastel, primary, secondary, tertiary, harmonious, complementary, monochrome, neutral, subtle, vivid, cool/warm, contrasting vibrant, intense

What to write and how to start.

D Describe the context of the piece.
What can you see? Explain the composition, colours, textures.
What is it? What are you working from?
What is the purpose (observation, development, design idea?)

- This piece is part of my….
- I have been working from…..
- My subject matter has been…….this is because…..

E Explain about the materials, techniques and processes used.
What materials have been used to create it?
Have you tried the technique? Was it successful? If it was unsuccessful, why? What would you do different.

- To create my artwork, I used…….
- I explored using……..
- I created this piece because…….
- I am please with this study because…….

A Analyse the meaning of message in the piece
What is the meaning, message, idea in the image? What do you think has inspired the artist?

- I have chosen to look at artwork by the artist……They link to my theme because……
- Their artwork was created during the …….movement in…….and focuses on…..
- Influences for the artist were…..and this is shown in their use of…….because……
- My work is inspired by……..because I…

L Link the work to another artist, object, idea or event- anythin
What does it remind you of? How have you used the artists style in your own work?
Describe how you have used the artists work to inspire and inform your artwork.
Describe the qualities that you wanted to achieve.

- I used the work of artist…..to inspire my own work by……
- The message , meaning or idea behind my work is…….inspired by……..

Connectives: *for example, such as, in addition to, as well as, to show, however, because of, alternatively, except, also, similarly, overall, apart from, in summary*

Computer Science - Networks and Security

1: Network

network	A group of interconnected computers/devices
mesh topology	A network where each node is directly connected to all other nodes.
Star network	A network where each node is connected to a central switch.

2. Network Protocols and Layers

SMTP	Simple Mail Transfer Protocol moves emails to the right server
POP	Post Office Protocol retrieves and deletes email from server
IMAP	Internet Message Access Protocol allows multiple devices to access messages on the mail server
HTTP	HyperText Transfer Protocol transfer protocol for html content on the World Wide Web
HTTPS	HyperText Transfer Protocol Secure encrypted version of HTTP
FTP	File Transfer Protocol transfers files on a client-server network
TCP	Transmission Control Protocol sends data packets over the Internet
IP	Internet Protocol works with TCP to send packets to the right address
MAC	Media Access Control unique address for each network interface
Ethernet	In a LAN connect devices with cables

3. Network threats and vulnerabilities

Spyware	Some used for testing/monitoring
Identity Theft	For Impersonation or Fraud
Phishing	Messages promoting a fake link
Spam	Unsolicited advertising junk mail
Cookies	Text files identifying you
Hackers	Black Hat, White Hat, Grey Hat
SQL Injection	Small bits of code that look like variables, but which are processed and return information.
Viruses / Malware	
Worms	(Self replicating, spreads by email)
Trojans	(Virus hidden within another app)
DDoS attack	Distributed Denial of Service

Prevention

Network forensics / Audit Trails (Logs)

Network policies & rules AUP: Acceptable Use Policy

Anti-malware / Antivirus (updates!) Firewall / Proxy to filter data Encryption

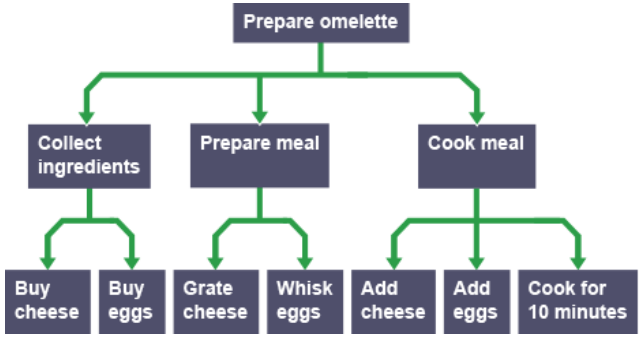
Computer Science - Computational Thinking

1. Computational Thinking

Abstraction	Converting a real world problem into the inputs, processes and outputs needed to solve it. Simplifying and removing unnecessary detail
Decomposition	Breaking a problem into sub-problems to make the task more manageable or to share tasks
Algorithmic thinking	Identifying the steps to solve a problem in the right sequence
Pseudocode	Not an actual programming language. Instead, it is a simple way of describing a set of instructions in a manner that resembles a programming language

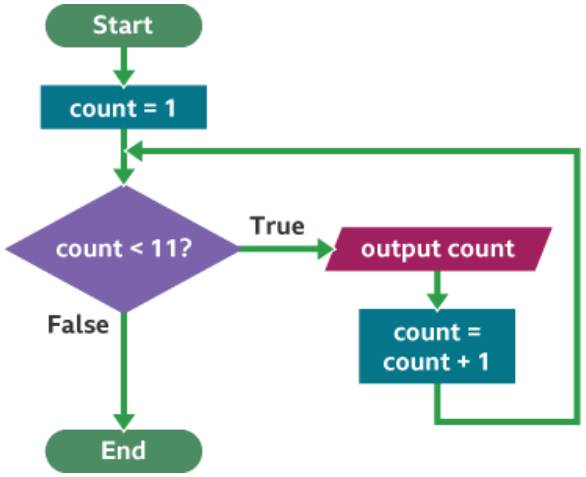
2. Structure Diagram

Break down the problem into smaller sections. These smaller sections can then be worked on one at a time. Links to Decomposition



3. Flow Diagram

Break down the problem into the inputs, processes, decisions and outputs needed to solve a problem. Links to Abstraction.



4. Test data

Check	Example
Range check	A number or date is within a sensible/allowed range
Type check	Data is of the right type, such as integer, letter or text
Length check	Text entered is not too long or too short – for example, a password
Presence check	Checks that data has been entered, i.e. the field has not been left blank
Format check	Checks that the format of, for example, a postcode or email

5. Maintainability

Ways to make your code more maintainable:

- Using Sub Programs
- Naming conventions
- Indentation
- Commenting

Computer Science - Software and Ethics

1. Operating system – roles

- Provides the user interface
- Memory Management (RAM and Virtual Memory)
- Multitasking (coordinating the processes of open applications on the computer cores and identifying and responding to hardware and software interrupts)
- Manage Peripheral devices (all connected hardware drivers)
- File management (where files are saved to secondary storage)
- Logins and user access levels.

2. Utility Software

Type	Description
Encryption	Makes files unreadable without the encryption
Defragmentation	Reorders files stored on hard disk to free up space
Compression	Reduce file size: Lossy or Lossless
Back-up	Create a copy of files for security

3. Social, Environmental, Cultural and legal implications of development

Ethical issues

What is morally right / wrong not just what is possible. Equality of access to technology.
Public safety and fairness

Cultural issues

Changes to the way we live, work, shop, communicate, socialise, etc.
Wearables / the Internet of things
High street vs online retailing
Social media (benefits/risks, digital divide)
Robots / AI

Legal issues

Intellectual Property, Copyright & Software Licences.
Open Source vs Proprietary software
Computer Crimes

- The Data Protection Act 1998/2018
- The Computer Misuse Act 1990
- The Copyright, designs and Patents Act 1998
- Creative Commons License
- The Freedom of Information Act 2000

Environmental issues

Fossil fuels in computer manufacturing
Landfill / Toxic wasteeg lead, arsenic
Power consumption (2% by Data Centres)
Recycling & Recycling Process (Exposure

Privacy issues

Personal / Sensitive Data
Data mining, Content Networks & Advertising. Digital Footprint

Creative Media

1. Primary and Secondary Research

Using primary research sources means carrying out the investigation and finding the information yourself, e.g. by using surveys.

Using secondary research sources is when you find out information that someone else has already researched and published, e.g. from the internet, books or newspapers

Target audience: The specific audience group a media text is aimed at.

2. Use of Language

Modes of address also rely on the use of different language styles and expression to appeal to an audience. These include:

- Formal – use of formal language in quality newspapers can give a serious and professional tone, and can be used to create trust.
- Informal – a chattier style such as that used in some magazines to 'connect' with the audience and make them feel comfortable with a media product.
- Hyperbole – use of overexaggerated terms, often used in advertisements to persuade the audience that a product is AMAZING!

3. Point of View

Media products can address the audience by presenting their narratives from different viewpoints. For example:

- Narrator in a radio or TV documentary
- Editorial or opinion piece in a newspaper or blog
- First-person perspective in a computer game, where play is experienced as though you are the character.

4. Modes of Address

Modes of address are ways in which a media text speaks to the audience to engage them. These include:

Direct – speaking directly to the audience to create a bond with them. This is often used in adverts to persuade them of the benefits of a product.

Indirect – where the audience observes the narrative from the outside as it unfolds.

Omniscient – whereby media text provides the audience with information that the characters do not know, e.g. by means of narration or camera work.

5. Character types and functions

Vladimir Propp wanted to understand the patterns that lay beneath narratives. He established seven different character types that crop up regularly in stories. Think about where these appear in your favourite games or films.

Hero – undertakes a journey or a quest.

Villain – attempts to thwart or kill the hero.

Donor – gives the hero advice or a useful object.

Helper – a friend who helps the hero in their quest.

Princess – acts as motivation and reward for the quest.

Dispatcher – sends the hero on their quest.

False hero – one who turns on the hero and is ultimately punished.

Creative Media

6. Representation

Representation is how media texts deal with and present topics to an audience such as:

- Gender
- Age
- Ethnicity
- National and regional identity
- Social issues and events

Media texts have the power to shape an audience's knowledge and understanding about these important topics.

Stereotypes are a simplified representation of a person, groups of people or a place, through basic or obvious characteristics - which are often exaggerated

7. Genre

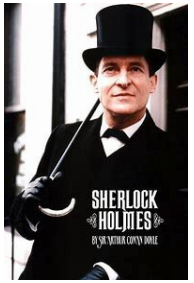
For example:

- Crime drama
- Action Adventure
- Romance
- Horror
- Documentary

8. Sub-Genre

For example:

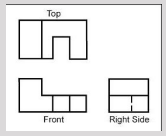
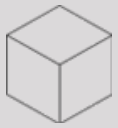
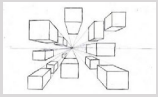
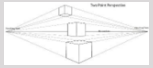
- Period Crime drama
- Car Action Adventure
- Youth Romance
- Comedy Horror
- Music Documentary



1. Key Words	Definitions
Aspiration	A hope or ambition in life
Blog	An online publication written by an individual or a group of individuals that covers a subject of their choosing, a contraction of the term 'web log'
Brand identity	The image a company constructs for itself through the use of logos, slogans and other marketing tools in order to appeal to an audience
Demographic profile	A demographic audience profile defines groups based on things like age, gender, income, education and occupation
Demographics	The study of population statistics. It measures trends and tracks changes in births, deaths and migration
Ideology	A set of ideas or thoughts that someone, or a group of people, believe in. The plural of this is 'ideologies'
Mass market/ mainstream audience	The widest possible audience available for a media text; Hollywood studio films, prime-time TV shows and tabloid newspapers target a mass market audience
Mode of address	The ways in which a media text uses language to speak to its target audience - for example, formal or informal
Niche audience	A small, narrow audience interested in a specific topic or theme - the opposite of a mass market audience
Podcast	An audio file, usually similar to a radio show, that can be streamed or downloaded to a computer or mobile device
Psychometric	Using values, attitudes and personality traits to define or categorise a group
Stereotype	A conventional and standard view of someone or a type of people
Subgenre	A subcategory within a particular genre

Engineering - Briefs, Specifications, ideas & development

1. Engineering Drawings and Conventions

Technique	Description/ notes	Diagram
Orthographic Projection/ Working Drawings	• Includes "Front", "Plan" and "End" 2D Views, and often an Isometric 3D View • Standardised method for scale, dimensions and line types • Great for manufacturing	
Isometric	• Common 3D sketching method • Can be drawn free-hand or using isometric paper and ruler • Angles are at 30 degrees • Great for seeing most of the products	
1-Point Perspective	• A 3D drawing method • Often used by interior designers and architects • Gives drawings depth • Only uses 1 vanishing point	
2-Point Perspective	• Used for 3D designs • Exaggerates the 3D effect • Objects can be drawn above of below the horizon line but must go to the 2 vanishing points	
Annotated Drawings/ Free and Sketches	• Quick and easy way of getting ideas down • Range of ideas can be seen • Annotation helps explain designs further	
Exploded View	• Helps see a final design of a product and all it's parts • Can see where all the parts fit • Great for manufacturers	

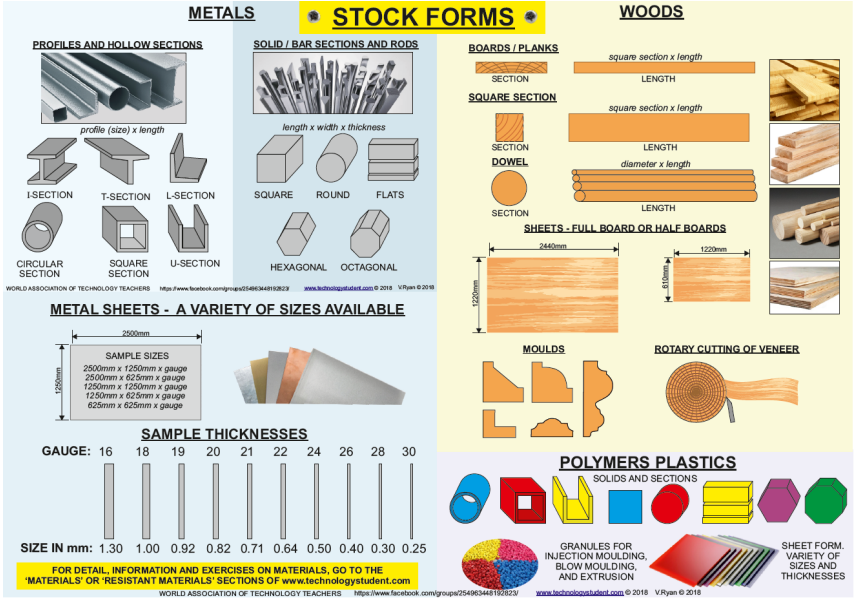
A heavy line is used to show visible details

A dashed line is used to show the position of hidden details

A dashed and dotted line marks the centre of a circular feature

A light, fine line is used as a construction/projection line.

2. What are Stock Forms?



3. What are Material Properties?

Property	Description & Application
Tensile and Compressive Strength	**Tensile = The ability to withstand stretching forces.** Structural steel is used to make a framework on top of concrete **Compressive = The ability to withstand compressive forces.**
Hardness	**Resistance to scratching, cutting, denting and wear.** High speed steel is very hard and so is suitable for use in high-speed machining operations.
Toughness	**Resistance to sudden shock without breaking or deforming.** Many plastics are very tough that is why they are used to produce products such as wheelie bins, classroom chairs and buckets.
Malleability	**The ability to be permanently deformed in all directions without fracture.** Precious metals like silver and gold can be formed into shape by hammering and beating .
Ductility	**The ability to be stretched and permanently deformed without breaking.** Mild steel is used in the production of car bodies as it can resist the stretching involved in forming processes. Copper is used to make wires and pipes
Work hardening	**Changes in the property of a material as a result of working it.** Steel can be made brittle (easy to snap) if you keep bending it back and forth.
Conductivity	**The ability to conduct electricity and heat.** Copper is used to produce electrical wiring and water pipes as it is an excellent conductor.
Corrosive resistance	**Resistance to oxygen and water in the air.** Tinplate is used to package beans and other food products as it is resistant to corrosion.
Environmental degradation	**The ability to withstand environmental conditions.** Zinc is used as coating on steel buckets, screws and roofing sheets as it is extremely resistant to corrosion from moisture and other environmental conditions.
Elasticity	**The ability to regain its original shape after it has been deformed.** Plastic or rubber based materials are used on handles as they provide a comfortable grip on sporting products.

4. Engineering Tools

Internal Callipers:
Measue internal sizes and diameters

External Callipers:
Measure external sizes and diameters

Odd Leg Callipers:
Mark a line parallel to an edge.

Engineers Square:
Marking out and checking 90 degrees.

Centre punch:
Make an indentation in metal prior to drilling a hole into it.

Geography - Climate Change

1. What is Climate?

- Climate is the average weather in a place. It tells us what the weather is usually like.
- • Climate is worked out by taking weather measurements over a long period of time (usually 30 years) and then calculating the average i.e. of temperature and rainfall.
- • Weather is what you get on a day-to-day basis!

2. What is Climate Change?

A change in global or regional climate patterns, in particular a change apparent from the mid to late 20th century onwards and attributed largely to the increased levels of atmospheric carbon dioxide produced by the use of fossil fuels.!

3. Evidence for Climate Change

Analysis of Pollen and Tress

Allows us to see if more or less pollination has taken place. More pollen would suggest a warmer climate as there would be more pollen and less pollen would indicate the opposite.

Weather Recordings

Thermometers are more accurate now and digital readings can be recorded remotely. This means you can easily tell if the climate has changed as you can compare different dates at different times.

Ice Cores

Locked inside ice are molecules and trapped air, which are preserved year on year with more snowfall. Subtle changes in temperature can be measured from ice cores extracted in Antarctica. These can be used to tell the climate from millions of years ago.

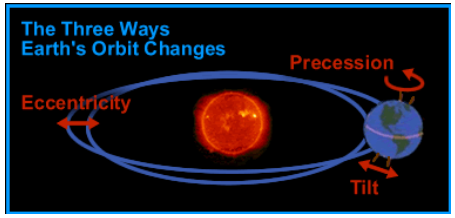
Rocks and Fossils

These can be studied for information covering longer time periods E.g. limestone would have been formed on the bottom of a warm seabed millions of years ago. Telling us what climate was like when first created

4. Natural Causes of Climate Change

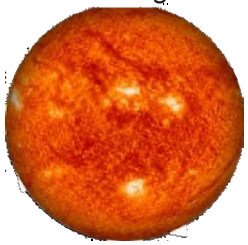
Orbital Theory

- The Earth's orbit is sometimes circular, and sometimes more of an ellipse (oval)
- The Earth's axis tilts. Sometimes it is more upright, and sometimes more on its side.
- The Earth's axis wobbles, like a spinning top about to fall over.



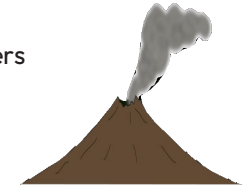
Sunspot Theory

- The Sun's output is not constant. Cycles have been detected that reduce or increase the amount of solar energy.
- Temperatures are greatest when there are plenty of sunspots – because it means other areas of the Sun are working even harder!



The Eruption Theory

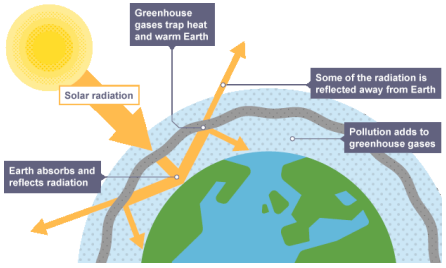
- Volcanic eruptions produce ash and sulphur dioxide gas. This is circulated globally by high level winds.
- The blanket of ash and gas will stop some sunlight reaching the Earth'.
- Instead, the sunlight is reflected off the ash/gas, back into space.
- This cools the planet and lowers the average temperature.



5.Human Causes of Climate Change

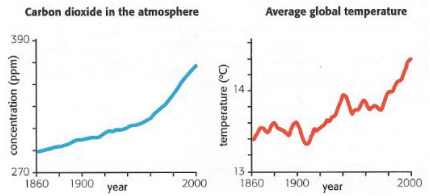
The Greenhouse Effect

- A natural function of the Earth's atmosphere is to keep in some of the heat that is lost from the Earth.
- The atmosphere allows the heat from the Sun (short-wave radiation) to pass through to heat the Earth's surface.
- The Earth's surface then gives off heat (long-wave radiation).
- This heat is trapped by greenhouse gases (e.g. methane, carbon dioxide and nitrous oxide), which radiate the heat back towards Earth.
- This process heats up the Earth.



Human Factors Increasing Warming

- Burning fossil fuels, e.g. coal, gas and oil - these release carbon dioxide into the atmosphere.
- Deforestation - trees absorb carbon dioxide during photosynthesis. If they are cut down, there will be higher amounts of carbon dioxide in the atmosphere.
- Dumping waste in landfill - when the waste decomposes it produces methane.
- Agriculture - agricultural practices lead to the release of nitrogen oxides into the atmosphere.



- Carbon dioxide (CO2) is a greenhouse gas.
- As technology has developed and the population on earth has increased, the amount of C02 has increased since 1860.
- Data clearly shows that although temperatures have fluctuated since 1960, the general pattern is that global temperatures have increased as C02 levels rise

Geography - Climate Change

6. Impacts of Climate Change

UK

- Crops such as oranges, grapes and peaches can be grown in the UK
- Winter heating costs will be reduced as winters will be milder
- Accidents on the roads in winter will be less likely to occur
- Sea levels could rise, covering low lying areas, in particular east England
- Scottish ski resorts may have to close due to lack of snow
- Droughts and floods become more likely as extreme weather increases
- Increased demand for water in hotter summers puts pressure on water supplies

Worldwide

- Energy consumption may decrease due to a warmer climate
- Longer growing season for agriculture
- Frozen regions such as Canada may be able to grow crops
- Sea level rise will affect 80 million people
- Tropical storms will increase in magnitude (strength)
- Species in affected areas (e.g. Arctic) may become extinct
- Diseases such as malaria increase, an additional 280 million people may be affected

But the negative impacts of climate change will significantly outweigh the positives.

7. Adapting to Climate Change

Adaptation strategies do not aim to reduce or stop global warming. Instead they aim to respond to climate change by limiting its negative effects. Strategies include:

Agriculture - farmers will have to adapt as some crops may not be able to grow in a warmer climate. However, other crops (e.g. oranges and grapes) will be able to be planted.

Water supply - water transfer schemes could be used. This is where water is transferred from an area of water surplus to an area of water shortage.

Reducing risk from sea level rise - areas at risk from sea level rise may use sea defences to protect the land from being eroded away.

8. Climate Change Activism

Climate change activism and protests have increased in recent years. Below are some examples of action that is being taken to combat climate change.

Raising awareness - sharing learning about the human impact of climate change with others.

Campaigning - asking decision makers to do what they can to reduce greenhouse gas emissions and support communities to adapt to climate change.

Going green - individuals, schools and communities taking action to reduce their own emissions.

Fundraising - raising money for charities working against climate change.

9. Adaption Vs Mitigation

Mitigation

This involves reducing greenhouse gas emissions and increasing the sinks for these gases. This can be done by setting targets to reduce emissions, switching to renewable energy sources and carbon capture and storage.

Adaptation

This involves changing lifestyles to cope with the consequences of climate change. This includes managed retreat from eroding coastlines, the development of drought-resistant crops and the extension of conservation zones to enable the migration of species.

10. Mitigating to Climate Change

Mitigation means to reduce or prevent the effects of something from happening. Mitigation strategies include:

Alternative energy - using alternative energy such as solar, wind or tidal can reduce the use of fossil fuels. This will reduce the amount of carbon dioxide released into the atmosphere.

Carbon capture - this is the removal of carbon dioxide from waste gases from power stations and then storing it in old oil and gas fields or coal mines underground. This reduces the amount of emissions into the atmosphere.

Planting trees - encouraging afforestation, means that there will be more trees to absorb the carbon dioxide in the atmosphere during the process of photosynthesis.

International agreements - in 2005 the Kyoto Protocol became international law. The countries that signed up to the treaty pledged to reduce their carbon emissions by 5 per cent. However, this ran out in 2012 and its overall impact has been small. The US refused to join and major developing countries like China and India were not required to make any reductions.

11. An Inconvenient Truth

An Inconvenient Truth is a 2006 American concert/documentary film directed by Davis Guggenheim about former United States Vice President Al Gore's campaign to educate people about global warming. The film features a slide show that, by Gore's own estimate, he has presented over a thousand times to audiences worldwide.

12. Before the Flood

Before The Flood is the product of an incredible three-year journey that took place with my co-creator and director Fisher Stevens. We went to every corner of the globe to document the devastating impacts of climate change and questioned humanity's ability to reverse what may be the most catastrophic problem mankind has ever faced.

History – Paper 2: American west, 1835-95

1. American West, 1835-95

- Key Topic 1: *How did the settlement of the Plains begin, c.1835-62?* In this we will explore the culture of the Indigenous people and how they life and the factors encouraging European settlers to travel across the Great Plains to build farms and homes.
- Key Topic 2: *How did the Plains develop, c.1862-76?* We will explore how Government laws impacts on migration and settlement and the problems this will cause for the indigenous people of the Plains.
- Key Topic 3: *What were the later developments in the West, c.1876-c.1895?* In this part of the course, we will explore the extent of change in farming, lawlessness and the final destruction of the way of life of the Indigenous People of the Plains.

2. Exam skills

This part of Paper 2 will be assessing your ability to discuss the consequences of events and issues, you will need to develop an analytical narrative to 'tell the story' of events and you will need to discuss the importance of events and issues.

2. Key Topic 1: How did the settlement of the Plains begin, c.1835-62?

KEY TOPIC 1: GLOSSARY	
Key Terms	**Description**
Nomadic	Moving from place to place, not settling and building permanent homes.
Indigenous People of the Plains	A term used to describe the Native Americans who lived on Great Plains.
Band	The small groups in which Indigenous People of the Plains lived.
Tribe	A larger group, made up of bands.
Scalping	The act of removing the top of the head and hair after death. Often carried out on defeated opponents.
Pioneer	The first to do something
Frontier	The very edge of something

KEY TOPIC 1: CORE KNOWLEDGE	
Question	**Answer**
1.Name 3 uses that the Indigenous people of the Plains made of the buffalo.	Hide for the tipi, tongue as hairbrush, fat was used in cooking, dung was used in fuel.
2.What was the Indigenous people of the Plains name for the 'Great Spirit'?	Wakan Tanka
3.Name 2 advantages of the tipi.	Cool in summer/warm in winter, easily transported.
4.Why did the Indigenous people of the Plains take scalps?	Evidence of success in battle and to prevent their enemies from reaching the afterlife.
5.Why did the Mountain Men go west?	To make money from beaver pelts.
6.Who were the 'Pioneers'?	Migrant farmers who travelled across the Plains.
7.What problems did the pioneers face?	The climate, the terrain, wild animals and Indigenous people of the Plains attacks.

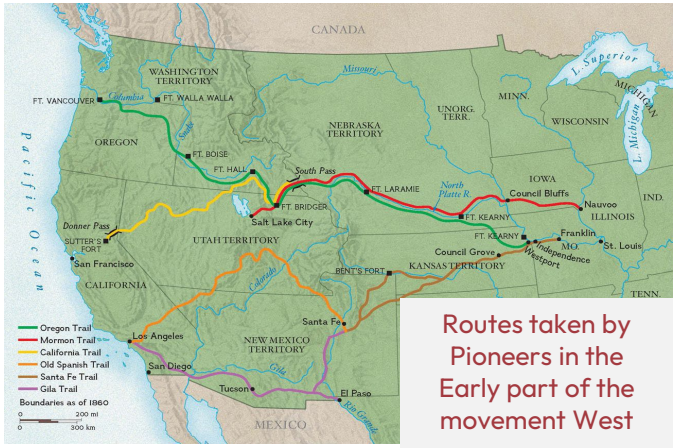
Interpretations of Indigenous life and culture

Map of the USA to show the locations of the Indigenous Peoples

History – Paper 2: American west, 1835-95

KEY TOPIC 1: CORE KNOWLEDGE	
Question	**Answer**
8.What happened to the Donner Party?	Trapped by the winter weather and forced to turn to cannibalism.
9.What three places did the Mormons migrate to after they left New York?	Kirtland Ohio, Missouri and Nauvoo, Illinois.
10.Where did the Mormons finally settle and why was it such a success?	The Great Salt Lake and because of the detailed planning and discipline of Brigham Young.
11.When was the California Gold Rush?	1849
12.Why was there such violence in mining towns?	Racism, unemployment/poverty, lack of law and order.
13.What was the difference between negotiators and exterminators?	Negotiators: work with Indigenous people of the Plains and find a compromise; Exterminators: destroy Indigenous people of the Plains and their culture.
14.What was the Fort Laramie Treaty, 1851	It established the idea of specific territories (or reservations) for the Indigenous people of the Plains.

Image of Hugh Glass, who was a mountain man and fur trapper. His story is the basis for the book and film *The Revenant*



Routes taken by Pioneers in the Early part of the movement West

Key Topic 2: *How did the Plains develop, c.1862-76?*

KEY TOPIC 2: GLOSSARY	
Key Terms	**Description**
Transcontinental railroad	The Pacific Railroad Act (1862) enabled the building of a railroad from the East to the West. This enabled greater settlement on the Plains.
The American Civil War	Fought between the North and the South between 1861 and 1865. In 1863, President Lincoln issued the Emancipation Proclamation and freed all slaves.
Sod house	The homes built from grass and soil.
Sodbuster	A plough that made working the land much easier.
Exodusters	Former enslaved people who travelled to Kansas to set up homesteads
US Marshall	FEDERAL lawmen responsible for a whole state or territory.
Judges	Appointed by the PRESIDENT. They travelled from town to town within a territory who hold trials
Sheriff	Elected by the people of a county. Covered a wide area and often corrupt.
Town Marshall	Appointed by the people of the town.
Texas Rangers	A small army of lawmen in Texas who provided protection and hunted criminals.
Pinkerton Detective Agency	A private company established in 1850. Hired by banks and stagecoach companies for protection.

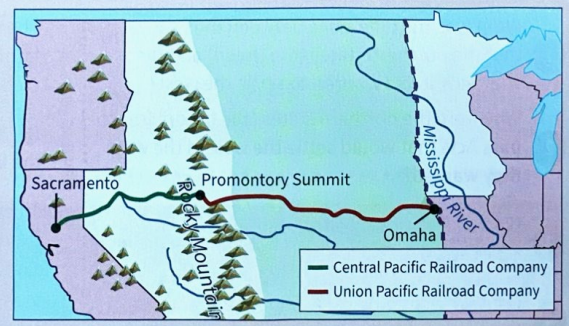
https://www.bbc.co.uk/bitesize/guides/znhkpg8/revision/1

Scan for some revision help from BBC Bitesize on the settlement of the Plains

History – Paper 2: American west, 1835-95

KEY TOPIC 2: CORE KNOWLEDGE

Question	Answer
15. When was the American Civil War?	1861-1865
16. What did Abraham Lincoln do in 1863?	The Emancipation Proclamation – freed all enslaved people
17. What law allowed the building of the transcontinental railroad?	Pacific Railroad Act, 1862.
18. What were houses built by homesteaders called?	Sod house
19. Which 4 laws encouraged settlement of the Plains?	Homestead Act 1862; Southern Homestead Act 1866; Timber Culture Act 1873; Desert Land Act 1877
20. Name 3 problems faced by homesteaders.	Difficult terrain, Lack of water supply, Lack of building materials
21. Name 3 solutions to the homesteaders' problems.	New machinery (sod buster), Windmills, Tough crops (turkey red wheat)
22. What cattle was farmed in Texas and then on the Plains?	Texas Longhorn



▲ *The First Transcontinental Railroad ran 3077 km from Omaha in the east to Sacramento in the west*

Texas Longhorn: Cattle that was significant in the development of the cattle industry after the American Civil War.

KEY TOPIC 2: CORE KNOWLEDGE

Question	Answer
23. Who completed the first long drive and why?	Charles Goodnight and Oliver Loving; Beef was worth more in the East.
24. Name 5 problems faced on the long drive.	Weather, Terrain, Stampedes, Indigenous people of the Plains attacks, Hostile homesteaders
25. What were cow towns and who built the first one?	Settlements next to the railroad to provide accommodation/entertainment after the long drive. Joseph McCoy (Abilene)
26. Give 5 reasons for the development of the Open Range:	Increased numbers of homesteaders; Texas Longhorns could survive on the Plains; More space – buffalo hunted and Indigenous people of the Plains on reservations; Transcontinental railroad; Interbreeding produced better quality meat, while maintaining tough animals.
27. Name 4 common crimes in the West.	Highway and stagecoach robbery, Bank robbery, Train robbery, Shootings
28. What year was the gunfight at the OK Corral?	1881
29. Name 3 infamous outlaws of the American West.	Billy the Kid, John Wesley Hardin, Butch Cassidy
30. What conflict took place in 1892 and was caused by cattle rustling?	The Johnson County War.
31. Give three examples of law enforcement in the West.	Town marshals, Texas Rangers, Pinkerton Detective Agency
32. What was the cause of Little Crow's War 1861-2?	Lack of food caused by reservation system
33. What was the cause of the Cheyenne Wars 1864-67?	Discovery of gold at Pikes Peak, Brought thousands of miners across Indigenous land who made mining settlements
34. What happened at Sand Creek in 1864?	Government troops killed over 150 Indigenous people

History – Paper 2: American west, 1835-95

Key Topic 3: *What were the later developments in the West, c.1876-c.1895?*

KEY TOPIC 3: GLOSSARY	
Key Terms	**Description**
Sioux / Cheyenne	Two of the main tribes of the Indigenous People of the Plains that were involved in the Plains Wars.
Reservations	Areas of land set aside (reserved) for the Indigenous People of the Plains by the US Government. They were forced to live on this land under treaties.
Indian Agents	US Government official overseeing a reservation (i.e. in charge of handing out rations and Government subsidies)
Black Hills	Area of land believed to be sacred by the Indigenous People of the Plains.
Extermination (of the buffalo)	Systematic hunting of the buffalo for sport, economic reasons and simply to annihilate the main resource of the Indigenous People of the Plains. 1840 – 3 million 1890 – 200. The southern buffalo herd was 'destructed' in the 1870s, the northern herd in the 1880s.

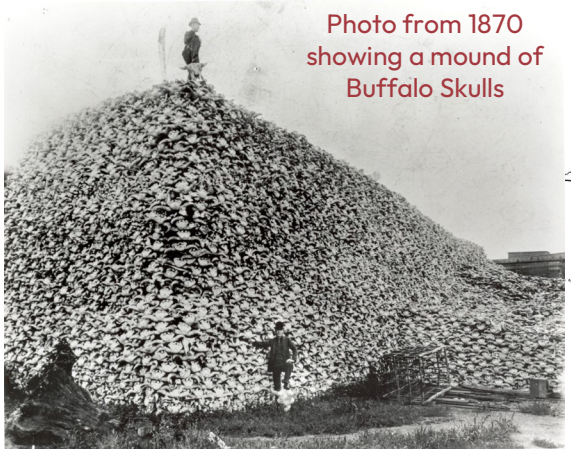


Photo from 1870 showing a mound of Buffalo Skulls

Political cartoon to show the impact of the Dawes Act, 1887 breaking up reservation land.

KEY TOPIC 3: CORE KNOWLEDGE	
Question	**Answer**
35. Which new trail led to Red Cloud's War 1866-68?	Bozeman Trail
36.What treaty was created in response to Red Cloud's War?	Fort Laramie Treaty II, 1868
37. What was President Grant's Peace Policy ?	Continuing movement onto reservations, Removing corrupt Indian agents; 'protecting' the Indian reservations with army officers
38. What was passed in 1871, which ended the policy of treating tribes separately?	Indian Appropriations Act, 1871
39. What caused the Great Sioux War 1876-77?	Custer's expedition to the Black Hills, Announced area rich in gold, Sioux refused to sell the Black Hills
40. Which two Sioux leaders were involved in this war?	Sitting Bull (escaped to Canada in 1877), Crazy Horse (surrendered in 1877)
41. What was the name given to the attack on all Sioux who hadn't returned to the reservation in 1876?	Battle of Little Bighorn
42. Which US army leader decided to attack the camp without waiting for the other columns?	General Custer
43. What were the consequences of the Battle of Little Bighorn?	Public reaction – saw Indigenous people as a threat, Two new forts built, Indigenous 'bands' followed and attacked
44. What was the Dawes Act 1887?	Broke up reservation land into individual plots

History – Paper 2: American west, 1835-95

KEY TOPIC 3: CORE KNOWLEDGE

Question	Answer
45. What were the consequences of the Dawes Act 1887?	Destroyed the power of the chief, Went against the Indigenous people of the Plains way of life
46. How much did the Buffalo reduce by 1885?	3 million to 200
47. What were the reasons for the extermination of the Buffalo?	Government Policy (force Indigenous people to rely upon their hand outs); Economic Causes (selling hides, bones); Impact of the Railroads (easy to transport)
48. What did the Ghost Dance movement lead to?	Wounded Knee Massacre, 1890
49. Why were conditions on the reservations poor?	Poor farmland, Reliant on government handouts, Indian Agents were sometimes dishonest
50. How was the Indigenous people of the Plains' culture systematically destroyed by the government?	Territorial (Dawes Act); Political (US Government dealt with legal matters); Economic (couldn't leave the reservation); Religious (feasts, ceremonies banned); Educational (children sent to boarding schools)

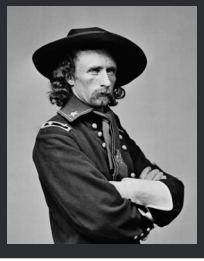
https://www.youtube.com/playlist?list=PL9bgSdxfgbwppcpRLoAtwfnVq4jO0Rme8

Scan for video lessons of the American West – useful if you've missed lessons or RAG is Red for a topic

https://www.youtube.com/playlist?list=PL9bgSdxfgbwqo7t47itzA1ARXcg4-CVcI

Scan for revision videos of the American West

KEY TOPIC 3: CORE KNOWLEDGE

Question	Answer
Sitting Bull & Crazy Horse  	Militant leaders of the Sioux. They refused to live on the reservations and were involved in fighting the Battle of Little Bighorn. Sitting Bull was shot dead later during the Ghost Dance movement.
Big Foot 	One of the main chiefs leading the Ghost Dance movement. He was killed at Wounded Knee.
General George Custer 	Responsible for the 7th Cavalry during the Battle of Little Bighorn. Disobeyed orders to wait for reinforcements and attacked Little Bighorn. He was killed along with many of his men and lost the battle.

https://mmerevise.co.uk/gcse-history-revision/gcse-history-past-papers/edexcel-gcse-history-past-papers/

Scan for past Exam Papers for all History topics and the Mark Schemes

History – Paper 2: Anglo-Saxon and Norman England, c.1060-88

Anglo-Saxon & Norman England, c.1060-88:

- *How did Anglo-Saxon England come under Norman control, 1060-1066?* In this we will explore Anglo-Saxon society, why there was a succession crisis in 1066 and who was competing for the English throne and the Norman invasion itself.
- Key Topic 2: *How did William secure his control, 1066-87?* In this we will explore how William secured his Kingdom immediately after 1066. We will also consider the nature of rebellions against Norman rule, how William dealt with these challenges and why these rebellions failed.
- Key Topic 3 : *What was society and government like in Norman England, 1066-88?* In this part of the course, we will explore how far the Normans changed England's power structures, government, church and culture and the impact of these changes on English society and the economy. We will also investigate the final years of William's reign and the succession after William's death.

Exam skills

This part of Paper 2 will be assessing your ability to recall key facts features of Anglo-Saxon and Norman England, you will need to develop Explanation skills to write a 12-mark essay about a theme or event and you will need to develop a sustained argument about 'how far' you agree with a statement using explanation and analysis of facts in a 16-mark essay. These are all skills you have begun to develop in your *Medicine Paper 1 Exam Topic*.

Key Topic 1: *How did Anglo-Saxon England come under Norman control, 1060-1066?*

Map of Anglo-Saxon England showing the key Earldoms

https://www.historyanswers.co.uk/medieval-renaissance/housecarls-at-hastings-why-viking-age-elite-laid-down-their-lives-for-anglo-saxon-england/

Scan for a short article about the Housecarls at the Battle of Hastings

https://mmerevise.co.uk/gcse-history-revision/gcse-history-past-papers/edexcel-gcse-history-past-papers/

Scan for past Exam Papers for all History topics and the Mark Schemes

KEY TOPIC 1: GLOSSARY

Key Terms	Description
Witan	Small council to advise the King
Earl	Advised the King an ensured King's laws were enforced
Earldom	Areas controlled by an Earl, by the 1060s there were 4 main earldoms: Wessex, Mercia, Northumbria, East Anglia
Shire	Each earldom was divided into Shires, there were around 40 shires in total
Tithing	10 households: they were responsible for each other's behaviour and had to bring anyone in their tithing who broke the law to justice or all would suffer.
Wergild	The payments (compensation) made to end blood feuds.
Burh	The fortified (strengthened) town that all shires had. These were difficult to attack, were used for administration and trading. Around 10% of people lived in a Burh
Shire Reeve	(Sheriff) They were responsible for collecting taxes and fines, held courts to deal with major crimes and raised an army if needed

KEY TOPIC 1: CORE KNOWLEDGE

Question	Answer
1.Who was England's King in 1060?	Edward the Confessor
2. How was the king in 1060 connected to Earl Godwin?	He was married to the Earl's sister; Edith. Godwin was also one of the Kings rich and powerful Earls
3.Who were the Thegns?	Local Lords, below the Earls in the hierarchy
4.What was a 'housecarl'?	Professional, well-trained soldier who fought for the monarch or their earl

History – Paper 2: Anglo-Saxon and Norman England, c.1060-88

KEY TOPIC 1: CORE KNOWLEDGE	
Question	**Answer**
5.What was the name of the Anglo-Saxon peasant army?	Fyrd
6.How was a 'tithing' used to help law and order?	Collective responsibility
7.What was the 'hue and cry'?	System to raise the alarm of criminal activity, was the responsibility of the tithing to raise the alarm and try to catch the criminal
8.Why was Earl Tostig Godwin unpopular?	Little time spent in Northumbria, taxed people heavily, dealt with lawlessness harshly
9. Who replaced Tostig as Earl of Northumbria after the uprising against him?	Morcar
10. When did Edward the Confessor die?	January 5, 1066
11. Describe 3 ways someone could become monarch in Anglo-Saxon England:	Monarch's son (eldest surviving) or another male relative/male relative of the previous king could make a claim/the king could name a successor/Witan could nominate/force could be used
12. When was Harold Godwin crowned King b the Witan?	January 6, 1066
13. Who were the other claimants to the throne?	Edgar Aetheling, Harald Hardrada, William Duke of Normandy
14. What Battles were fought against Hardrada?	Battle of Gate Fulford, Battle of Stamford Bridge

KEY TOPIC 1: CORE KNOWLEDGE	
Question	**Answer**
16. What was an advantage and disadvantage of the 'shied wall'	+ Hard to break, effective for defence - Difficult to attack in this formation
17. When William was rumoured to have died what did he do to reassure his men?	Rode among his troops and lifted his helmet to show his men he was still alive
18. Why did the Normans believe god was on their side?	Fought under the Papal banner
19. What was the 'feigned retreat'?	The 'fake' retreat used by the Normans to trick the Saxons into following them and making themselves vulnerable
20.What was an advantage and disadvantage of Godwin fighting on foot?	+ Showed his men he was willing to fight with them - Difficult to move around easily and communicate with his troops

Part of the Bayeux Tapestry showing William crowning himself King of England on December 25, 1066

History – Paper 2: Anglo-Saxon and Norman England, c.1060-88

Fyrd Warrior:

- Helmet: Basic, often a simple conical cap.
- Shield: Round wooden shield, sometimes with a metal boss in the center.
- Clothing: Tunic and trousers made of wool or linen.
- Weapons: Simple spears and knives; some might have axes.

Housecarl:

- Helmet: More advanced, typically a conical helmet with a nasal guard.
- Shield: Larger, round shield, often with decorative designs.
- Mail Armour: Chainmail hauberk covering the body.
- Weapons: High-quality swords and axes, such as the two-handed Dane axe.
- Clothing: High-quality tunic, often with decorative embroidery.

KEY TOPIC 2: GLOSSARY

Key Terms	Description
Oath of Fealty	Promise of loyalty and allegiance made to the person above you in the Feudal System
Treasury	Introduced by William to manage the kingdom's finances more effectively
The Marches	Boarder area between England and Wales, William made new earldoms for loyal Normans here to protect himself from the Welsh princes
Motte and Bailey Castle	Introduced by William to show power and control and for protection. Motte was the mound, the high part with the keep and the Bailey was the village part with soldiers and supplies
Harrying of the North	The destruction of the North of England by William after rebellions by Anglo-Saxon Earls
Domesday Book	The 'Great Survey' of England documenting who lived in England and what they owned.

KEY TOPIC 2: CORE KNOWLEDGE

Question	Answer
21. Which 2 powerful Anglo-Saxon earls weren't at the Battle of Hastings?	Edwin and Morcar
22. What are 2 examples of what William did, so he didn't provoke an Anglo-Saxon rebellion?	Promised to keep the same laws as Edward the Confessor/ Edwin and Morcar kept their lands/ Kept England's leading Archbishops (Stigand and Aldred)/ Promised Anglo-Saxon Thegns they could but back land
23. Give 2 ways castles helped the Normans control England:	Centre for administration of an area/ protected Norman lords and settlers/ intimidated locals and showed power/ established control of an area/ clear way of showing the social structure of Norman England
24. Which 2 Anglo-Saxon Earls led a rebellion in 1068?	Edwin and Morcar
25. Give 2 reasons for the rebellion:	William broke a promise to Edwin that he could marry one og his daughters/ Edwin and Morcar's earldoms had been reduced in size/ William imposed heavy taxes and took Anglo-Saxon treasure/ Norman castles were appearing all over the country
26. Identify 1 immediate impact of the Harrying of the North:	Homes burnt down, crops destroyed, farm animals killed/ Without homes or usable farmland, thousands of people left the region as refugees/ Around 100,000 people died
27. Identify 1 long-term impact of the Harrying of the North:	Domesday Book (1086) records 80% of Yorkshire as 'waste' (uncultivated and unpopulated)/ No further major Anglo-Saxon Rebellions in the North/ William began to replace Anglo-Saxon aristocracy with Norman followers, tightening his grip on the country
28. By 1076 how many Anglo-Saxon earls were there?	2!

History – Paper 2: Anglo-Saxon and Norman England, c.1060-88

An interpretation depicting the Harrying of the North, 1069-70

Key Topic 3 : *What was society and government like in Norman England, 1066-88?*

KEY TOPIC 3: GLOSSARY

Key Terms	Description
Feudal System	The 'land use' system. This kept control of England by ensuring everyone knew their position and swore an oath to those above them
Clergy	People ordained for religious duties, especially in the Christian Church
Pluralism	Clergy having and being paid for multiple jobs and sometimes doing none if them!
Simony	Selling jobs or positions in the Church
Nepotism	Appointing unqualified family members to positions of power
Centralised power	System where William I was at the centre of all decision-making and government
Romanesque	Style of architecture of buildings like castles, churches and abbeys. Clean lines, rounded arches, vaulted ceilings
Primogeniture	First born son inherits everything
Chivalry	Moral code inspired by Christian teachings; truthful, loyal, brave in battle and fair, even to enemies.

KEY TOPIC 3: CORE KNOWLEDGE

Question	Answer
29. What is forfeiture?	If you didn't provide the service required of you in the Feudal System you would forfeit your land
30. By 1080 how many Anglo-Saxon Bishops were there?	1
31. What were the Forest Laws?	Meant 30% of the forests belonged to William, no one can hunt or take wood from the forest without permission from William
32. William stopped trade with which area of Europe?	Viking Countries
33. What was a 'pilgrimage'?	Journey to Jerusalem in the Holy Land, or another holy site such as a monastery or abbey in England
34. Give 2 examples of what William felt was corrupt in the Church:	Nepotism/ Pluralism/ Simony/ Marriage of the clergy (in Normandy the clergy had to remain celibate)
35. William and his new Archbishop of Canterbury, Lanfranc did what to the church?	Normanised it; the church was changed to reflect the ideas, beliefs and practices of the Normans
36. What is 'Royal demesne'?	The term used to describe the land that William kept directly for himself

History – Paper 2: Anglo-Saxon and Norman England, c.1060-88

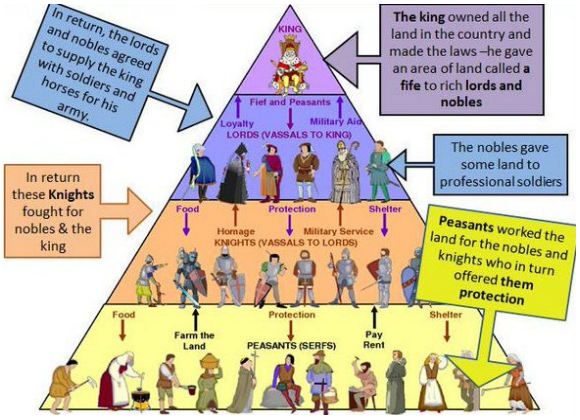
KEY TOPIC 2: CORE KNOWLEDGE	
Question	**Answer**
37. What was a regent?	Someone who ruled in the Kings absence
38. Give 2 reasons why Norman Sheriffs were resented:	Had more power than the Anglo-Saxon sheriffs and only answered to the king, so they were seen as a symbol of Norman power and control/ often taxed local people heavily/ seized a ton of land for themselves/ people had no one to complain to
39. Give 2 theories why the Domesday Survey was carried out:	To help collect taxes accurately and to ensure that William got as much money as possible/ Make sure barons were not hiding wealth/ record and settle arguments over land/ Make it clear that all land was held by permission of the king in return for loyalty
40. What is meant by 'Norman aristocracy'?	Small privileged ruling class of wealthy powerful people who controlled land in Norman England
41. List 3 things the Norman aristocracy enjoyed:	Hunting/ feasting/ dancing/ watching acrobats or jugglers/ playing chess, draughts, cards or throwing dice/ falconry ('hawking')
42. Who was Odo?	William's half-brother who commissioned the Bayeaux Tapestry in 1070
43. How was Odo involved in the invasion of England?	Helped organise the invasion, contributed 100 ships for the fleet, fought in the Battle of Hastings and was rewarded with lots of land
44. Why was Odo arrested and imprisoned in 1082?	Misconduct – he may have taken church funds or made an attempt to travel to Italy to become Pope
45. What happened to Odo from 1088 until his death in 1097?	1088 Odo rebelled against William's son (successor) William Rufus. The rebellion failed and William II banished Odo from England and took his land. Odo joined the first crusade in 1095 and died on his way to Jerusalem, 1097.
46. List 3 aspects of William I's character:	Devoted husband (wife Matilda)/ very religious/ ruthless and cruel/ tough, expert fighter/ politically smart/ loved wealth

KEY TOPIC 2: CORE KNOWLEDGE	
Question	**Answer**
47. Describe the relationship between William I and his eldest son:	Robert had a poor relationship with his father, William bullied him. William felt Robert was lazy and spoiled. He trusted his wife, Matilda to rule Normandy, rather than Robert
48. When did William I die?	9 September, 1087
49. How did William break tradition of inheritance?	William declared his inheritance would be split: Robert would have Normandy, William Rufus would rule England and Henry would receive a substantial sum of £5000
50. Why did Norman landowners want both England and Normandy to be ruled by the same person?	They had promised to be loyal to both William II (as King of England) and Robert (as Duke of Normandy). If these two fought each other, landowners would be in a difficult position

Scan for video lessons of Anglo-Saxon and Norman England – useful if you've missed lessons or RAG is Red for a topic

https://www.youtube.com/playlist?list=PL9bgSdxfgbwqz4PT0K_PEnr-Fz5WBPLzC

Diagram of the Feudal System



https://www.youtube.com/playlist?list=PL9bgSdxfgbwqllgNeUe2DDjs82LwT9aOb

Scan for revision videos of Anglo-Saxon and Norman England

Hospitality and Catering - The importance of nutrition The importance of nutrition

Listed below are the macro-nutrients and micro-nutrients. You need to know their function and know examples of food items for each. You need to know why they are needed in the diet and why there is a need for a balanced/varied diet.

Macro-nutrients

Carbohydrates - Carbohydrates are mainly used in the body for energy. There are two types of carbohydrates which are:

- Starch - Examples include bread, pasta, rice, potatoes and cereals.
- Sugar - Examples include sweets, cakes, biscuits & fizzy drinks.

Fat - This is needed to insulate the body, for energy, to protect bones and arteries from physical damage and provides fat soluble vitamins. There are two main types of fat which are:

- Saturated fat - Examples include butter, lard, meat and cheese.
- Unsaturated fat - Examples include avocados, plant oils such as sunflower oil, seeds and oily fish.

Protein - Protein is mainly used for growth and repair in the body and cell maintenance. There are two types of protein which are:

- High biological value (HBV) protein - Includes meat, fish, poultry, eggs, milk, cheese, yogurt, soya and quinoa.
- Low biological value (LBV) protein - Includes cereals, nuts, seeds and pulses.

Micro-nutrients

Vitamins

- Fat soluble vitamin D - The main function of this micro-nutrient is to help the body absorb calcium during digestion. Examples include eggs, oily fish, fortified cereals and margarine.
- Water soluble vitamin B group - Helps absorbs minerals in the body, release energy from nutrients and helps to create red blood cells. Examples include wholegrain foods, milk and eggs.
- Water soluble vitamin C - Helps absorb iron in the body during digestion, supports the immune system and helps support connective tissue in the body which bind cells in the body together. Examples include citrus fruits, kiwi fruit, cabbage, broccoli, potatoes and liver.
- Fat soluble vitamin A - Main functions include keeping the skin healthy, helps vision in weak light and helps children grow. Examples include leafy vegetables, eggs, oily fish and orange/yellow fruits.

Minerals

- Calcium - Needed for strengthening teeth and bones. Examples include dairy products, soya and green leafy vegetables.
- Iron - To make haemoglobin in red blood cells to carry oxygen around the body. Examples include nuts, beans, red meat and green leafy vegetables.
- Sodium - Controls how much water is in the body and helps with the function of nerves and muscles. Examples include salt, processed foods and cured meats.
- Potassium - Helps the heart muscle to work correctly and regulates the balance of fluid in the body. Examples include bananas, broccoli, parsnips, beans, nuts and fish.
- Magnesium - Helps convert food into energy. Examples include wholemeal bread, nuts and spinach.
- Dietary fibre (NSP) - Helps digestion and prevents constipation. Examples include wholegrain foods (wholemeal pasta, bread and cereals), brown rice, lentils, beans and pulses.
- Water - Helps control temperature of the body, helps get rid of waste products from the body and prevents dehydration. Foods that contain water naturally include fruits, milk and eggs.

Hospitality and Catering - Factors affecting menu

1. Sustainability

Many diners are interested in hospitality and catering provisions that provide sustainable dining.

The aim of the three R's of sustainability is to conserve natural resources and prevent excess waste. By following the rules of reduce, reuse, and recycle, hospitality and catering provisions can save money at the same time as attracting more diners and bringing in more profit.

Sustainability also means buying local produce, using organic ingredients, buying meat and poultry from farm assured producers who guarantee better welfare for the animals, using Marine Stewardship Council sustainable fish and offering meat-free versions of favourite dishes.

2. Reduce

Food waste: If food and waste were its own country, it would be the third largest producer of greenhouse gas in the world! If it cannot be used to make new dishes or given away, then as much food waste as possible should be composted.

Energy use: Hospitality and catering provisions can save energy in many ways including using low-energy lighting, maintaining and upgrading equipment, putting lids on saucepans, batch baking and cooking.

Food miles: Using local suppliers means that the food does not have to travel as far from 'field to fork'.

Water usage: Use less in cooking by only just submerging vegetables or using a steamer. Use an energy and water efficient dishwasher.

3. Reuse

Food that is past its best, for example a brown banana, or scraps such as bones can be used to create new dishes which in turn will decrease food waste. www.lovefoodhatewaste.com has a vast range of recipe ideas for using surplus food.

- Bread: breadcrumbs, bread and butter pudding, bread sauce and croutons.
- Meat and poultry: bones can be used to make stocks.
- Fruit: banana muffins, apple crumble, fruit coulis, smoothies.
- Vegetables: bubble and squeak, vegetable stock, vegetable bakes, omelettes.
- Eggs: whites can be used to make meringue; yolks can be used to make mayonnaise.

4. Recycle

Many hospitality and catering provisions have separate bins for recyclable materials. Professional kitchens should also have areas to separate waste into recyclable, non-recyclable and compostable materials. All staff should be trained to know how to dispose waste correctly.

Coffee grounds can be composted. Compost can be used to grow fruit, vegetables and herbs for use in the kitchen.

Jars and plastic containers can be used for storage in the kitchen. Glass bottles can be used to hold flowers or candles as table decorations.

Too Good To Go, Karma and Olio are apps used by restaurants and supermarkets. Customers can buy discounted food which would otherwise go into landfill.

Hospitality and Catering - How to plan production

1. Commodity list with quantities

This means naming all the ingredients needed to make all dishes and how much of each one e.g. grams (g), ounces (oz), millilitres (ml), etc.

2. Contingencies

This means stating, in the plan, what you would do to deal with a problem if something were to go wrong.

3. Equipment list

Naming all pieces of equipment you would need to cook the dishes, which also includes specialist equipment such as pasta machines and ice cream makers as well as saucepans, chopping boards, knives, etc.

4. Health, safety and hygiene

Stating in the plan, points regarding the health, safety and hygiene. The use of temperature probes to ensure foods are cooked, correctly using colour coded chopping boards or washing hands after handling raw meat are a few examples.

5. Quality points

These include naming any quality points to consider in the preparation, cooking and serving stage of the plan. Examples could include checking foods are in use by/best before dates, dishes are cooked to minimum temperatures, ingredients stored incorrect places and correct temperature, etc.

6. Sequencing or dovetailing

This means you fit together the different steps and activities in logical order when planning to cook more than one dish.

7. Timing

You need to state realistic timings of how long each step is likely to take throughout your plan to give accurate information of how long your dishes take to complete.

8. Mise en place

This is all the preparation you undertake before cooking. Examples of this include weighing out ingredients, collecting equipment and washing hands.

9. Cooking

Throughout your plan, you will need to state how you ensure food is cooked correctly, e.g. chicken is white in the middle, using a temperature probe, etc.

10. Cooling and hot holding

Cooling dishes correctly within 1.5hrs to 8 degrees and keeping hot dishes for service at 63 degrees should be mentioned in your plan for relevant dishes, as well as how you would ensure these temperatures are met, e.g. by using temperature probes.

11. Serving

Once you have finished cooking your dish or dishes, you need to state how you would present your dish/dishes, e.g. on plate, bowl, etc., as well as what decoration, garnishes and sauces you include before serving.

12. Storage

In your plan, you should state where different kinds of ingredients need to be stored, e.g. raw chicken in the fridge or frozen fruit in the freezer and at what temperatures these pieces of equipment need to be (fridge needs to be 0–5 degrees and freezer needs to be
-18 degrees).

Music - Reggae

1. Key Words	Definitions
One Drop	A reggae drum beat where the snare and the bass come in on Beat 3.
4/4	A time signature that shows there are 4 beats in a bar. These are crotchet beats.
Skanking	Syncopated guitar strumming.
Call and Response	A musical phrase is heard in one instrument and is answered in a different one.
Staccato	Short, snappy and detached notes.
Melody	The main tune.
Vocal Harmonies	Multiple melody lines that harmonise together.
Riff	A repetitive, short catchy phrase of music.
Horn Section	Instrument section that includes saxophones and horns.
Syncopation	Where the weaker beats are emphasised (also called 'off-beat').
Reverb	Echo
Strophic Form	A structure that uses song sections – verse, chorus, bridge, etc.
Counter Melodies	A second melody that isn't as important as the main melody – used for decoration.
Seventh Chords	A chord that adds the seventh note in the scale – used to create a different kind of sound.

2. Context

Reggae emerged in the 1960s to 1970s. It originated in Jamaica and was inspired by Jazz and American Rhythm and Blues (these sounds would have been up over the radio. The lyrics are often about news, social gossip and politics. Reggae is linked to the Rastafari movement. This music was to share Rasta messages. Reggae used Jamaican dialect called 'patois' (pronounced pat-wa). Reggae impacted life in Jamaica and allowed people to understand Jamaican life.

3. Composers, artists or producers

BOB MARLEY

Bob Marley is arguably the most famous Reggae musician to have lived. His songs carried messages of love, peace, and social justice. As a symbol of counter-culture, his distinctive deadlocked appearance and vibrant clothes reflected his commitment to individuality and pride.

DESMOND DEKKER

Desmond Dekker was a famous Jamaican musician. His music had a contagious energy and had upbeat tempos and catchy melodies. He helped bring Jamaican music to a global audience.

4. Key Features

Rhythmic techniques	• Syncopated • One Drop – emphasis on beat 3 • Skanking • Slow tempo • 4/4 metre • Staccato chords played on the piano, guitar or both – skanking • Reggae is led by the drums and the bass • The bass is thick and heavy • Guitar plays off beat chords – beats 2 & 4
Production	• Dub remixing techniques – delay added
Structure	• Strophic form
Melodic techniques	• Call and response used – this is in the vocals • Melodic bass line • Horn sections plays countermelodies • Lyrics refer to Rastafari and politics
Instrumentation	• Lead guitar • Rhythm guitar • Standard drum kit • Piano/synthesisers • Horn sections – saxophones/trumpets • Steel pans
Harmony	• Simple chord sequences – major and minor chords • Seventh chords are sometimes used

Music – Synth pop

1. Key Words	Definitions
Synthesiser	An electronic instrument that generates and manipulates sound through electrical signals, crucial in creating the characteristic sounds of synth-pop.
Chorus	In synth-pop, a section of a song with a repetitive and often catchy melody, typically featuring the full instrumentation.
Drum Machine	An electronic device producing percussive sounds, frequently used in synth-pop for rhythmic elements.
Digital Synthesiser	Synthesizers that use digital signal processing to create and manipulate sounds.
Analog Synthesiser	A type of synthesizer that uses analog circuits to generate and modify sound waves.
Sequencer	A tool that enables the recording and playback of a sequence of musical events, often used in creating electronic music.
Vocoder	An electronic device that modifies a person's voice, often used in synth-pop to create robotic or harmonized vocal effects.
Sample	A pre-recorded sound or snippet often incorporated into synth-pop tracks for additional texture.
Keytar	A portable keyboard instrument worn like a guitar, adding a dynamic performance element to synth-pop.
Arpeggio	A musical technique where notes in a chord are played in sequence rather than simultaneously, often a prominent feature in synth-pop.
Pitch Bend	A control on synthesizers that allows the musician to bend the pitch of a note, adding expressiveness and a characteristic feature in synth-pop performances.
Sawtooth Wave	A waveform commonly used in synth-pop for its bright and rich harmonic content, contributing to the genre's energetic sound.

2. Context

Synth pop emerged in the 1980s as a genre blending electronic music with the catchiness of pop. Central to its sound is the synthesiser, an electronic instrument that generates and manipulates sound. Synth-pop is characterised by its use of synthetic sounds, pulsating rhythms from drum machines, and often futuristic qualities. It represents a departure from traditional band setups, favouring electronic instrumentation and production techniques.

3. Composers, artists or producers

EURHYTHMICS

The Eurhythmics are a British musical duo that emerged in the 1980s. They were known for their innovative use of synthesisers and vocal skill. They are celebrated for pushing creative boundaries and blending electronic sounds with emotive singing.

DEPECHE MODE

Depeche Mode were a band that formed in 1980. They gained international acclaim for their ground-breaking use of synthesisers, distinctive songwriting, and use of compelling vocals. Their influence extends beyond synth-pop shaping electronic and alternative music too.

4. Key Features

Rhythmic techniques	• Syncopated • One Drop – emphasis on beat 3 • Skanking • Slow tempo • 4/4 metre • Staccato chords played on the piano, guitar or both – skanking • Reggae is led by the drums and the bass • The bass is thick and heavy • Guitar plays off beat chords – beats 2 & 4
Production	• Dub remixing techniques – delay added
Structure	• Strophic form
Melodic techniques	• Call and response used – this is in the vocals • Melodic bass line • Horn sections plays countermelodies • Lyrics refer to Rastafari and politics
Instumentation	• Lead guitar • Rhythm guitar • Standard drum kit • Piano/synthesisers • Horn sections – saxophones/trumpets • Steel pans
Harmony	• Simple chord sequences – major and minor chords • Seventh chords are sometimes used

Music - West African drumming

1. Key Words	Definitions
Aurally	Passed on by word of mouth
Master Drummer	The leader of the ensemble
African Drumming Circle	A drumming ensemble
Visual Cue	Communication to the ensemble without speaking
Dynamics	The volume of the music
Groove	Rhythms together that create another rhythm that moves the music
Polyrhythm	Many rhythms played at the same time.
Cyclic Rhythm	Rhythms that are repeated
Syncopation	Where the weaker beat is emphasised (off the beat)
Solo	One person plays on their own
Call and Echo	The call is played by the master drummer, the rest of the ensemble then respond with the same rhythm
Call and Response	The call is played by the master drummer, the rest of the ensemble then respond with a different rhythm
Djembe	A West African drum shaped like a goblet
Dundun	A West African drum with two heads
Bass	A low-pitched sound that is played by striking the middle of the drum
Tone	A medium-pitched sound that is played by striking the drum half-way between the edge and the centre
Slap	A short, high-pitched sound made by striking the edge of the drum

2. Context

African music is part of everyday life – everyone joins in clapping, singing and dancing to the music. African drumming is often used in ceremonies. Music isn't written down and is passed on aurally. The master drummer would lead the ensembles using visual cues.

African music has influenced lots of other genres as it came over from Africa during the American slave trade. It was combined with European Folk Music, and genres such as Blues, Jazz and Gospel were created. These genres then influenced pop and the music that we have today. African Music heavily influenced the Blues, which then influenced everything else since.

3. Composers, artists or producers

FAMOUDOU KONATÉ

Famoudou Konaté is an expert djembe drummer and is one of only a few handful of initiated masters of the Malinké drumming tradition. He has been performing since 1948.

LADJI CAMARA

Ladji Camara was born in 1923 in Guinea, West Africa and travelled throughout the world and appeared in show on Broadway in New York. He has performed with Nina Simone.

4. Key Features

Dynamics	• Dynamics were varied and had a mixture of louds and quiets that was used for interest
Rhythm	• Complex rhythms were used. • Grooves • Polyrhythms – lots of different rhythms at the same time • Cross-rhythms – conflicting rhythms • Cyclic rhythms – repeated rhythms • Syncopation used regularly • Master drummer has the most elaborate part and plays solos. • Timelines used to keep the piece together. Timeline usually played on a bell or similar
Texture	• Complex textures • Monophonic texture used (thin texture) • Polyphonic texture used (thick texture)
Melody	• Singing used for every occasion (lullabies, play songs, birthdays, marriages, funerals) • Small intervals (2nds, 3rds) used • Repetitive • Descending phrases • Solos (one person), duets (two people) and choruses (lots of people). • Acapella singing (just voices) • Strophic form used (split into sections, like verse and chorus) • Call and Response used (one phrase sung by the leader which is responded to by the chorus
Instruments (timbre)	• Drums made from wood, metal and hard-skinned fruit. • Come in different shapes and sizes. • Some have one head, some have two. • The bigger the drum, the lower the pitch. • Played using hands or sticks. • Animal skills are used usually. • Djembes/Dundun/Talking Drums
Instrumental techniques	• Bass (B): a low-pitched sound made by striking the middle of the drum • Tone (T): a medium-pitched sound made by striking the drum halfway between the edge and the centre • Slap (S): a short, high-pitched sound made by striking the edge of the drum

Music - The Delta blues

1. Key Words	Definitions
4/4	This is a time signature. This indicates that there are 4 beats in a bar (specifically crotchet beats.)
Shuffle	A type of rhythm that uses triplets
Triplets	This is where you fit three notes into the space of two
Aurally	When something is passed on verbally and by word-of-mouth
Blues Scale	A scale is a selection of notes. The Blues scale uses 6 notes and the third note in the scale is flattened (moved down a semitone)
AAB	A structure where section A is repeated twice, followed by a brand-new section (B).
Blues Notes	Flattened 3rds, 5ths and 7ths. These notes are called worried notes
12 Bar Blues	A 12-bar chord sequence that include three different chords
Walking Bass Line	Repetitive bass line that creates a groove
Groove	Rhythms together that create another rhythm that moves the music
Syncopation	Off-the beat. Where the weaker beat is stressed and emphasised
Solo	A solo is where one person plays on their own, or a part by themselves over the top of a harmony
Call and Response	Originating from African Drumming, the call is played by one person and the rest of the ensemble then respond with a different rhythm
Improvisation	Where something is made up on the spot
Boogie Woogie	A repetitive swung or shuffle rhythm
Reverb	When something has an echo-like effect

2. Context

The Delta Blues originated in the deep south of the USA in the 1870s. It developed from African Work songs and spirituals during the slave trade period.

Many different types of Blues developed: Chicago Blues, Delta Blues, Dallas Blues, Blues Rock etc.

This further influenced the development of Rock and Roll and Pop Music.

3. Composers, artists or producers

Robert Johnson

Robert Johnson was a legendary Blues musician known for his haunting vocals and intricate guitar playing. His influential style, characterised by the Delta Blues, showcased his mastery of slide guitar and heartfelt lyrics.

B.B. King

Often referred to as the 'King of the Blues', he had a distinctive guitar style marked by his expressive vibrato and precise phrasing. His soulful voice and iconic guitar solos, combined with elements of jazz and R&B, created a unique sound the captivated audiences worldwide.

4. Key Features

Distribution & sharing	• Sun Records – Small independent label • Performed at small venues
Rhythm & rhythmic techniques	• Strong rhythms • Frantic, energetic vocals • Heavy use of the snare drum • Boogie Woogie style piano • Fast tempo
Recording techniques & developments	• Slap back echo • Flutter echo • Tape delay echo • Reverb
Production	• Use of the tape echo.
Melodic techniques	• Vocal twangs • Driving guitar licks
Instruments (timbre)	• Electric guitar • Double Bass • Drums – minimal drum kit – bass, snare and ride cymbal • Piano • Vocals
Instrument techniques	• Bass Slap • Finger picking used in the guitar parts
Harmony	• I-IV-V chord progressions (12-bar blues) • 7th chords used a lot to provide detail.

Music - Britpop

1. Key Words	Definitions
Arpeggios	A chord that is broken up into separate notes that are played one after the other
4/4	A time signature that symbolises it has 4 crotchet beats per bar
Melody	In music this is often referred to as the main tune.
Riff	A riff is a repetitive, short catchy phrase of music
Strophic Structure	Strophic structure is a structure that uses song sections – such as verse, chorus, bridge etc.
Palm Muting	Palm muting is where you soften the notes of the guitar using the palm of your hand
Seventh Chord	A seventh chord is where you add the seventh note of the scale onto the chord (e.g. C major 7 would be: C, E, G and B)
Sus Chord	A sus chord is where you play the second or the fourth note in the scale instead of the third
Grunge	Grunge music was a genre of music that game in the mid-80s and was known for its heavy distortion and down-tuned rock music. Nirvana was a famous grunge band
British Invasion	British Invasion is a cultural movement where rock and pop music acts from the UK took over the music industry in both the UK and the US
Alternative Rock	A genre of music that emerged from the independent music underground in the 1970s and became hugely popular in the 1990s

2. Context

Britpop emerged from the British Invasion of Music in the mid 90s. Britpop originated from the UK and the music emphasised 'brightness'. It was a form of alternative rock and was a reaction against the darker lyrics of Grunge (such as Nirvana). It further influenced styles such as Cool Britannia and guitar pop.

There was an infamous chart battle between Oasis and Blur in 1995 – The Battle of Britpop. Tony Blair and New Labour aligned themselves with the movement. Britpop declined in 1997 due to the popularity of the Spice Girls. Britpop was known as a cultural movement and not just a musical genre. It was influenced by Glam Rock, British Pop of the 60s, Punk Rock and Indie Pop of the 80s. Blur and Oasis were inspired by The Kinks, early Pink Floyd and The Beatles. The Smiths also influenced a lot of Britpop acts.

3. Composers, artists or producers

Oasis

Led by the Gallagher brothers, Liam and Noel, they were the kings of Britpop. Oasis had raw energy and rebellious attitude that made them stand out. Some of their most famous songs are Wonderwall and Don't Look Back in Anger.

Blur

Led by Damon Albarn, they delivered catchy hits like "Song 2" and "Parklife." Their music embodied the spirit of British culture and left a significant impact on the music scene.

4. Key Features

Distribution & sharing	• Media driven focus on bands • Independent music scene
Production	• Clean guitar sounds. • Overdrive used heavily as well • Limited distortion was used as this was a feature of Grunge who they were trying to get away from
Rhythmic techniques	• 4/4 time signature • Up tempo and upbeat
Scales & modes	• The use of arpeggios in the riffs • Use of the pentatonic scale in lead lines
Structure	• Typical song structure with instrumentals, bridges and solos were often very common
Instruments & timbre	• Vocals • Electric Guitar • Bass Guitar • Acoustic Guitar • Drums • Keyboards (used sometimes) • Piano • String arrangements used sometimes
Instrumental techniques & developments	• Use of hammer-ons • Use of pull-offs • Use of palm muting on guitars • Use of pitch bending on guitars • Use of string skipping on guitars

Music - Heavy Metal

1. Key Words	Definitions
Riff	A really catchy musical phrase that's played on guitar or other instruments and gets stuck in your head
Power Chords	Simple but heavy guitar chords made up of just two notes that give that awesome rock sound
Shredding	When a guitarist plays super fast and crazy guitar solos that show off their incredible skills
Double Bass Drumming	When the drummer uses both feet to play two bass drums really quickly, creating a powerful and fast beat
Pedal note	A long and sustained note that keeps repeating, adding tension and creating a cool effect
Through-Composed	When a song or piece of music doesn't have a repeated section and keeps changing all the way through
Gain	The knob on an amp or pedal that makes the sound louder and more distorted, giving it that heavy metal sound
Distortion	A cool effect added to a guitar or other instruments that makes the sound fuzzy and distorted, like in heavy metal music
Tritone	A musical interval that sounds really tense and spooky, also called the "Devil's interval."
Palm Muting	A technique where the guitarist lightly rests their palm on the strings near the bridge to create a muted and chunky sound
Chromatic	A musical scale that includes all the notes, both the black and white keys on a piano, giving it a dramatic and intense sound
Pentatonic	A scale made up of five notes that's commonly used in rock and blues music, giving it a cool and bluesy vibe

2. Context

Heavy Metal emerged in the early 1970s as a genre of rock music in the UK and US. Influenced by Blues Rock, Psychedelic Rock, and Classical music, it featured aggressive performances with a strong sense of masculinity.

Different bands showcased various aspects of Heavy Metal, including raw and sleazy sounds with outrageous stage shows from Alice Cooper and Kiss, blues-rooted music from Aerosmith, flashy guitar leads from Van Halen, and a punk rock feeling from Motorhead. Heavy Metal faced controversy over its lyrics and was even banned in some Muslim countries. Black Sabbath is often credited with inventing Heavy Metal, with their distinctive sound inspired by the bleak working-class environment of Birmingham.

3. Composers, artists or producers

Black Sabbath

Black Sabbath had a huge impact on heavy metal. They are considered the pioneers of the genre, shaping its sound and style. Their dark and heavy music influenced many bands and made them a significant force in heavy metal history.

Iron Maiden

Iron Maiden has had a major impact on heavy metal. Their unique sound, epic songwriting, and powerful live performances have influenced countless metal bands. They are considered legends in the genre and have left a lasting imprint on heavy metal music.

4. Key Features

Distribution & sharing	• Recordings were multi-track recorded • It was mostly sold on vinyl • Impressive and intricate artwork was often depicted on the sleeves • Heavy metal wasn't usually played on the radio as it was considered too heavy for public radio
Production	• Thick massive sound • Highly amplified distortion – helps to create the thick, massive sound • Very loud dynamics (f, ff) • Use of gain • Power chords played on the lower strings with distortion – low frequency sounds, thick sound • Guitar pedal was used – analogue delay • Amp stacks were often used – Marshall stacks • Bass and treble turned up and mid-turned down
Melodic techniques	• Extended Guitar solos - can be virtuosic • Aggressive lyrics - dark and depressing • 'Manly' lyrics • Vigorous vocals - sometimes includes screaming • Pedal notes used in the bass • Complex riffs that use licks are used in the bass • Bass solos • Power chords played in the bass too • Riffs - usually minor and using power chords
Scales & modes	• Modal scale progressions – Aeolian and Phrygian • Tritone used a lot – which people often called the Devil's Interval because how dissonant and clashy it sounds • Chromatics were often used • Pentatonic scale was often used • Minor scales were often used
Structure	• Sometimes used extended structures • Through composed structures (always a new section without repetition)
Instruments & tmbre	• Drums - large drum kit • Bass Guitar • Rhythm Guitar • Lead Guitar • Vocals • Keyboards sometimes used to enhance the fullness of the sound. Deep Purple used a Hammond Organ and in 1970 Led Zeppelin used a Moog Synthesizer • 1990's - almost all heavy metal used a synthesizer
Instrumental techniques and developments	• Palm muting • Gallop and reverse gallop rhythms • Shredding • Scallop the frets so you could play quicker - changing instrument to be able to play quicker • Gibson and Fender guitars

Music - EDM

1. Key Words	Definitions
Sample	A small piece of sound or music taken from another song and used in a new one
Loops	Short sections of music that can be repeated over and over again to create a continuous rhythm or melody
Breakdown	A part in a song where the energy and intensity decrease, often building up anticipation for the next section
Build Up	The gradual increase in energy and intensity leading up to the most impactful part of the song
Drop	The moment in a song where the bass and beat hit hard, creating an intense and energetic climax
Uplifters	Sound effects that rise in pitch and volume, adding excitement and anticipation to the music
Downlifters	Sound effects that decrease in pitch and volume, creating a transition or bringing the energy down
Filter Sweep	A technique where a filter is used to gradually open or close, altering the sound by emphasizing or reducing certain frequencies
Automation	A technique where a filter is used to gradually open or close, altering the sound by emphasizing or reducing certain frequencies
Sidechaining	A technique where the volume of one sound is controlled by the volume of another, often used to create a pulsing effect
Sub bass	Very low-frequency sounds that create a deep and powerful bass foundation in electronic music
Four-to-the-Floor	A rhythmic pattern in dance music where the bass drum hits on every beat, giving a steady and driving feel
DAW	Software used for recording, editing, and producing music on a computer

2. Context

EDM, or Electronic Dance Music, has a cool history that started in the late 1970s and 1980s. DJs and producers began using electronic instruments and synthesizers to make catchy and energetic music. Rave parties in the 1990s helped make EDM popular, and it kept growing with different styles like house, techno, and dubstep. Today, EDM is a big deal all around the world, with its exciting beats and awesome drops making people dance and have a great time. It's influenced lots of musicians and keeps evolving with new sounds and ideas.

3. Composers, artists or producers

Avicci

Known for his uplifting and melodic tunes. His songs like "Wake Me Up" and "Levels" became huge hits and brought EDM into the mainstream. He had a unique ability to blend catchy melodies with infectious beats, creating music that made people feel good and want to dance.

Skrillex

Skrillex is an iconic EDM artist who changed the game with his heavy and intense sound, introducing dubstep to the world and inspiring a new generation of producers.

4. Key Features

Distribution & sharing	• Chicago clubs • Radio stations – use 3.5 minute radio edits • House Label – Trax Records • Pirate Radio Stations • 2000s – festivals dedicated to house. Creamfields/Tomorrowland/ Ultra Music Festival
Production	• Create a mix – segueing one recording to another • Producers perform live in a concert/festival in a live PA • Producers often do mixes for pop artists • Sometimes, the drum sounds are 'saturated' by boosting the gain to create a more aggressive edge
Melodic techniques	• Synthesiser riffs • Sung, spoken and/or sampled vocals • Simple word phrases that are repeated • Vocals can be like pop melodies • House tracks do not need to have vocals • Layering sounds in and out to remain consistent • House tracks build up slowly, but adding layers of sound and texture, and by increasing the volume • Lower-pitched bass register is most important • Bass-heavy loops or basslines produced by a synthesiser and/or samples of disco, soul, jazz-funk or funk songs
Rhythmic techniques	• Bass drum on beats 1 and 3. • Tempo is around 120-130 bpm • Deep bassline • 4/4 time signature • Off-beat hi-hat/snares/claps • Syncopation with claps, shaker, snare drums or hi-hats • Signature rhythm riffs are built on the clave rhythm
Structure	• Intro, chorus, various verse sections, a midsection and a brief outro • Some tracks do not have a verse, taking a vocal part from the chorus and repeating the same cycle • House music tracks are often based on eight-bar sections which are repeated
Instruments & timbre	• DJs • Drum machine – Roland TR-707, TR-808, TR-909 • Synthesiser • Bass Synthesiser – Roland TB-303 • Vocals • Sampler • Sequencer • SAW • Laptop/PC
Instrumental techniques & developments	• Use of hammer-ons • Use of pull-offs • Use of palm muting on guitars • Use of pitch bending on guitars • Use of string skipping on guitars

Music - Film Music

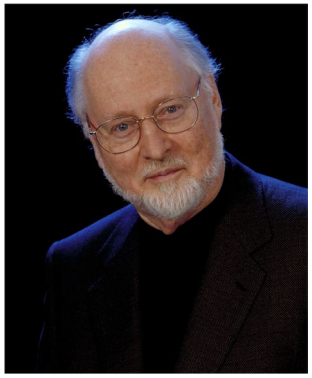
1. Key Words	Definitions
Dynamics	The variation in volume and intensity of music, from soft to loud
Rhythm	The pattern of beats and accents that gives music its groove and sense of timing
Pitch	The highness or lowness of a sound, determining the melody and harmony
Instrumentation	The choice and arrangement of musical instruments used in a piece of music
Melody	A sequence of single notes played in a specific order, forming a recognizable musical line
Harmony	The combination of multiple notes played simultaneously to create chords and rich musical textures
Leitmotif	A recurring musical theme associated with a specific character, idea, or situation in a composition
Pedal	A long, sustained or repeated single note that serves as a foundation while other musical elements change around it
Dissonance	The clash or tension between two or more musical notes played together, creating a sense of instability or discord
Diegetic music	Music that is part of the story or scene, where the characters can hear it too, like a band playing on screen or a radio playing in the background
Non-diegetic music	Background music or a film score that the characters cannot hear, but is added to enhance the mood or emotion of a scene
Composer	A person who writes and creates music, including melodies, harmonies, and arrangements
Through-Composed	A musical form where a composition does not have a repeated section and progresses continuously without returning to previous sections

2. Context

Music in movies serves different purposes. Diegetic music, like music from a radio, adds to the atmosphere and tells us more about the characters. Background music sets the mood and enhances the story. It can establish the time and place, move the action forward, and describe characters. Foley is a technique to recreate everyday sounds and make films more realistic. Foley artists have to time their sounds to match what's happening on screen.

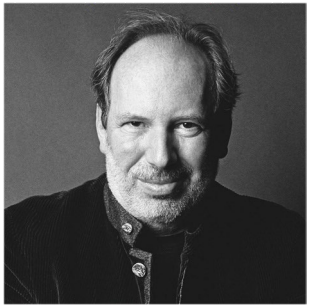
3. Composers, artists or producers

John Williams



An iconic composer recognized for his legendary film scores. He is widely acclaimed for his work on movies like "Star Wars," "Jurassic Park," and "Harry Potter." Williams' music has become synonymous with the movies themselves, adding depth and emotion to the storytelling. His compositions are instantly recognizable.

Hans Zimmer



Known for 'Inception', 'Lion King' and 'Pirates of the Caribbean', Zimmer's compositions skilfully blend orchestral and electronic elements, creating captivating and memorable music that elevates the storytelling and immerses the audience in the cinematic experience. His talent and innovation have earned him widespread acclaim and numerous prestigious awards..

4. Key Features

Dynamics	• Varies with action on the screen • Wide range of dynamics • Sudden changes
Rhythmic techniques	• Ostinatos • Syncopation • Quick changes of tempo
Recording techniques & developments	• Use MIDI to create it before it goes to orchestration • Can combine the two together often
Structure	• Through-composed so that there are no repeated parts as it reacts to the music
Melodic techniques	• Leitmotifs (melody, chord sequence, rhythm or combo) • Manipulation of leitmotifs to match the action (changing rhythm, pitch, instrumentation, accompaniment, adding new material or development of ideas). • Quick changes of melodies • Rapid shifts from one musical idea to the next • Sudden changes of pitch • Cluster chords
Instumentation & timbre	• Orchestra and popular instruments used • Instrument colour is very important • Often own sounds are created
Texture	• Layers – of different sounds and ideas
Harmony	• Can be atonal • Quick changes of harmony • Ambient pad sounds using synth • Drones • Dissonance • Use of non-diatonic chords • Movement by thirds

Music -Minimalism

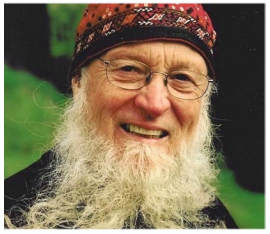
1. Key Words	Definitions
Dynamics	The variation in volume and intensity of music
Texture	The overall sound quality and arrangement of musical elements
Rhythm	The pattern of beats and accents that gives music its groove and pulse
Ostinato	A repeated musical pattern or motif
Harmony	The combination of different notes played simultaneously to create chords and pleasing sounds
Note addition	Adding more musical notes to a melody or harmony
Note subtraction	Removing or reducing the number of musical notes from a melody or harmony
Metamorphis	A transformation or gradual change in musical themes or motifs
Augmentation	Lengthening the duration of musical notes or motifs
Diminution	Shortening the duration of musical notes or motifs
Phasing	A technique where two or more musical patterns gradually move out of sync with each other
Drone	A sustained or continuously repeated musical tone or sound
Inverted drone	A drone sound that changes pitch or direction
Through-composed	A musical form where a composition does not have a repeated section and progresses continuously without returning to previous sections

2. Context

In the 1960s, minimalism emerged as a musical genre in the United States. It was a response to the emotionally intense works of the Romantic era and aimed to strip art and music back to its fundamental elements. Minimalist music sounded unlike anything found in the popular charts, often characterized by repetitive patterns and simple structures. It found applications in film and TV, where its sparse and atmospheric qualities were well-suited for enhancing visuals and creating mood. Additionally, minimalism sometimes incorporated aleatoric elements, meaning that certain aspects of the music were left to chance or determined by random processes.

3. Composers, artists or producers

Terry Riley



He created a famous composition called "In C" that is super influential. It's all about repeating patterns, and the cool thing is that the musicians can play it in different ways each time. Terry Riley's ideas and his use of repetition have inspired lots of other musicians and made a big impact on how people think about and make music.

Steve Reich

Steve Reich is an iconic figure in the field of minimalism. His compositions, such as "Music for 18 Musicians" and "Different Trains," are known for their repetitive and intricate patterns that gradually evolve and create mesmerizing musical experiences.

4. Key Features

Dynamics	• Regular changes in dynamics
Rhythmic techniques	• Repetitive patterns or pulses • Phase shifting • Use of polyphonic textures • Contrapuntal texture • Rhythmic transformation (rhythm gradually changes shape) • Experimental and changing time signatures – 3/2 • Syncopation • Use of canon • Metrical displacement (entries start on different notes so accented notes fall in different places) • Cross rhythms • Augmentation • Diminution
Production	• Use of technology to record, edit and sample
Structure	• Use of technology to record, edit and sample
Melodic technique	• Repetitive musical phrases • Short ostinatos • Sequencing • Use of layers • Note addition (notes are added to a repeated phrase) and note subtraction. • Melodic transformation (melody gradually changes shape) • Resultant melody (where a melody emerges as the same notes occur at the same time in the phase, giving them emphasis). • Accents are used
Texture	• Layers – of different sounds and ideas.
Harmony	• Drones • Consonant harmony • Simple chord progressions • Extended chords used • Broken chords • Tonal ambiguity • Modulations • Static Harmony

Performing Arts - Roles & responsibilities

1. Roles for creating theatre

Roles	Responsibilities
Director	• Create an overall vision/concept for the production • To pull together all the different elements as a production and make them into cohesive production
Casting director	• Study the script to understand all speaking roles • Collaborate with Directors and Producers to determine a roles requirements i.e. physical characteristics, voice ability, experience etc. • Prepare casting budgets • Contact Agents directly to source ideal Performers for the production • Review CV's and contact suitable Performers • Organise auditions and readings • Interview and audition Performers and determine their suitability for the part
Playwright	• To create and write a play • Write the synopsis and character list • To stick to the given brief • To be able to tell a story through written word for the theatre • Working to tight deadlines • Researching and gathering data • Liaising with Publishers, Directors and Producers • Redrafting and reworking the play
Composer and Sound designer	• Work with a team including a book writer and lyricist, who are collectively responsible for conceiving the show's story, writing the script, and connecting the story with the music via lyrics. • Responsible for obtaining all sound effects, whether recorded or live for a specific production. • Responsible for setting up the sound playback equipment and must make sure the board operator is properly trained
Costume Designer	• Reading the full script, marking and making notes on areas that will affect costume • Research the time period and setting of the play • Researching fashion in certain time periods and places • Design the costume for each character • Liaise with the Director on the overall vision of the play

Role	Responsibilities
Set Designer	• Read through the script and work with the Director to create a concept for the production. A concept includes your rough ideas of what you think it should look like • Communicating your ideas to costume, make-up, props and lighting departments • Have a creative vision and able to create sets from small scale to large scale • Building and photographing scale models • Arrange your team and give them all individual tasks to ensure you and your team are all working together to create a great set • Have a knowledge of set materials which can be used to create certain aspects of the set • Working out problems like lighting and scene changes • Researching historical, contemporary, futuristic details to get the right look for the production • Creating effective designs within the available budget • Sketching design ideas to produce a storyboard
Lighting designer	• Work with the creative team to come up with ideas • Design the lighting needed for the performance • Be aware of health and safety aspects • Write a lighting plot/script to note where there are any lighting changes • Attend technical rehearsals • Be aware of budgets and energy use
Make up artist	• Communicating with clients to clarify visual requirements • Reading scripts to ensure they find the right materials and styles that may be required. E.g. a production set in a particular period such as Shakespearean • Research where required • Creating sketches designed for hairstyles and make-up • Liaising with other members of the team to ensure all are focusing on the correct thing and aiming towards the same outcome • Ensuring that appropriate action is taken to reduce the risk of side effects from using special effects make-up/hairdressing techniques • Casting facial and body moulds and sculpting latex foam, these are called prosthetics • Fitting and maintaining wigs, hairpieces and prosthetics • Taking detailed notes and photographs of work to maintain an up-to-date portfolio

Performing Arts - Roles & responsibilities

2. Roles for rehearsing and running a Theatre production

Roles	Responsibilities
Performer	• Learn lines, songs and/or dances • Research the play/character • Attend all rehearsals scheduled • Attend costume fittings • Take direction from the Director and/or Choreographer • Work with other Performers • Attend technical and dress rehearsals • Perform the show to an audience • Use props and costume during the performance • Perform other duties laid out in the job description depending on the kind of show
Sound technician	• Prepare soundboards and equipment for shows as well as maintain the quality of sound throughout a performance • Set up microphones on performers and in various places in the theatre • Check sound levels and make sure the equipment is functioning correctly • Run sound checks • Repairing and reporting sound equipment • Maintain the work areas for other sound professionals to ensure the safety and productivity for the team • Attend meetings with key professionals such as the Director or Stage Manager before rehearsals to help organise sound cues for the performance
Musical director	• Attend creative team meetings with the Director and Choreographer to develop the overall vision of the show • Study the script and music • Participate in auditions, evaluate the vocal abilities of all auditionees and offer suggestions on which individual might be best suited to each role based on vocal performance • Teach music to the cast and musicians • Attend rehearsals • Lead regular warm-ups with the cast and musicians before shows • Normally serves as the conductor during live performances, directing the orchestra
Fight director	• Choreograph combat sequences (fight sequences) which can range from martial arts to swordplay to mock gunfights while keeping the Director's vision in mind • Ensure the safety of the Actors performing the stage combat and other participants • Ensure the sequence looks realistic and works well within the play • Using the correct techniques that are appropriate to the historical period in which the scene/play takes place • Fight Directors can teach other Directors and Actors the craft of staged combat in a non-production environment

Role	Responsibilities
Musician	• Read through and learn sheet music for a production • Work alongside a band, ensemble, choir or orchestra to create a final piece • Attend rehearsals for a production as well as every live show
Stage manager	• Create and set up rehearsal schedules • Managing furniture and props • Arrange costume and wig fittings • Liaise with all theatre departments and collate information • Liaise with Production Manager regarding budgets • Supervise the 'get in' and 'get out' (When the set, lighting and sound are installed and removed from the space) • Create a prompt script compiled with notes on Actors' cues and requirements for props, lighting and sound • Make alterations to the set and props between scene changes • Cue the lighting and Sound Technicians • Create a risk assessment to ensure the safety of the full company • Manage the backstage and onstage area during performances • Call Actors for rehearsals and performances • Maintain props, furniture and set during the run • Liaise with resident staff (if touring)
Lighting technician	• Communicating with the Lighting Designer and making sure you understand their lighting plan and you are able to produce what is asked for • Rigging and operating necessary lighting equipment • Taking direction and cues from the Stage Manager • Use manual and computer-controlled lighting systems during the show • Keeping lighting equipment in a good and safe working condition • Electrical maintenance duties when needed • Keeping updated with new technology within the theatre industry
Head of wardrobe	• Working with Stage Management to prepare dressing rooms and pre-set costumes • Instructing dressers with regard to actors' change of costumes, supervising quick changes where necessary. • Maintaining costumes, including laundry
Head of wigs	• Responsible for providing all Wigs in conjunction with the Costume and makeup supervisor on each show and to ensure their maintenance for the entire run
Dance captain	• Set any extra rehearsal times • Ensure all members of the ensemble are doing the choreography correctly and all in sync • Be able to demonstrate areas of the choreography for the rest of the ensemble

Performing Arts - Frankenstein

1. Key information

Acting style	Naturalism
Design style	Symbolism
Themes	Key themes include identity and humanity, isolation, rejection, and responsibility. We are going to focus in particular on the role of **chance**. The play explores how chance encounters and random events shape lives, particularly in the Creature's experiences and Victor's decisions. The creature becomes a **victim of chance** in terms of the people he encounters and the harsh treatment he receives.. His story is shaped by where he finds shelter or who he meets, and these chance encounters ultimately determine his tragic fate.
Purpose and Creative intentions	Through their reimagining of Mary Shelley's classic novel, Nick Dear and Danny Boyle intended to **give the creature 'a voice'** and highlight the Creature's journey and humanity, encouraging **empathy** and challenging preconceptions of "monstrosity." Their creative intention was to **shift the narrative focus** from Victor Frankenstein to the Creature, exploring its emotional and psychological development. They sought to **humanise the Creature**, presenting it as a being shaped by rejection and circumstance rather than innate evil. The production also aimed to examine the **consequences of Victor's ambition** and lack of **responsibility** for his creation. Boyle's direction employed **physical theatre**, dynamic lighting, and soundscapes to create an immersive and visceral experience, while emphasising key themes such as isolation, responsibility, and the role of chance in shaping identity.

2. Main characters and the actors

The Creature: Victor Frankenstein's experiment made from different body parts	The actors swap each night: Benedict Cumberbatch / Jonny Lee Miller
Victor Frankenstein: The Creature's creator	The actors swap each night: Jonny Lee Miller / Benedict Cumberbatch
De Lacey: A blind man peasant who lives in the woods	Karl Johnson
Felix De Lacey: De Lacey's son	Daniel Millar
Agatha de Lacey: Felix's wife	Lizzie Winkler
Elizabeth Lavenza: Victor Frankenstein's cousin	Naomie Harris
William Frankenstein: Victor Frankenstein's brother	William Nye

3. Creative team

Director	Danny Boyle
Writer	Nick Dear (based on the novel by Mary Shelley)
Set designer	Mark Tildesley
Costume designer	Suttirat Anne Larlarb
Lighting designer	Bruno Poet
Music and sound score	Underworld
Fight director	Kate Water
Director of movement	Toby Sedgwick
Sound design	Underworld & Ed Clarke

4. Contextual Links:

Nick Dear talks about Adapting Frankenstein for Stage:
https://www.youtube.com/watch?v=X7Fi208Cb6M

Victor Frankenstein – A Character Study:
https://www.youtube.com/watch?v=OGo9oYID6vw

The Industrial Revolution:
https://www.youtube.com/watch?v=xLhNP0qp38Q

Creating Frankenstein:
https://www.youtube.com/watch?v=9ewtTGkXZ4U

National theatre – biography of Mary Shelley
https://www.youtube.com/watch?v=9ewtTGkXZ4U

Actor's process:
https://www.youtube.com/watch?v=E67Ty4diDgE

Performing Arts - Frankenstein

1. Plot Synopsis

Scenes 1–5:		The Creature is brought to life. Frankenstein discovers him, and flees, terrified
Scenes 4–5:	(BC: 0:10:19 JLM: 00:07:55):	The Creature stumbles into the streets of Ingolstadt. People throw stones and chase him out of town
Scenes 6-8:	(BC: 0:13:40 JLM: 00:12:00):	The Creature stumbles into the streets of Ingolstadt. People throw stones and chase him out of town
Scenes 9-11:	(BC: 0:18:56 JLM 00:16:20):	Two beggars at a campfire in the wood are scared away by the Creature. At the fire, the Creature discovers warmth, and learns to eat their food. The beggars return, beat him with sticks and chase him away
Scenes 12-18:	(BC: 0:22:18 JLM: 00:19:37):	At a house in the woods, the Creature meets an old blind man called De Lacey who takes pity on him and befriends him. De Lacey teaches the Creature to read, write and speak, all the while keeping him secret from his son Felix and his wife Agatha, whom the Creature fears will reject him. At night, the Creature performs good deeds for Felix and Agatha, like collecting firewood for them. Felix and Agatha think they must be blessed, and thank the "elves and sprites" who have helped them
Scenes 19:	(BC: 0:36:06 JLM: 00:33:02):	The Creature dreams of a female version of himself, who would love and accept him. They dance together
Scenes 20:	(BC: 0:38:20 JLM: 00:35:22):	The Creature reads Victor's journal, learning he lives in Geneva with his family. Agatha and Felix discover the Creature, and are terrified of him: they beat him with sticks and chase him out of the house despite De Lacey's protests
Scenes 21:	(BC: 0:41:27 JLM: 00:38:15):	Angry and hurt, the Creature wonders aloud what humans do when they feel this way – 'they revenge', he says. He burns down De Lacey's house with Agatha, Felix and De Lacey inside
Scenes 22-23:	(BC: 0:41:27 JLM: 00:38:15):	In Geneva, Frankenstein's brother, William, is playing hide and seek with Elizabeth. The Creature approaches William while he is alone, and asks him to come with him. William refuses, and the Creature kidnaps him. That night, a search party looks for William. Victor finds William's dead body in a boat on the lake, alongside pages from his journal
Scenes 24:	(BC: 0:50:35 JLM: 00:47:17):	Victor hunts down the Creature in the mountains and tries to kill him, but the Creature overpowers him. Victor is astonished at how advanced the Creature is. The Creature tells him about the cruelty he suffered, and blames Victor for his suffering – that being abandoned and alone has led him to do these terrible things. He asks Victor to make a female Creature for him to love, promising to disappear with her forever. Victor reluctantly agrees
Scene 25:	(BC: 1:04:06 JLM: 1:00:20):	Back at his house, Victor tells his father he must leave at once to do important work, missing William's funeral and postponing his own wedding. Elizabeth begs to go with him, but he tells her there is no place for a woman in his work. She doesn't understand, but supports him anyway
Scene 26-28:	(BC: 1:10:25 JLM: 1:06:53)	On a remote island, Victor rents a small house and starts work on a female Creature, enlisting two locals to find him a suitable corpse to work from. William appears to Victor as a ghost, and asks what will happen if the two Creatures have children. The following day the Creature appears and demands he see his bride. He insists to Victor he is capable of love. After bringing the bride to life, Victor breaks his word, and slashes the female Creature to pieces. The Creature swears revenge
Scene 29	(BC: 1:29:33 JLM: 1:25:42):	Back in Geneva, Victor confesses everything to Elizabeth after they are married. He asks her to stay in the house while he goes out into the night to kill the Creature. Once he is gone, the Creature reveals himself to Elizabeth, and tells her everything about himself. She is kind, and understanding, and offers to be his friend. After gaining her trust and promising not to harm her, the Creature breaks his word, just as his creator did to him. He attacks her, raping and killing her as Victor bursts in. He vanishes into the night
Scene 30	(BC: 1:45:10 JLM: 1:40:40):	Victor has chased the Creature to the North Pole, and has grown weak. Thinking Victor has died from the cold, the Creature weeps, begging him for forgiveness, telling him he is all he has left. Victor recovers, and the Creature rejoices, leading his maker further into the frozen wastes

2. Adaptions from the novel

1. The story is from the Creature's perspective rather than Victor's. The audience witnesses the Creature's early life with De Lacey first hand, rather than as a backstory.
2. The framing story of Captain Robert Walton is dispensed with entirely, as is much of Victor's backstory. The play opens with the Creature's "birth".
3. Elizabeth Lavenza is Victor's cousin rather than his adopted sister. (They are cousins in the original release of the novel but changed to adopted siblings in the 1831 rewrite. In the play, they remain cousins.)
4. The character of Justine, William's nurse, is cut, and William's murder is never solved. The character of Henry Clerval is also cut.
5. M. Frankenstein personally brings Victor home from Scotland, and Victor is never imprisoned.
6. M. Frankenstein does not die at the end of the play.
7. The Creature rapes Elizabeth before killing her in the play

PSHE - Life Online; Addressing Radicalisation and Extremism

Key Words	Definitions
Online Fraud	Fraudulent crime being committed on the internet such as identity theft to assist with online transactions.
Scam	A dishonest scheme or fraudulent act.
Social Media	Websites or apps that allow users to create and share content and to communicate and network with others
Employability	The quality of being suitable for paid work.
Community	A group of people living in the same place or having a similar characteristic.
Cohesion	The action or fact of forming a united whole. The quantity of the feeling of togetherness.
Extremism	The state of being, or having thoughts, of an extreme nature. Having extreme opinions or values.

2. Spotting Fraud

Online fraud is fast becoming one of the most common crimes being committed in the UK and it is important we can spot the signs that something could be untrustworthy. Common signs of fraud include spelling mistakes or grammatical errors in their communication; a vagueness to the way in which a business or individual addresses you (e.g. Dear Homeowner) and asking directly for personal information. When we spot fraud, or signs of a scam, we should find where and how this can be reported. There could be a report button to report the user, or otherwise, any communication could be forwarded to higher authorities. A trustworthy source will never ask you for personal or banking details to be submitted without strong protective barriers beforehand such as multifactor authentication.

4. Community Cohesion

The cohesion of a community relates to how close a group of people align in terms of thoughts and values. If a community has strong cohesion, then the feelings amongst the people involved will usually be quite positive, with an array of healthy relationships making up the community. However, a community with a poor cohesion, could result in conflict which could result in somewhere becoming more difficult to live or experience.

3. Impact of Social Media

Social media is becoming an ever-increasing piece of modern life, and the capabilities of these platforms continue to grow. However, most social media platforms do not monitor the authenticity of identification and in fact, many allow users to have anonymous accounts. This means that people can use these platforms to perform hateful acts or behave somewhat different to how they potentially would if their face was being shown. This means that they could attack other individuals which could negatively impact the victim's mental health or feelings of self-esteem. There are of course positive impacts of social media, such as the ability to network and communicate with people worldwide. But the world of social media needs to be carefully navigated, particularly with an increased use of AI, where we may need to be more careful with what we believe or question.

5. Radicalisation and Extremism

We know that everyone is entitled to their own opinion. However, some people's feelings on certain topics could be classed as radical or extreme. These extreme or radical thoughts tend to relate to political or social issues, where there could be a huge divide between the beliefs of a community. Examples of extremist groups in the UK could include the English Defence League (EDL) and British National Party (BNP). These groups have strong beliefs surrounding the ways in which the government run the country and believe that residents in England, or Great Britain, should remain the priority ahead of those seeking asylum in our country. Extremist or Radicalised groups can often protest or perform movements to have their opinions heard. These can be violent and non-peaceful in an attempt to have their voices heard above the legal system.

Childline

www.childline.org.uk
0800 1111

Barnardo's

www.barnardos.org.uk

Spanish

Classroom language

Español	Inglés
¿Cómo se dice... en español/inglés?	How do you say... in Spanish/ English?
¿Cómo se escribe...?	How do you spell...?
¿Cómo se pronuncia?	How do you pronounce (it)?
¿Me das .... ?	Can you give me...?
¿Puedes repetir?	Can you repeat that?
¿Puedo ir a mi clase de música?	Can I go to my music class?
(No) entiendo	I (don't) understand
Lo siento	I'm sorry
(Casi) he terminado	I have (almost) finished
por favor	please
gracias	thank you
Objetos en la clase	Classroom objects
un bolígrafo	a pen
una regla	a ruler
un cuaderno	an exercise book

Question words

Español	Inglés
¿Qué?	what
¿Cómo?	how
¿Por qué?	why
¿Dónde?	where
¿Adónde?	where to
¿De dónde?	where from
¿Cuándo?	when
¿Cuánto/a?	how much
¿Cuántos/as?	how many
¿Cuál?	which
¿Quién?	who
¿A qué hora?	at what time

Phonics - Sound Symbol Correspondence (SSCs)

These sounds never change!

a = cat e = egg i = feet o = hot u = woo

ca - ce - ci - co - cu
Stick your tongue out like the English /th/ for /ce/ and /ci/ and also z, /que/ = ke - /qui/ = key

ga - ge -gi - go - gu
Soft /g/ sound, except for /ge/ and /gi/ these are pronounced like a Spanish /j/ in the back of your throat. Soft /gue/ = get and /gui/ = geese

h = silent, ll = like an English y, v like an English b, ñ = ny, roll your rs if they come at the beginning of a word, or are a double rr

Spanish

1. Week 1 – Local area

¿Cómo es tu zona local?	What's your local area like?
mi país	my country
mi región	my local area
mi ciudad	my city
mi pueblo	my town
mi barrio	my neighbourhood
ahora	now
antes	before
es /era	it is / was
hay / había	there is / there was
tiene / tenía	it has / had
mucha diversidad	lots of diversity
un lago	a lake
un río	a river
el paisaje	the landscape
la costa	the coast
un bosque	a forest
unas playas	some beaches
el campo	the countryside
una montaña	a mountain
hermoso	beautiful
histórico	historical
pequeño	small
sucio	dirty
agradable	pleasant
enorme	enormous

2. Week 2 – Holidays revision

Words you may have forgotten!	
cerca de	close to
lejos de	far from
alquilar	to rent
quedarse / alojarse	to stay
llegar	to arrive
salir	to leave/ go out
perder	to lose/ miss
edificio	building
sitio/lugar	place
llueve	it rains
nieva	it snows

Autumn term Knowledge Organiser

Look back at your Autumn term Knowledge Organiser. You have much more detailed vocab lists in there.

To prepare for your reading and listening test, make flashcards if these words and any others from the Autumn term Knowledge Organiser that you have forgotten and test yourself regularly.

Get a friend to say the words to you and see if you can recognise them.

You can also practise the listening tasks on BBC Bitesize.

3. Week 3 – School revision

Describing a photo	
En la foto hay…	In the photo there is/are…
un alumno	a pupil
un estudiante	a student
lleva(n)…	he/she is wearing
camisa	a shirt
camiseta	a t-shirt
pantalones	trousers
corbata	a tie
está(n)…	he is/ they are
en un aula	in a classroom
en el cole	at school
en una escuela primaria	in a primary school
hablando	talking
escuchando	listening
estudiando	studying
sonriendo	smiling
General conversation questions	
¿Cómo es tu instituto?	What is your school like?
¿Qué actividades extraescolares haces?	What extracurricular activities do you do?
¿Qué opinas de las asignaturas que estudias?	What do you think of the subjects you study?
¿Qué hiciste recientemente en tu colegio?	What did you do recently at your school?,
¿Qué planes tienes para estudiar en el futuro?	What plans do you have to study in the future?

Spanish

4. Week 4 – My personal world

Describing a photo	
está(n)...	he is/ they are
en casa	at home
en un salón	in a living room
hablando	talking
sonriendo	smiling
jugando	playing
discutiendo	arguing
General conversation questions	
¿Qué planes tienes para este fin de semana?	What plans do you have for this weekend?
¿Qué hiciste con sus amigos el fin de semana pasado?	What did you do with your friends last weekend?
Háblame de tu familia/amigos	Talk to me about your family/ friends.

5. Week 5 – Relationships

Words **you may have forgotten!**	
mi gente	my people
hijo único	only child
gemelos	twins
bebé	baby
miembros de la familia	family members
nadie	no one
parecerse	to resemble
llevarse bien/ mal	to get on well/ badly
discutir con	to argue with
me parezco a	I resemble
me llevo bien/mal con	I get on well/ badly with
discuto con	I argue with

6. Week 6 – A good friend

Words you may have forgotten!	
un buen amigo...	A good friend...
te comprende	understands you
te conoce bien	knows you well
te hace reír	Makes you laugh
te respeta	respects you
me acepta como soy	Accept me as I am
te acepta como eres	Accepts you as you are
te da buenos consejos	Gives you good advice
te apoya en lo bueno y en lo mal	Supports you through good and bad
no te critica	doesn't criticise you
es fiel	is faithful
conocer	to meet/ know

7. Week 7 – On my phone

Words you may have forgotten!	
mandar / enviar	to send
subir	to upload
compartir	to share
grabar	to record
las noticias	the news
correos electrónicos	emails
redes sociales	social media
ordenador	computer
compras	shopping
una pérdida de tiempo	a waste of time
lento	slow
en directo	live

8. Week 8 - Sports

Words you may have forgotten!	
jugar + ballsport	to play
hacer + non-ballsport	to do (go+sport)
correr	to run
ganar	to win
pasear / caminar	to go for a walk
luchar	to fight
bañar	to swim/ bathe
el baloncesto	basketball
el baile	dance
el voleibol	volleyball
la natación	swimming
un equipo	a team
un jugador	a player

9. Week 9 – TV, film, music

Words you may have forgotten!	
las películas	films
un anuncio	an advert
un documental	a documentary
la pantalla	the screen
un espectaculo	a show
el escenario	the stage
el público	the crowd/ audience
un concierto	a concert
un cantante	a singer
una canción	a song
tocar un instrumento	to play an instrument
disfrutar	to enjoy
divertirse	to have fun
grabar	to record
bajar	to download

Spanish

10. Week 10 – Healthy routines

Words you may have forgotten!	
levantarse	to get up
me levanto	I get up
vestirse	to get dressed
me visto	I get dressed
tomar el desayuno	to have breakfast
tomar el almuerzo	to have lunch
tomar la merienda	to have a snack
tomar la cena	to have dinner/tea
volver	to return
vuelvo	I return
tomar un descanso	to have a break
hacer ejercicio	to do exercise
hacer deporte	to do sport
acostarse	to go to bed
me acuesto	I go to bed
dormir	to sleep
duermo	I sleep

11. Week 11 – Health problems

Las partes del cuerpo	Body parts
el brazo	arm
el estómago	stomach
el pie	foot
la boca	mouth
la mano	hand
la cabeza	head
la espalda	back
la garganta	throat
la nariz	nose
la rodilla	knee
la pierna	leg
los oídos	inner ear
los dedos	fingers
los dientes	teeth
Injury or illness	
romper	to break
cortar	to cut
quemar	to burn
estar enfermo	to be ill
tener fiebre	to have a fever
dolor de ...	a ... pain /ache
una herida	an injury

13. Week 11 – Young people in action

Jóvenes en acción	
modelo de conducta	role model
seguir	to follow
sigo	I follow
tener éxito	to have success
se debería	one should
trabajar	to work
recoger	to pick up
ayudar	to help
apoyar	tp support
defender	to defend
luchar	to fight
conseguir	to achieve
compartir	to share
los derechos	the rights
el dinero	money
cariño	care
suerte	luck
hogar	home
proyecto	project
sin	without

13. Preparing for the speaking assessment

Before the assessment:

Experiment with the following techniques to revise the vocabulary and structures in this knowledge Organiser and the one from the Atutumn term

- Use the look-cover-write-check technique to test yourself
- Create flashcards with the English on one side and the Spanish on the other – test yourself and get a friend to test you
- Practise bringing the vocabulary together to create your own written and spoken answers
- Give the Knowledge Organiser to a friend and get them to test you

During the test:

1. We start with the read aloud. Read at a clear steady pace. There is no need to rush- focus on the Spanish phonics that differ from English (these are all in the front of your KO)
2. Next is the role-play. Remember you just need to give simple brief response, but they must be more than one word.
3. The third task is the photo-based task. Start by describing the photo, remember you must describe the people, location and activity
   When you have finished your description, your teacher will ask you two questions relating to your chosen picture. You are expected to say a few words or a short phrase/sentence in response to each question. One-word answers will not be sufficient to gain full marks.

4. You will then move on to a conversation on the broader thematic context of that topic. During the conversation, your teacher will ask you questions in the present, past and future tenses. Your responses should be as full and detailed as possible. Remember the rule of 3!

Notes Pages

Notes Pages