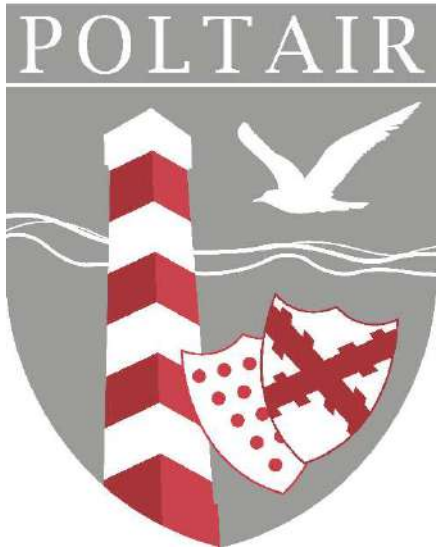


Year 10
Learning Cycle 2

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?

Summarise	Organise	Recall	Test
Summarise and condense any class notes, revision guides and revision.	Organise 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.	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			
• Cornell Notes • Flash cards • Mind mapping • Revision clocks • Dual coding	• How to use your PLC • How to schedule your home learning and stick to it!	• 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: Organise	Step 2: Summarise	Step 3: Recall	Step 4: Test
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	When you revise for a specific topic use your knowledge organiser, revision guide, website etc to summarise the key knowledge you need to learn. Use any summarizing strategy, such as: • Flashcards • Mindmaps • Cornell Notes • Revision Clocks 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.

ATTENDANCE FOCUS

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.
- I will find a relative, friend or neighbour who can take me to school if I miss the bus.
- 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

Year 10 Learning Cycle 2 Personal Learning Checklists

English

Language Paper 1	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.				
Selecting relevant information from a fiction text.				
Identifying language methods with accurate terminology.				
Analysing language methods.				
Identifying structure methods with accurate terminology.				
Analysing structure methods.				
Evaluating a statement about a fiction text.				
Supporting my evaluation of a fiction text by identifying and analysing a range of relevant methods.				
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.				

English

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, 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)				

Year 10 Learning Cycle 2 Personal Learning Checklists

English

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.				

English

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				

English

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				
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.				

Year 10 Learning Cycle 2 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				

Year 10 Learning Cycle 2 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
Describe the different trophic levels and use numbers and names to represent them				
Describe what decomposers are and what they do				
Construct pyramids of biomass accurately from data and explain what they represent				
State how much energy producers absorb from the Sun and how much biomass is transferred				
Explain how biomass is lost between trophic levels, including the consequences of this and calculate efficiency between trophic levels				
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				

Year 10 Learning Cycle 2 Personal Learning Checklists

Science - Paper 1 Chemistry

Key Ideas	S	O	R	T
Higher only: Use the relative formula mass of a substance to calculate the number of moles in a given mass of the substance				
Higher only: Calculate the masses of reactants and products when given a balanced symbol equation				
Higher only: Use moles to write a balanced equation when given the masses of reactants and products (inc changing the subject of the equation)				
Higher 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				
Higher only: Explain how the mass of a solute and the volume of a solution is related to the concentration of the solution				
Explain why it is not always possible to obtain the calculated or expected amount of a product				
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 & Higher only: Calculate the theoretical mass of a product from a given mass of reactant and the balanced equation for the reaction				
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				
Higher 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				
Higher 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
Higher only: Calculate the masses of reactants and products when given a balanced symbol equation				
Higher only: Use moles to write a balanced equation when given the masses of reactants and products (inc changing the subject of the equation)				
Higher 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				
Higher only: Explain how the mass of a solute and the volume of a solution is related to the concentration of the solution				
Explain why it is not always possible to obtain the calculated or expected amount of a product				
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 & Higher only: Calculate the theoretical mass of a product from a given mass of reactant and the balanced equation for the reaction				
Describe atom economy as a measure of the amount of reactants that end up as useful products				

Year 10 Learning Cycle 2 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				
Higher only: Describe oxidation and reduction in terms of loss and gain of electrons				
Higher 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
Higher 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				
Higher only: Explain the energy changes in breaking and making bonds and calculate the overall energy change using bond energies				
Describe what a simple cell and a battery is and how they produce electricity				
Describe why alkaline batteries are non-rechargeable, state why some cells are rechargeable and evaluate the use of cells				
Describe fuel cells and compare fuel cells to rechargeable cells and batteries				
Describe the overall reaction in a hydrogen fuel cell				
Chem & Higher only: Write half equations for the electrode reactions in a hydrogen fuel cell				

Year 10 Learning Cycle 2 Personal Learning Checklists

Science - Paper 1 Physics

Key Ideas	S	O	R	T
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				
Calculate the change in thermal energy by applying but not recalling the equation [$\Delta E = m\ c\ \Delta\theta$]				
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				
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				
Calculate the pressure for a fixed mass of gas held at a constant temperature by applying, but not recalling, the equation: [$pV =$ constant]				
PHY & Higher 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				

Year 10 Learning Cycle 2 Personal Learning Checklists

Science - Paper 1 Physics

Key Ideas	S	O	R	T
Higher 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				
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				
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				
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				
Evaluate the perceived risks of using nuclear radiation in relation to given data and consequences				
Describe nuclear fission				
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, LAN and PAN				
I can identify different network topologies				
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 the roles of an operating system				
I can identify utility software and their use				
I can discuss the Cultural, Legal, Environmental and Ethical issues in technology development				

Year 10 Learning Cycle 2 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 understand the impact of new and emerging technologies on the design and organisation of the work place				
I am able to understand the impact of resource consumption on the planet				
I am able to identify how enterprise can be based on the development of effective business innovation				
I can understand how products are designed to avoid having a negative impact on others				
I am able to identify how the contemporary and future use of automation, computer aided design, and computer aided manufacture helps with creating products				

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				

Year 10 Learning Cycle 2 Personal Learning Checklists

History

Key Ideas	S	O	R	T
I can state the differences between Catholicism and Protestantism				
I can explain the problems Elizabeth faced when she ascended the throne (illegitimacy, female ruler, debt etc.)				
I can explain the threat of Mary Queen of Scots for Elizabeth				
I can explain the challenges Elizabeth faced at home (Catholic threats)				
I can explain the tensions between England and Spain				
I can explain the events of the Spanish Armada				
I can explain the consequences of the Spanish Armada				
I can explain features of society in Elizabethan England				
I can explain the problems faced by the colonists at Virginia				

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 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 Heavy Metal				
I understand and can recognise the concepts, characteristics, key features and influential artists of EDM and 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				

Year 10 Learning Cycle 2 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				

Religious Studies

Key Ideas	S	O	R	T
I can describe how religion across the UK is changing using data from the 2021 Census				
I can define Agnostic				
I can define Atheism				
I can explain different reasons why someone might describe themselves as Agnostic or Atheist				
I can outline the idea of the Golden Rule				
I can explain what a Humanist is and what impact Humanist beliefs might have on a person's actions				

Spanish

Key Ideas	S	O	R	T
I can talk about technology, hobbies, festivals and sporting events				
I can use 'para' + infinitive to mean 'in order to' or 'to'				
I can give a variety of developed opinions and reasons				
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 recognize / use the simple future to talk about what I will do				
I can describe a photo				

Year 10 Learning Cycle 2 English - '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 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
- ✓ Industrialist

2c. Mrs Sybil Birling

- ✓ Judgmental
- ✓ Old money
- ✓ Condescending
- ✓ Traditional, etiquette
- ✓ Insincere
- ✓ Controlling

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
- ✓ Emblematic

Year 10 Learning Cycle 2 English - '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, 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 and in 1948 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 Capitalist societies.

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

Year 10 Learning Cycle 2 English - '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.

Year 10 Learning Cycle 2 English - '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. "When you're married you'll realise that men with important work to do sometimes have to spend nearly all their time and energy on their business." Mrs Birling Patronising tone imparts patriarchal values maintained by Mrs Birling's traditional values.

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

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

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

8f. "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.

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

8h. "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.

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

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

8k. ""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.

8l. "(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.

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

8n. "" She was here alone, friendless, almost penniless, desperate. She needed not only money but advice, sympathy, friendliness." List of emotive adjectives augments Eva's plight.

8o. "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.

8p. "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.

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

8r. "(triumphantly)" Mr Birling." Stage direction and adverb. Mr Birling believes – ironically – that he has been victorious over the Inspector.

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

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.

Year 10 Learning Cycle 2 English - GCSE 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'
- ''But I blink / and he bursts again'
- 'And the drink and the drugs won't flush him out'
- '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'
- 'Stormed at with shot and shell'
- 'Cannon to the left of them, / Cannon to the right of them, / Cannon in front of them.'
- '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.'
- 'The patriotic tear that had brimmed in his eye sweating like molten iron'
- 'In what cold clockwork of the stars and the nations was he the hand pointing that second?'
- 'A yellow hare that rolled like a flame.'
- 'King, honour, human dignity, etcetera.'

Year 10 Learning Cycle 2 English - GCSE 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

- 'Spools of suffering set out in ordered rows'
- 'Fields which don't explode beneath the feet of running children in a nightmare heat.'
- 'A half-formed ghost'
- 'Blood stained into a foreign dust'
- '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

'Spasms of paper red, disrupting a blockade of yellow bias binding.'

'All my words flattened, rolled, turned into felt / slowly melting.'

'Released a song bird from its cage.'

'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.'
- 'Dark shoals of fish flashing silver'
- 'Built cairns of pearl-grey pebbles.'
- 'They treated him as though he no longer existed.'
- 'He must have wondered which had been the better way to die.'

Year 10 Learning Cycle 2 English - Language Paper 1

Section A – READING 40 marks (50% of Language Paper 1 – 1 hour)

1. The Questions

Question 1: List four things… [4]

- ✓ 5 minutes
- ✓ Use the correct line numbers.
- ✓ Write four different ideas that directly answer the question

Question 2: Language [8]

- ✓ 10 minutes
- ✓ Focusing on the key idea in the question, highlight and annotate the best quotations.
- ✓ Write your answer using two or three What, How, Why paragraphs - say a lot about a little!

Question 3: Structure [8]

- ✓ 10 minutes
- ✓ Select important structural features to analyse, including the opening and the ending (use your paragraph summaries to help you).
- ✓ Write your answer using SEW (structure method, evidence, why) paragraphs.

Question 4: Evaluating a statement and a writer's methods (use methods from Questions 2 and 3 + effect + evaluate statement) [20]

- ✓ 20 minutes
- ✓ Mark out the given line numbers.
- ✓ Read the statement and highlight the key ideas. Think about your response to it.
- ✓ Find the best quotations to support your response to the statement and annotate with their methods.
- ✓ Quickly plan then write your answer using SEMA (statement, evidence, method, analyse) paragraphs, linking your analysis back to the statement.

2. Language Methods Terms (use these in Q2 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

3. Structure Methods Terms (use these in Q3 and 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

Year 10 Learning Cycle 2 English - Language Paper 1

4. Verbs for Analysis

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

5. Sentence Stems

Q2	The writer describes …... The use of the [language method] demonstrates…… * Furthermore, the word/phrase "……..." powerfully evokes ……..
Q3	At the beginning of the Source, the writer focuses the reader's attention on……. As the Source progresses, the writer adds to / contrasts ….. * The conscious introduction of …….. as the Source develops builds / contrasts ……. Finally, the writer of the Source ends with ……
Q4	I wholeheartedly/ partially agree that …….. The writer describes "……..", which reveals……. The [language/structure method] highlights……. This indicates……. [link to statement].

6. 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

7. Words to identify writers' emotions:

☺		☹	
Content	Euphoric	Perplexed	Overwhelmed
Assured	Optimistic	Suspicious	Dejected
Captivated	Grateful	Irritated	Indifferent
Curious	Delighted	Indignant	Disgusted
Composed	Untroubled	Unsettled	Enraged
Exhilarated	Proud	Pessimistic	Alarmed

Year 10 Learning Cycle 2 English - Writing 40 marks (50% of Language Paper 1 – 45 minutes)

8. Approaching the Question

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 In

Shift in time (flashback)

Comment (one line of reported speech)

Overview (return to opening description but change something significant

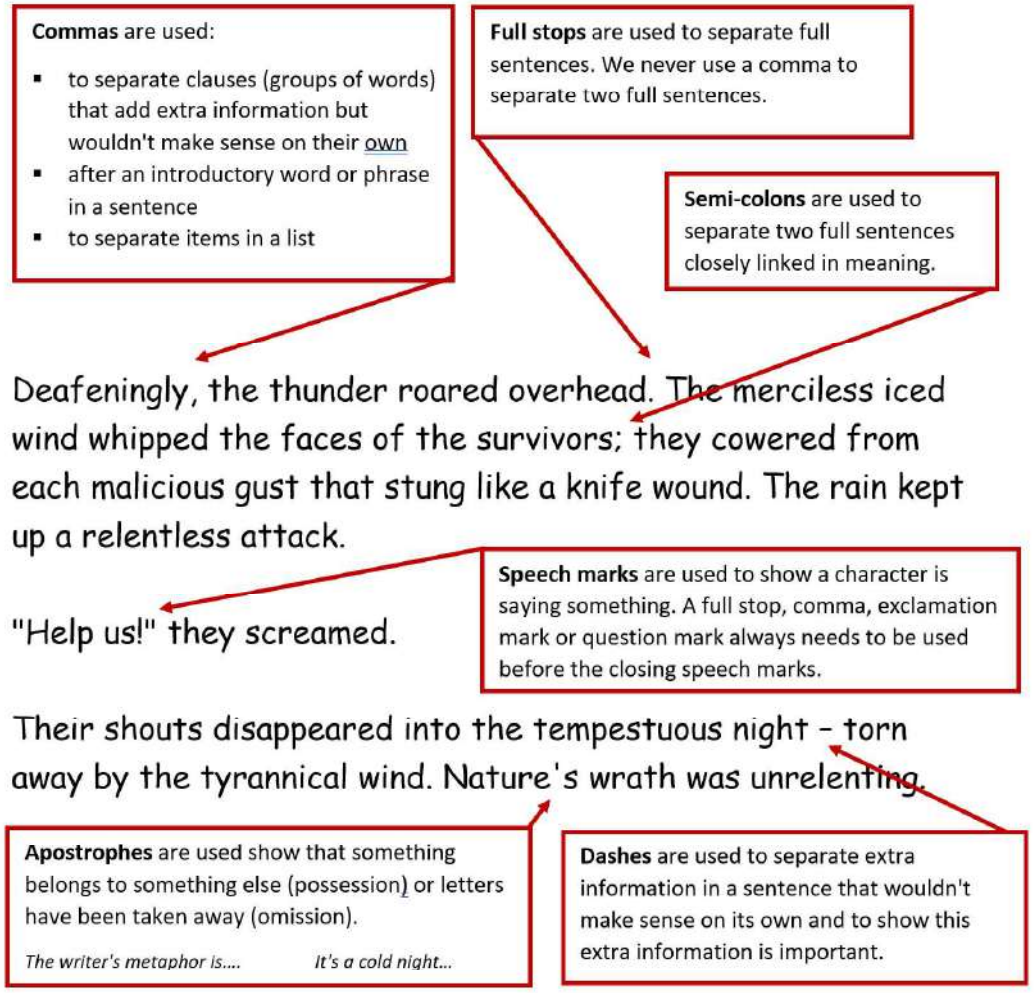
9. The Mark Scheme

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?

Year 10 Learning Cycle 2 English - Writing

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



Year 10 Learning Cycle 2 English - Language Paper 2

Section A – READING 40 marks (50% of Language Paper 1 – 1 hour)

1. The Questions

Question 1: Select four true statements [4]

- ✓ 5 minutes
- ✓ Mark out the line numbers.
- ✓ Use 'T' or 'F' next to the statements before making your final decisions.
- ✓ Shade the oval once you are certain of your answers.

Question 2: Summary question – compare both sources – quotes + inference.[8]

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

Question 3: Language [12]

- ✓ 10 minutes
- ✓ Select important language methods features to analyse, including word choice.
- ✓ Write your answer using What, How, 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
- ✓ VEMAD > connective > VEMAD x3
- ✓ VEMAD= Viewpoint, Evidence, Method, Analysis, Difference

2. Sentence Starters for Question 2 (SQUID)

Whilst source A…source B…which shows…

The writer in source A…however in source B this is…

Although source B presents…source A portrays…

In contrast to source A, source B…

This differs to source A as…which implies…

The…in source A are…in comparison to source B…

3. Words to identify writers' viewpoints

☺		☹	
Composed	feeling in control and calm	Remorseful	sorry for your actions, guilty
Content	quietly happy	Suspicious	being unsure and cautious about something or someone
Assured	confident	Perplexed	confused
Untroubled	having no worries	Indignant	unwilling to believe something
Curious	interested and wanting to know more	Unsettled	on edge, slightly worried or scared
Captivated	having your attention held by something beautiful or exciting	Overwhelmed	feeling sudden, strong emotions
Delighted	very pleased	Dejected	sad and lacking in hope
Euphoric	extremely happy or excited	Indifferent	not caring about something
Grateful	thankful	Disgusted	a strong feeling of dislike for something unpleasant
Optimistic	hopeful and confident about the future	Enraged	extremely angry

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

Year 10 Learning Cycle 2 English - Language Paper 2

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

Year 10 Learning Cycle 2 English - Language Paper 2

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

9. Approaching the Question

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

10. Suggested structure

Descriptive Hook	• Picture this: ..... • Imagine a world in which..... Now imagine a world....
One sentence statement	• ..... needs to end now. • We simply cannot continue to...
Logos - facts and logic	• The more we ..... , the more we will ..... • There is no doubt that..... • For years/centuries we have.....
Ethos - experience and research	• I have personally experienced/witnessed... • Recent reseach has revealed...
Counter-argument	• Some people might argue... However... • Many would continue to claim... but may I remind you .....
Pathos - emotions	• How can we sleep easily at night when... ? • It is utterly shameful that.....
Empowering conclusion	• So, it is time to... • We must learn to... • Ultimately, we must consider...

11. 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,
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	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?

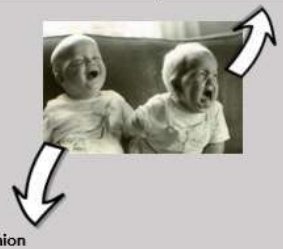
Year 10 Learning Cycle 2 English - Language Paper 1

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

12. Vocabulary

Expressing a Negative Opinion

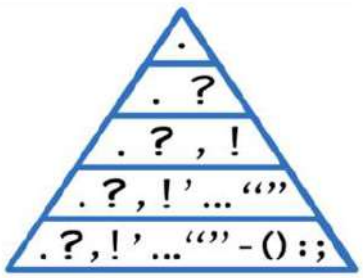
Fronted adverbial	Verb Phrase	Adverb	Adjective
Unfortunately,	I find it	mildly	discomforting
Increasingly,	the situation seems to be	inconceivably	awful
Regrettably,	we are faced with a	utterly	mortifying
Lamentably,	many people ignore the	unimaginably	absurd
Disappointingly,	our reaction to this is	downright	appalling
Laughably,	this state of affairs is		upsetting
Preposterously,	I believe that it is		problematic



Expressing a Positive Opinion

Fronted adverbial	Verb Phrase	Adverb	Adjective
Happily,	I find it	mildly	encouraging
Thankfully,	the situation seems to be	wonderfully	reassuring
Increasingly,	we are faced with a	amazingly	invaluable
Fortunately,	our reaction to this is	pleasingly	beneficial
Encouragingly,	many people realise the	undoubtedly	advantageous
Reassuringly,	I believe that it is	unquestionably	delightful
			rewarding
			motivational

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

Unsightly 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.

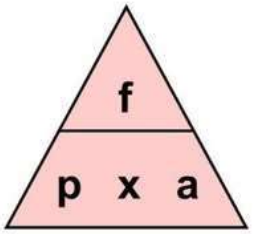
Year 10 Learning Cycle 2 Maths

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.

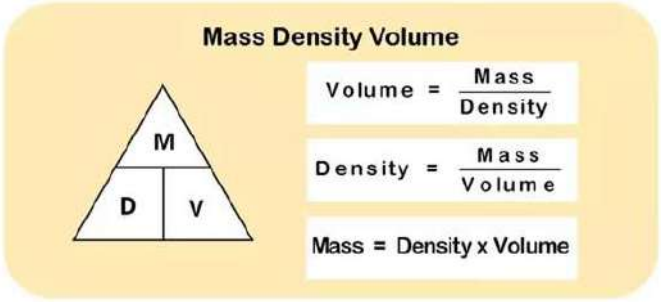
Year 10 Learning Cycle 2 Maths - Compound measures and Real life graphs

1. Pressure

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



2. Density



3. Speed

Speed= distance:time

20km/h means

Distance: time

20km: 1 hour

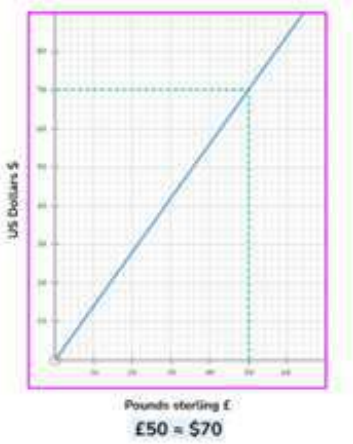
40km: 2hours

60km: 3hours

10km: 1/2hour

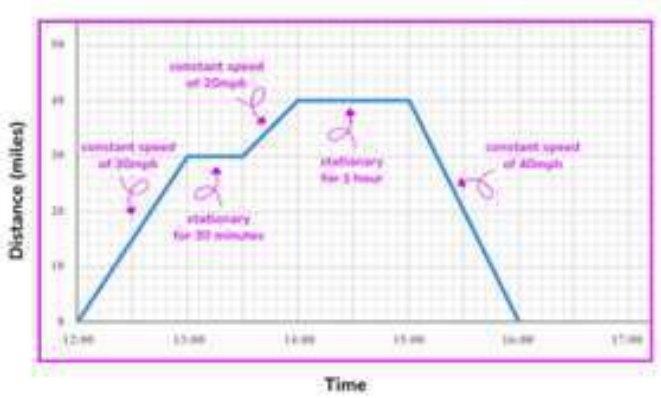
4. Conversion graphs

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



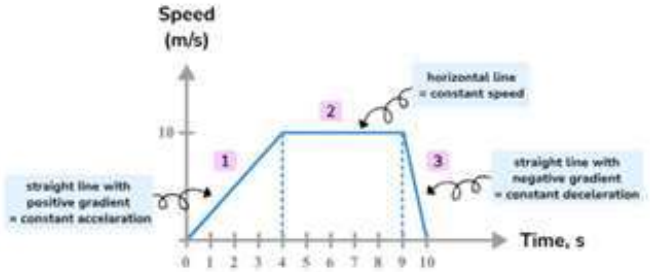
5. Distance-time graphs

- 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



Year 10 Learning Cycle 2 Maths - Algebraic thinking

1. Expanding single, double and triple brackets

$$5(3n-4) \equiv 15n-20$$

$5 \times 3n \quad 5 \times -4$

multiply

$(x+8)(x+5)$

multiply

$x^2 + 5x + 8x + 40$

$x^2 + 13x + 40$

2. Factorising single bracket

Factorise:

$5x^2 + 3x$

1) Find the HCF of the terms.

2) Divide each term by the HCF.

$\frac{5x^2}{x} = 5x \qquad \frac{3x}{x} = x$

$x(5x+3)$

3. Factorising quadratic

Factorising

$2x^2 + 5x + 3 \equiv (2x+3)(x+1)$

Expanding brackets

$x^2 - x - 30 = \underbrace{x^2 - 6x}_{group} + \underbrace{5x - 30}_{group}$

$= x(x-6) + 5(x-6)$

$= (x-6)(x+5)$

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

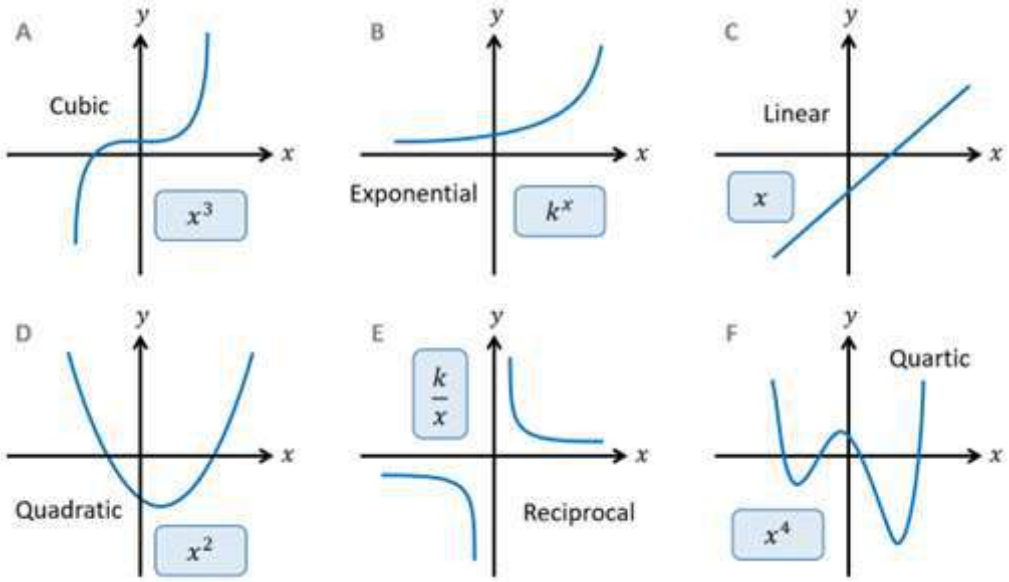
Factorising

$a^2 - b^2 \equiv (a+b)(a-b)$

Expanding brackets

Year 10 Learning Cycle 2 Maths - Non-linear graphs

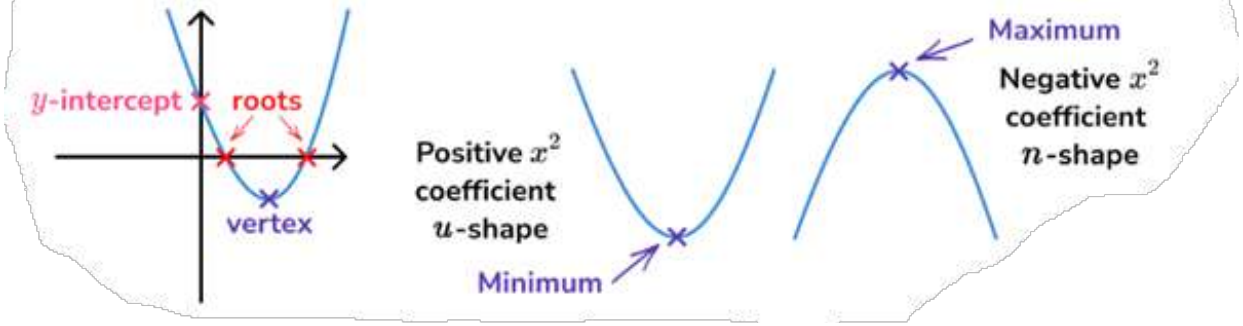
1. Non-linear graphs



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

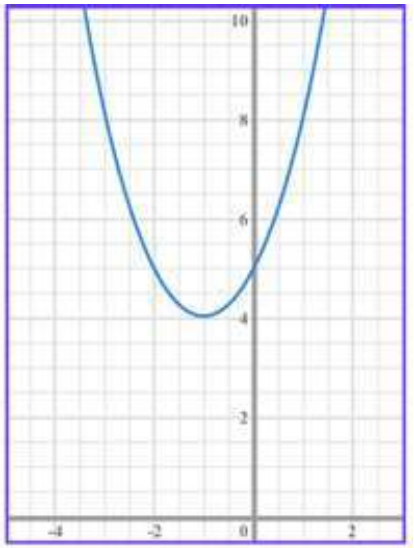
Plotting a quadratic graph involves drawing a table of values for the x and y coordinates of a quadratic function, and then plotting these on a set of axes.

Example

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

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

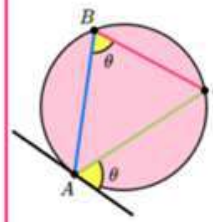
Substitute each x value into $x^2 + 2x + 5$ to get the corresponding y value.



Year 10 Learning Cycle 2 Maths - Circles

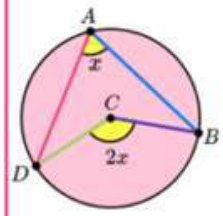
1. Circle theorem (Higher only)

Alternate segment theorem



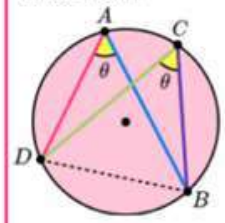
The angle that lies between a tangent and a chord is equal to the angle subtended by the same chord in the alternate segment.

Angle at the centre theorem



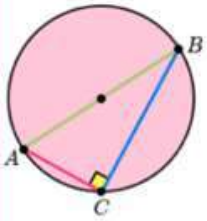
The angle at the centre is twice the angle at the circumference.

Angles in the same segment theorem



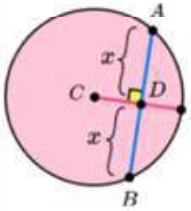
Angles in the same segment are equal.

Angles in a semicircle



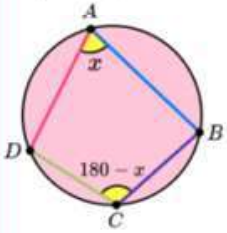
The angle in a semicircle is 90 degrees.

Chord of a circle



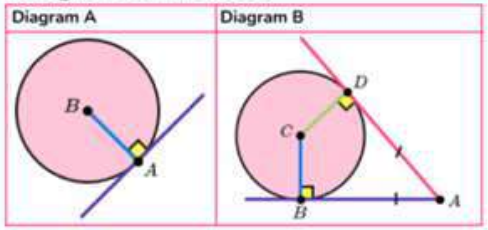
The perpendicular from the centre of a circle to a chord bisects the chord (splits the chord into two equal parts).

Cyclic quadrilateral



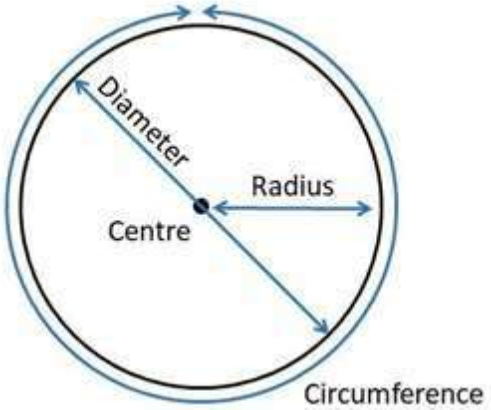
The opposite angles in a cyclic quadrilateral total 180°.

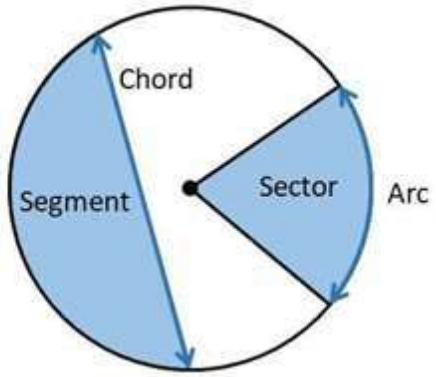
Tangent of a circle



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

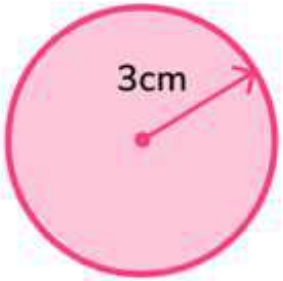
2. Circle vocabulary





3. Area of a circle

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



$$Area = \pi r^2$$
$$= \pi \times 3^2$$
$$= 9\pi cm^2$$
$$= 28.3cm^2 (1.d.p)$$

4. Circumference of a circle

$$Circumference = \pi \times d$$
$$= \pi \times 6$$
$$= 6\pi cm$$
$$= 18.8cm (1.d.p)$$

Year 10 Learning Cycle 2 Maths

×	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

Square numbers: 1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144

Cube Numbers : 1, 8, 27, 64, 125

Prime numbers: 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47…

Useful features on your calculator:

FACT: this expresses a number as a product of its prime factors

RATIO (menu 4): this will find missing values within equivalent ratios

Table (menu 3): This is where you can generate values within a table- useful for plotting graphs and generating terms of a sequence

Statistics (menu 2): this will find all of the averages from a table of data

"": This is the mean average time button and can do conversions between time units, as well as calculations with different times

Fraction button: can be used for any calculations with fractions

S-D: Converts decimal answers to fractions and vice versa

Sparx Maths

Homework will be set on Tuesdays and will be due at 7:30am on the following Tuesday

You must complete 100% of the homework- if you have not got 100% of the questions correct, then you have not done your homework

You will receive a merit for completion of your homework

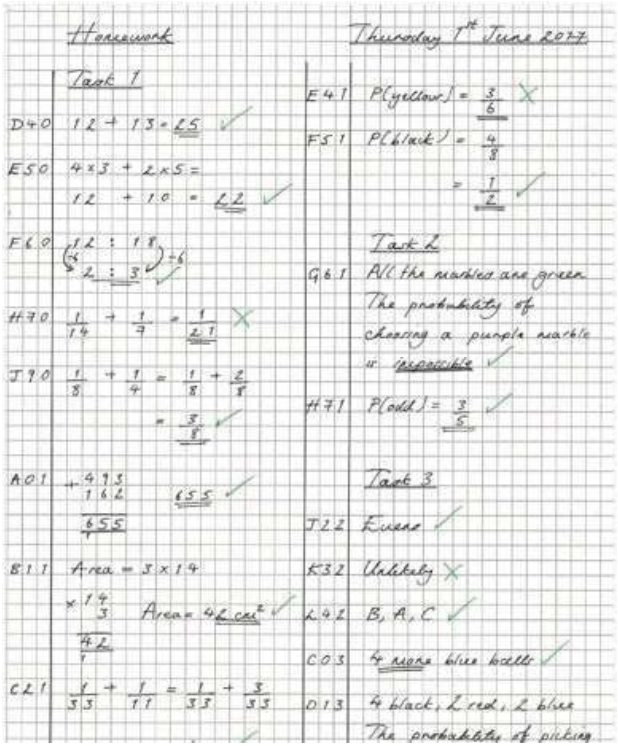
If you complete one of the extra homeworks- XP Boost or Target, you will receive another merit - they must be 100% complete

Sparx clinics will run Monday, Tuesday, Thursday in W4 - a Maths teacher will be on hand to support you, if you are unsure of any of the notes covered

It is your responsibility to seek help BEFORE the deadline, if you get stuck

Your bookwork will be checked in lessons- you must write full workings for every question.

You must bring your homework book to the first lesson after Tuesday 7:30am- if you do not have your book, then you have not completed your homework



Year 10 Learning Cycle 2 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.

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

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

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

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

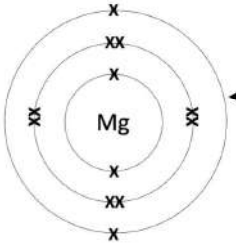
Neutrons = Mass number – Atomic number

relative atomic mass
atomic symbol
name
atomic (proton) number

Non-Metals

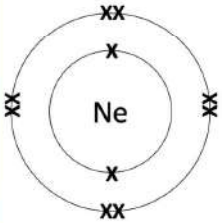
Transition Metals

1	2											3	4	5	6	7	0
							1 H hydrogen 1										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

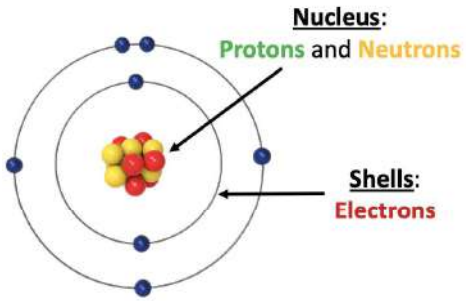


Magnesium (Mg) has **12 electrons** in total. It is in **group 2** so has 2 electrons in its **outer** shell. Mg's electronic configuration is 2,8,2.

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



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



Year 10 Learning Cycle 2 Science - Experiments

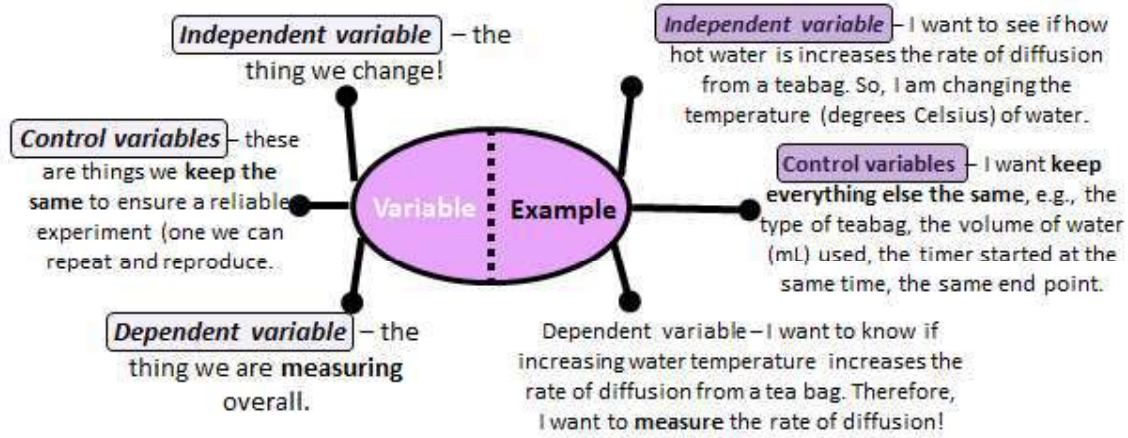
1. Key Terms	Description
Independent variable	The variable you change in an investigation
Dependent variable	The variable you measure in an investigation
Control variable	The variable you keep the same in an investigation
Hypothesis	A prediction of what will happen in an investigation
Reliability	We 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

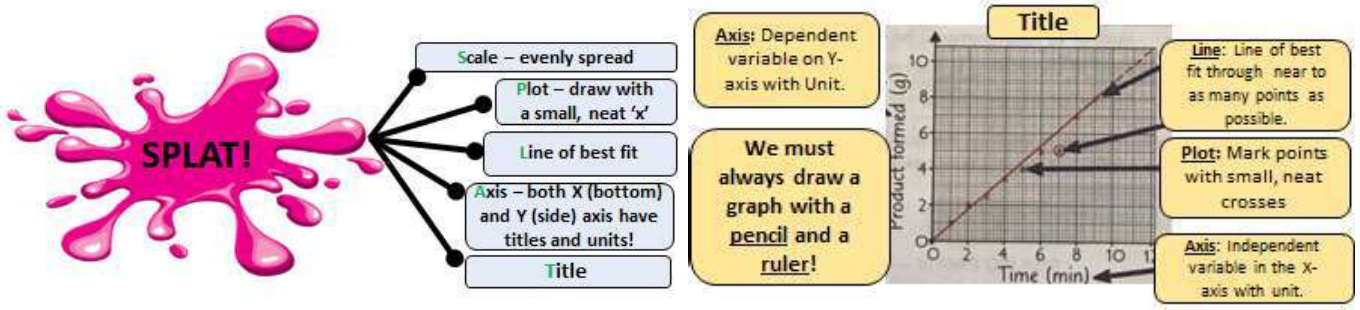
1. ***Repeatable*** – The **same** person gets the **same results** after repeating the experiment using the same method and equipment.
2. ***Reproducible*** – Similar results can be achieved by **someone else** or using a **different method**/piece of equipment.
3. ***Accurate*** – Results are close 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



4. Presenting Data



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.

Year 10 Learning Cycle 2 Science - How can I use the Physics equation sheet?

How can I use the Physics equation sheet?

Triple only equations

HT = Higher Tier 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**	$V_p I_p = V_s I_s$

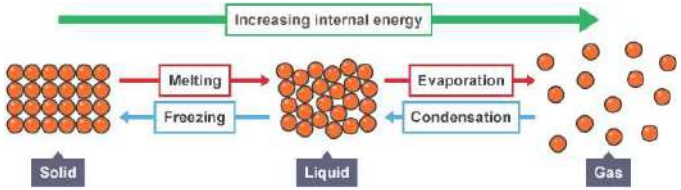
Give
Give
Want

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?

Year 10 Learning Cycle 2 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

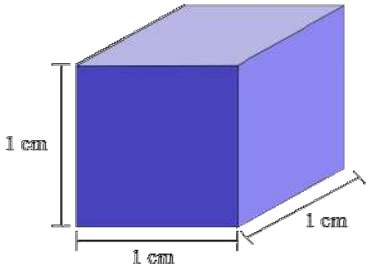


Solid	Liquid	Gas
Very close	Close	Far apart
Regular pattern	Randomly arranged	Randomly arranged
Vibrate around a fixed position	Move around each other	Move quickly in all directions
Low energy	Greater energy	Highest energy

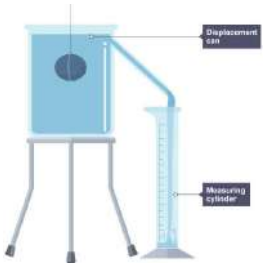
3. Density

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

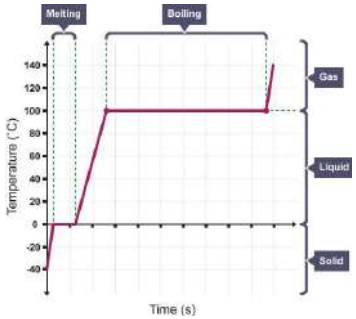


1. Record the mass of an object using a balance
2. Carefully add the object to a full displacement can and record the volume of displaced water using a measuring cylinder.
3. Calculate density.

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

- 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

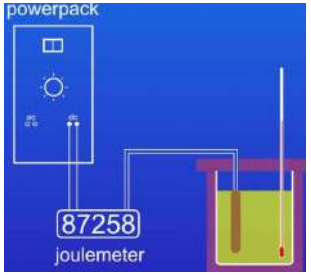


5. Specific heat capacity

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

- 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

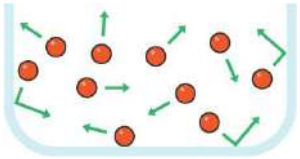


1. Record the mass of an object using a balance
2. Record the start temperature of the object
3. Use a heater to heat the object for 10 minutes, recording the amount of energy transferred
4. Record the end temperature and calculate temperature change
5. Calculate specific heat capacity

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)



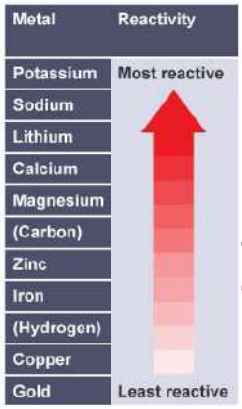
Gas pressure is caused by the frequency of the collisions between gas particles and the walls of the container.

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

Year 10 Learning Cycle 2 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

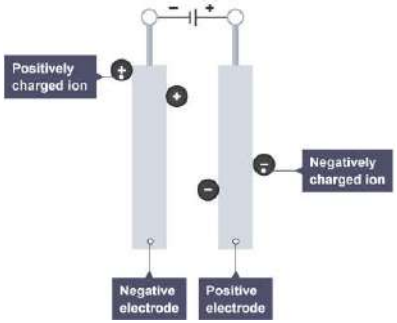
Neutralisation

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

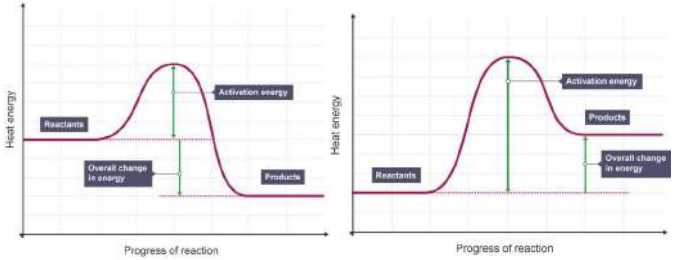
If the metal ion is more reactive than hydrogen, hydrogen will be formed.

At the anode (+)

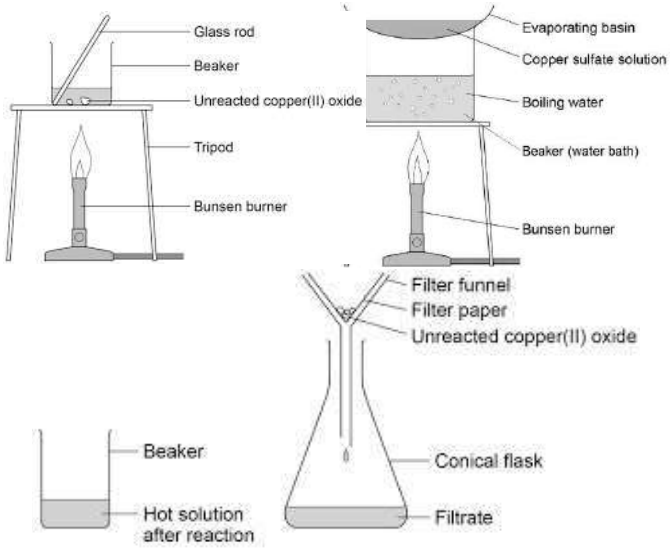
If the non-metal ion is in group 7, a group 7 molecule will be formed

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

4. Endothermic & exothermic reactions

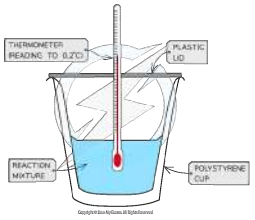


5. Making a soluble salt



6. Temperature changes required practical

Reacting two solutions, e.g. acid and alkali



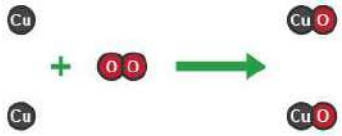
1. Place the polystyrene cup inside the glass beaker to make it more stable.
2. Measure an appropriate volume of each liquid, e.g. 25 cm3.
3. Place one of the liquids in a polystyrene cup.
4. Record the temperature of the solution.
5. Add the second solution and record the highest or lowest temperature 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.

Year 10 Learning Cycle 2 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
Higher only – Avogadro's constant	6.02×10^{23}. the number of particles in 1 mole of a substance
Higher only – limiting reactant	The reactant which is used up in a reaction
Higher only – reactant in excess	The reactant which is left over at the end of a reaction

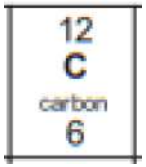
2. Conservation of mass

- 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

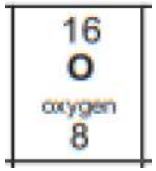


- The relative formula mass (Mr) is the sum of the mass numbers of the atoms found in the formula.

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. Higher 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

Year 10 Learning Cycle 2 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

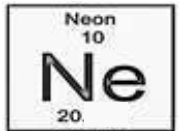
2. Recap of Atomic Structure

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

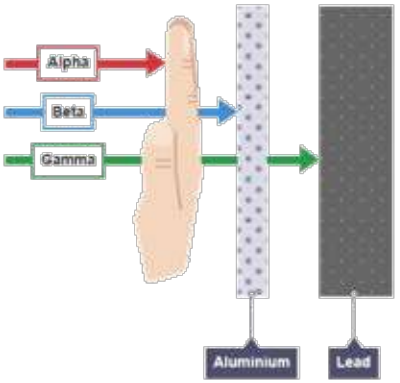
Mass number: the sum of the protons and neutrons



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.

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

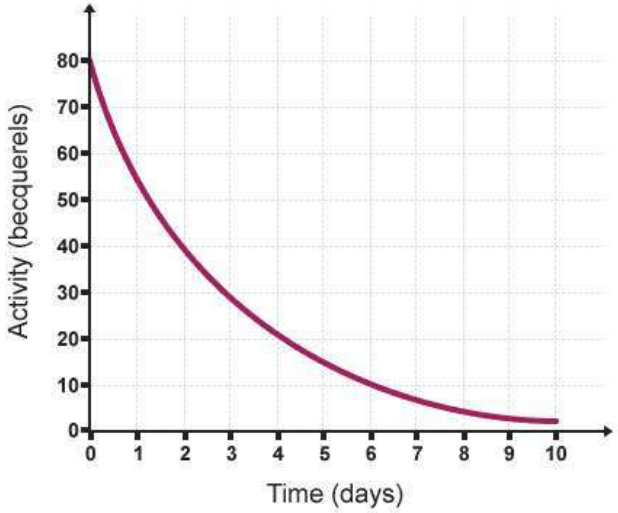
$$^{14}_{6}\mathrm{C} \rightarrow ^{14}_{7}\mathrm{N} + ^{0}_{-1}\mathrm{e}$$

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

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

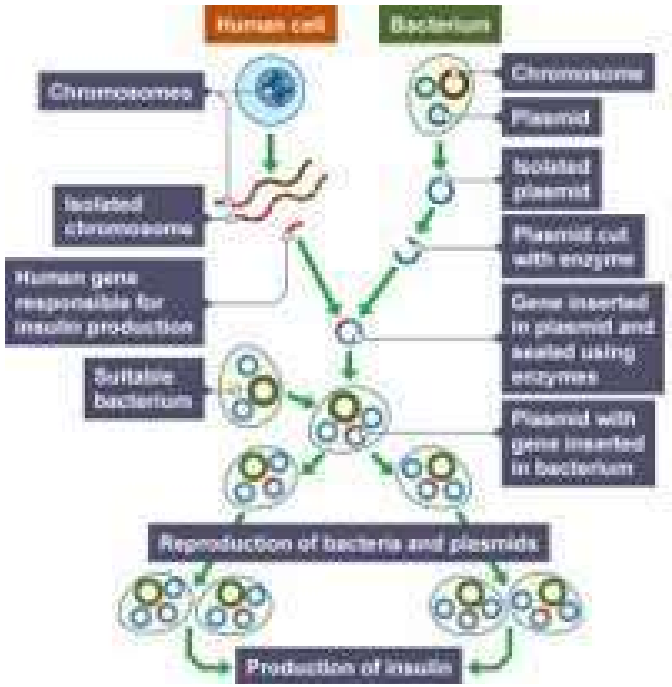
6. Contamination and Irradiation

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

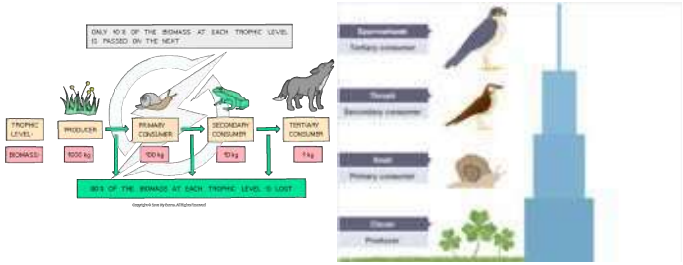
Year 10 Learning Cycle 2 Science - Triple science only

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

Year 10 Learning Cycle 2 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

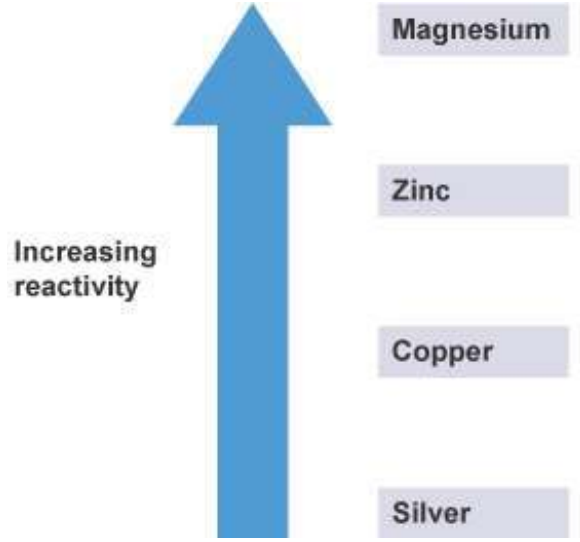
Chemical cells use chemical reactions to transfer energy by electricity. The voltage of a cell depends upon a number of factors, including what the electrodes are made from, and the substance used as the electrolyte.

	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

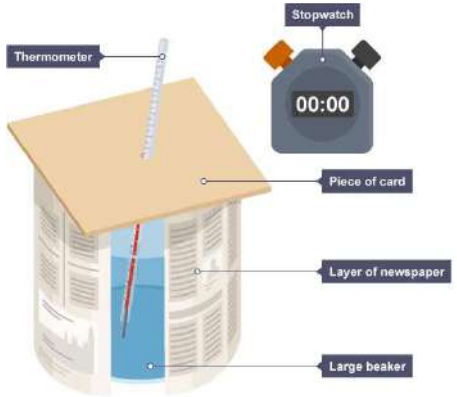


Year 10 Learning Cycle 2 Science – Triple science only

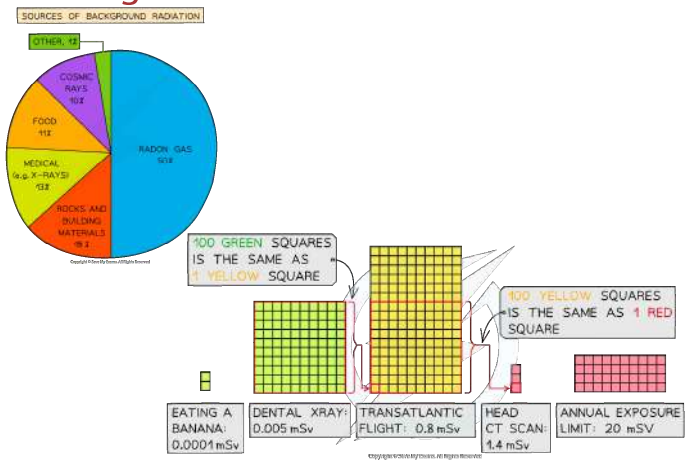
1. Key Terms	Description
Insulator	A material which does not let heat or electricity pass easily through it
Fission	The splitting of a large, unstable nucleus into two smaller nuclei
Fusion	When two light nuclei join to form a heavier nucleus

2. Required practical – investigating methods of insulation

1. Add 100cm3 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.



3. Background radiation



4. Boyle's law

For a fixed mass of gas at a constant temperature:

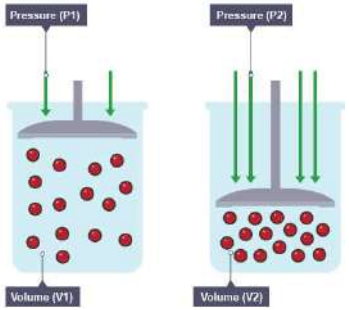
pressure x volume = constant

pV = constant

This is when:

pressure (p) is measured in pascals (Pa)

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

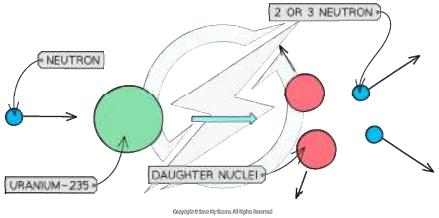


5. Nuclear fission and fusion

Nuclear fission is defined as:

The splitting of large, unstable nucleus into two smaller nuclei

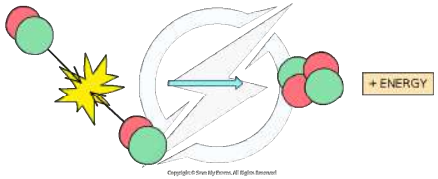
- Isotopes of uranium and plutonium both undergo fission and are used as fuel cells in nuclear power stations
- During fission, when a neutron collides with an unstable nucleus, the nucleus splits into two smaller nuclei (called daughter nuclei) as well as two or three neutron
- gamma rays are also emitted



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



Year 10 Learning Cycle 2 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

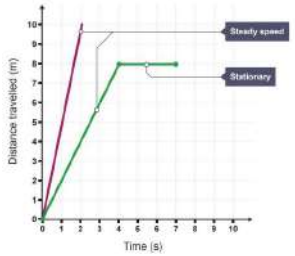
2. Speeds

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

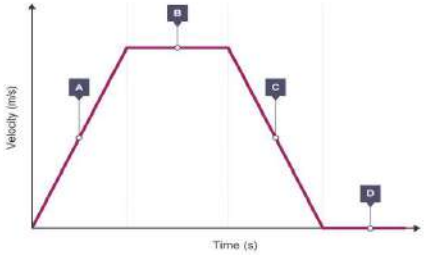
In a distance-time graph, the gradient of the line is equal to the speed of the object. The greater the gradient (and steeper the line) the faster the object is moving.



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 (⌧) 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

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

Year 10 Learning Cycle 2 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.

Year 10 Learning Cycle 2 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

Year 10 Learning Cycle 2 Science - How to Approach 6 Mark Questions

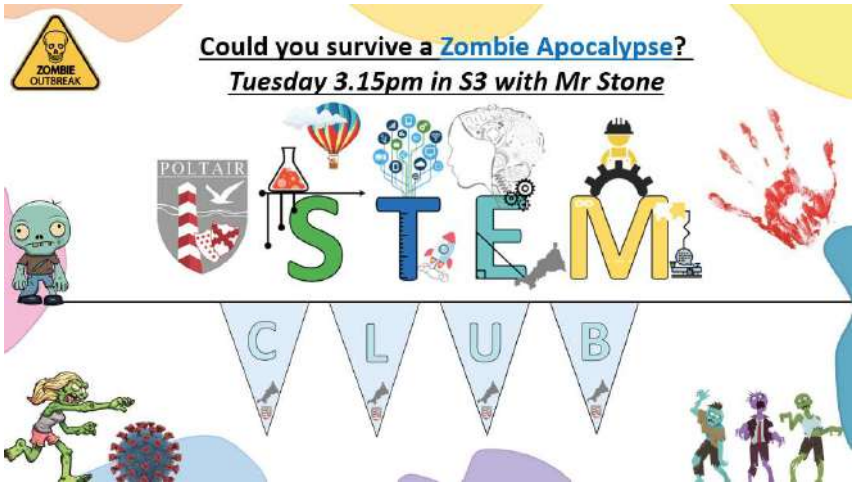
5. How to approach 6 mark questions in Science - Biodiversity

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.

6. 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.

Year 10 Learning Cycle 2 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

Year 10 Learning Cycle 2 Art - Art has value in unequal measures

1. Tier Three Vocabulary

Key Words	Definitions
Slavery	Slavery is a condition in which one human being was owned by another. A slave was considered by law as property, or chattel, and was deprived of most of the rights ordinarily held by free persons
Repositioning	To reevaluate and reexamine a piece of art from an alternative viewpoint
Reimagined	Creating an alternative viewpoint that juxtaposes reality and history
Contextualisation	The meaning, message or idea behind a piece of work
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. Repositioning the voices of enslaved people through art

Representations of slavery in European art date back to ancient times. They show slaves of varied ethnicity, white as well as black. Black boy with slave collar, Dutch 17th-century painting. In Europe, slavery became increasingly associated with blackness from the 17th century onwards. Contemporary artists are reevaluating this art history and creating work that is inclusive and reevaluates the position and opinion of the enslaved people of the Caribbean.

4. Artists that make marks

Labaina Himids

Himids has been at the forefront of British Black art, creating work that repositions the enslaved voice.

Winslow Homer

Homer was drawn to the sea and maritime rescue and peril.

Banksy

Banksy is an anonymous British artist that creates work to empower the poor and forgotten in society.

5. Links and Further Reading

https://artuk.org/discover/stories/repositioning-the-voices-of-enslaved-people-through-art

https://wepresent.wetransfer.com/stories/yes-but-why-lubaina-himid

Year 10 Learning Cycle 2 Computer Science - Networks and Security

1: Network Topologies

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. 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

4. Prevention

Network forensics / Audit Trails (Logs)

Network policies & rules

AUP: Acceptable Use Policy

Anti-malware / Antivirus (updates!)

Firewall / Proxy to filter data

Encryption

Year 10 Learning Cycle 2 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

Legal Issues

Intellectual Property, Copyright & Software Licences

Open Source vs Proprietary software

Computer Crimes

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

Privacy Issues

Personal / Sensitive Data

Data mining, Content Networks &

Advertising. Digital Footprint

Environmental Issues

Fossil fuels in computer manufacturing (10x the weight of the device)

Landfill / Toxic waste

Dioxins, Chromium, Mercury, Cadmium, Radioactive Isotopes, Lead, Arsenic

Power consumption (2% by Data Centres)

Recycling & Recycling Process (Exposure

Year 10 Learning Cycle 2 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. Sorting Algorithms

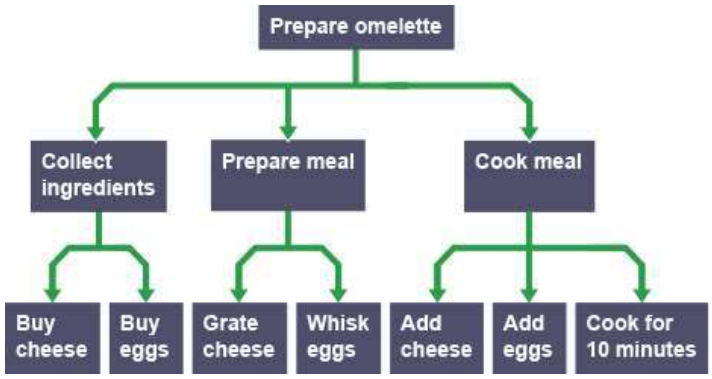
Bubble Sort	Compare the first value in the list with the next one up. If the first value is bigger, swap the positions of the two values
Merge sort	The list is repeatedly divided into two until all the elements are separated individually. Pairs of elements are then compared, placed into order and combined. The process is then repeated until the list is recompiled as a whole
Insertion Sort	An insertion sort compares values in turn, starting with the second value in the list. If this value is greater than the value to the left of it, no changes are made. Otherwise this value is repeatedly moved left until it meets a value that is less than it. The sort process then starts again with the next value

3. Searching Algorithms

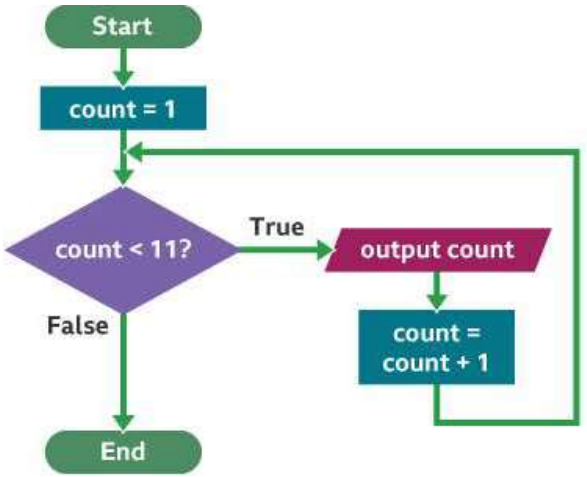
Linear Search	Starting at the beginning of the data set, each item of data is examined until a match is made. Once the item is found, the search ends. Can be quite inefficient
Binary Search	More efficient algorithm than a linear search. Works on an ordered list, breaking it into 2 parts until the number is found. Divide and Conquer

4. Structure Diagram

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



5. Flow Diagram



Year 10 Learning Cycle 2 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.

Year 10 Learning Cycle 2 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

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

Year 10 Learning Cycle 2 Design Technology - Briefs, Specifications, ideas & development

1. Design Briefs

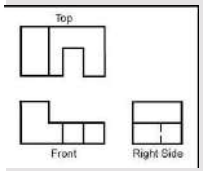
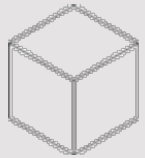
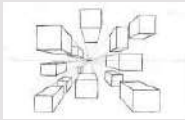
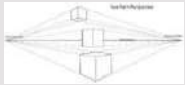
A Design Brief is the statement of how you will solve the Design Problem
It will often include:

- Constraints/ limitations
- What the product is
- Materials/processes
- Any key information you know

2. Design Specifications

- A Design Specification is a list of requirements your product has to meet in order to be successful
- It is also useful for evaluation. If your product hasn't met the Spec then it gives you a starting point
- For improvements.

3. Key Words	Definitions
Aesthetics	What the product looks like? Style? Colour Scheme? Design Movement?
Customer	Who would buy it? (Age, gender, socio-economic, personality) How does the design appeal to them?
Cost	How much will it cost? (min-max) Why?
Environment	Where will it be used? Why? How will you make it suitable?
Safety	How is it safe? How will it be checked? Why must it be safe?
Size	What is the maximum or minimum size? Why?
Function	What does the product do? What features make it do that function well? How is it unique from similar products?
Materials	What is it made from? Why?
Manufacture	How might it be made? Why? What scale of production? Why?

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	

4. Modelling and Development

Modelling and development are key to testing and improving products This can be done physically using materials like; card, foam, clay, man-made boards or virtually in CAD.

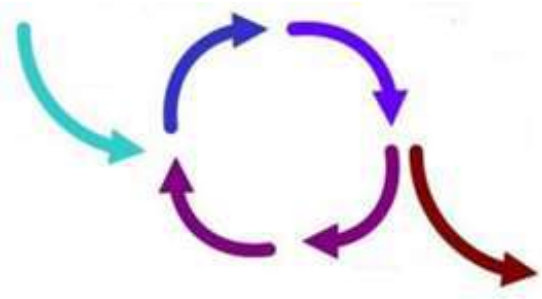
Modelling helps the designer get feedback from the customer, check aesthetics, function, sizes and even materials and production methods and change them if needed

Year 10 Learning Cycle 2 Design Technology - Design strategies

Design Strategies are used to solve Design Fixation, and help develop creative design ideas.

1. Iterative Design

- A Proposal is made
- It is then planned and developed to meet the brief
- It is analysed and refined
- It is then tested and modelled
- Then evaluated against the brief – many versions fail but that then informs development to make the idea better



- The cycle then repeats and if the product is successful it is then made and sold on the market

Advantages	Disadvantages
• Consistent testing helps solve problems earlier • Constant feedback • Easy evidence of progress	• Designers can loose sight of "the big picture" • Time consuming

2. User-Centred Design

- This is when designs are based on fulfilling the needs and wants of the Users/Clients at every stage of the design process
- Questioning and testing is ongoing and is often found through

Advantages	Disadvantages
• User feels listened to • Makes sure the product meets their needs	• Requires extra time to get customer feedback • If focused on just one person it can limit appeal to others

3. Systems Approach

- Usually used for electronic products
- Often uses diagrams to show systems in a visual way
- Planning the layout for the correct sequences e.g. inputs, outputs, timings, etc.
- Electronics and mechanical systems need an ordered and logical approach

Advantages	Disadvantages
• Does not need specialist knowledge • Easy to communicate stages • Easy to find errors	• Sometimes over-simplifies stages • Can lead to unnecessary stages

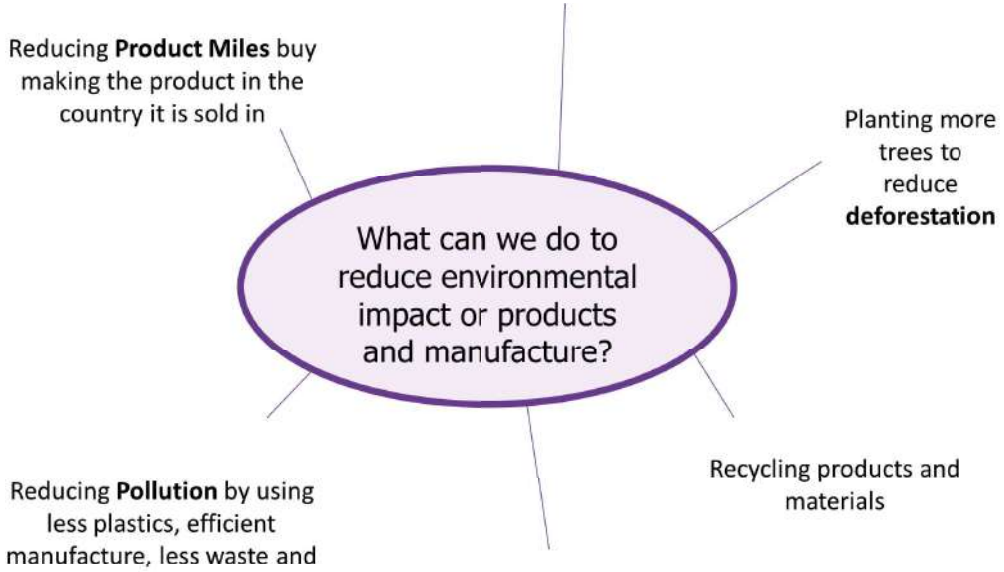
4. Collaborative Approach

- Working with others to share data and solving problems and coming up with design proposals can help with creativity
- Numerous companies work in teams, and has been shown to improve the range and quality of ideas produced

Advantages	Disadvantages
• Gets multiple opinions and a range of views • Working in groups can produce more ideas	• Can be difficult to design ideas with opposing views • Can be difficult to find time to communicate with multiple people

Year 10 Learning Cycle 2 Design Technology - Environment

1. The 6Rs	Meaning
Reuse	To use a product again either for the same purpose or a different one
Reduce	To have less of material/packaging/pollution when making products by making them more efficient
Recycle	Breaking down and forming the material into another product
Refuse	Customers not buying or supporting products that make an environmental impact
Rethink	Designers and customer rethinking their decisions when making and buying products.
Repair	Fixing a product rather than throwing it away. Extending its life rather than using more resources to make another. Often products are Designed for Maintenance so can easily be repaired. E.g. Using screws so even non-specialists can take a product apart, or using components that can easily be replaced like fuses or batteries



2. Life Cycle Assessment

This is when a designer looks at the environmental impact a product makes over its life time and how it could be reduced. Including:

- Impact of materials
- Impact of processes
- Product Miles (how far a product has to travel to get from factory to consumer)
- Impact while in use
- Impact when disposed of (6Rs)

3. Sustainability

Sustainability is maintaining our planet and its resources and making a minimal negative impact

Finite Resources

Will run out of eventually

Plastics
Metals
Polymers (Textiles)

Infinite Resources

Can be re-grown and re-bread. Will not run out of

Paper
Boards
Natural Timbers
Cotton
Leather

4. Planned Obsolescence

This is where products "die" after a certain amount of time. E.g. Disposable cups, Phones, Lightbulbs, Printer Ink, etc. This can have a big environmental impact as customers are throwing away lots of products, and resources

Year 10 Learning Cycle 2 Design Technology - People, Society and Culture

1. Market Pull and Technology Push

Technology Push is the development of new technology, materials and manufacturing methods to create new products or improve old ones.

Examples include; Smart Phones, Electricity, Mass Production, etc.

Market pull is the demand from consumers for new products and improvements in old ones; this is often found via reviews, polls, surveys, etc. Examples include; Product Aesthetics, making products easier to use, etc.

2. Cultures, Faith and Belief

Different groups of people have different interests and have to be catered for.

Different countries and cultures also react to products differently.

E.g. In India McDonalds don't sell beef burgers as it has a large Hindu population, and cows are seen as sacred – in contrast the UK sells its most amount of fish and chips on a Friday as it is a Christian tradition to not eat meat on that day.

Case Study: £5 note

Hindu, Sikh and some other faith-based communities may choose to follow a vegetarian diet, and this is part of their culture. In addition to not eating meat, many followers of these faiths, as well as vegans and vegetarians, take every opportunity to avoid using animal products in their day-to-day lives.

The revelation in 2016 that the new polymer Bank of England £5 note contained tallow, an animal fat-based substance, upset a number of communities. There was a prompt call for the Bank of England to find an alternative way to produce the note and in the first two days of an official petition well over 100,000 signatures were received.

Shortly after the Bank of England admitted that the new polymer £5 note contained the animal by-product, some establishments refused to take the notes as a method of payment. One café owner was repulsed by the idea that the note contained tallow and believed that her customers supported her view. They received no complaints.

The Bank of England say they currently have no plans to change the manufacturing process.

3. Fashion and Trends

Fashion and Trends will change quickly, and you can see major differences in fashions over decades. Designers have to make sure their products meet the fashion and trends of the area they are designing and selling the product to. The change of products over time is called Product Evolution. This is caused by Market Pull, Technology Push and Fashion and Trends.

Some products are seen as timeless. These products are called Iconic Designs. These products are timeless because they were innovative, set a bench mark for following products, changed their industry and are often copied.

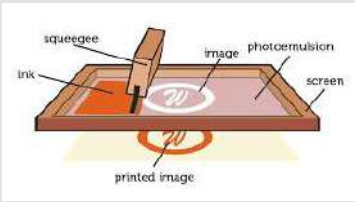
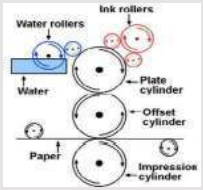
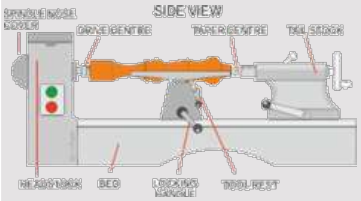
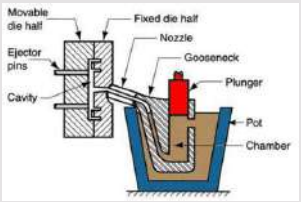
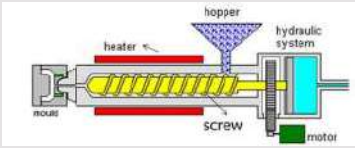
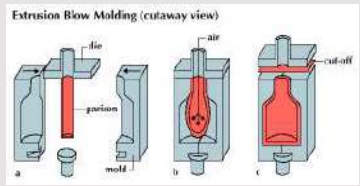
Examples include; iPod, iPhone, Angle-Poise Lamp, Swiss Army Knife, Converse Shoes, Levi's Jeans, Classic Mini Cooper

4. Inclusive vs. Exclusive Design

Inclusive Design: The aim to create a product that as many people as possible can use
Examples include; Cars, Door frames, Adjustable Products, etc.

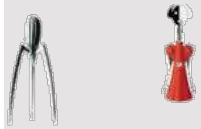
Exclusive Design: The aim to create a product for a particular group and their needs
Examples include; Car seats for babies, Wheelchairs, Stair Lifts

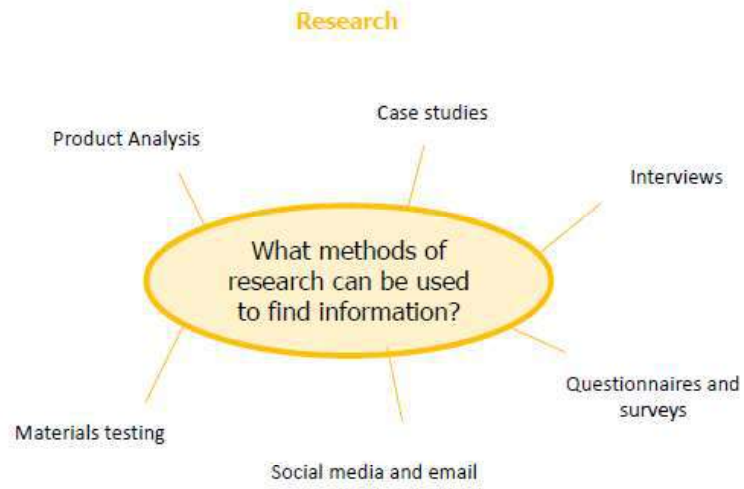
Year 10 Learning Cycle 2 Design Technology - Production Processes

Name of Process	Diagram	Material	Products Made	Key info
Screen-printing		Papers and Textiles	Posters, signs and t-shirts	Screen printing places paint on top of a screen. The screen has a stencil embedded in it, so when the paint is passed across it the desired shape is printed underneath. Good process in one-off and batch production as often done by hand
Offset Lithography		Papers and card (thin, flexible plastics)	Posters, newspapers, plastic bags	Rollers containing the colours and water go onto the plate cylinder. The water stops the colours sticking to certain places, creating the shape. The shape is transferred between rollers and onto the material. Can be used at batch and mass production
Lathe Turning		Wood and metal	Chair legs, baseball bats (cylindrical items)	Material is placed between the tail stock and the headstock and spun at high speed. The material is then cut using specialist tools (either by hand or my automated machinery) to the desired shape. Can be used in one-of and batch production
Die Casting		Metal	Car parts, engine components, etc.	Molten metal is poured into a chamber and a plunger forces the metal through the nozzle into the mould. Unlike sand casting, the mould is reusable. Good process for both one-of and batch production
Injection Moulding		Plastics	Chairs, toys, etc.	Plastic granules are poured into the hopper and onto the screw. The screw moves the material towards the heater where it turns into a liquid. The liquid is then forced into the mould, cooled and released. Great process for mass production as it makes 100s+ of products at once, to a identical standard.
Blow Moulding		Plastics	Plastic bottles	A Plastic parison is heated and put into the mould. The parison is then filled with air (like blowing up a balloon) and is forced to fit the mould shape. It is then cooled and then released. This is a great process for mass producing bottles.

Year 10 Learning Cycle 2 Design Technology - Work of others and Customer Research

Image/ Example	Designer	Design Movement	Key info
	William Morris	Arts and Crafts	• British designer in 1880s • Simple natural crafts • Useful and beautiful products (wallpapers, cushions, etc.)
	Charles Rennie Mackintosh	Art Nouveau	• Scottish designer in 1860s – 1920s • Known for light and shadow • Created stained glass and furniture • Inspired by nature and geometric lines
	Ettore Stottas	Memphis	• Italian designer in the 1950s/60s • Enjoyed making everyday objects wacky and bold • Used lots of bold colours and black lines

Image/ Example	Brand	Key info
	Alessi	• Italian Design Company • Homeware and kitchen utensils • "Post-modern" style • Phillipe Starke is a major designer
	Apple	• USA-based tech company • Famous for iconic designs of iPod and iPhone • Steve Jobs and Johnathon Ive are major designers • Known for innovative and modern design
	Dyson	• British engineering company • Famous for vacuum cleaners and innovative technology • James Dyson is a major designer



Research can be divided into 2 categories; Primary Research and Secondary Research. Primary is research you complete yourself. Secondary is research from resources others can gathered e.g. books, magazines and internet Primary research is generally more reliable as it is done by the person using it and can double-check the data

Anthropometrics and Ergonomics

Another key piece of research, is Anthropometrics and Ergonomics. This helps develop the sizes of products, etc. to make sure it fits the User

Anthropometrics	The study of measurements of the human body. E.g. Knowing the grip width of a palm, if designing a new travel coffee cup
Ergonomics	The application of anthropometrics to ensure products are safe and comfortable to use. This can also include; size, material, appearance, brightness, sound and texture. E.g. making sure the travel cup is the correct size, and an insulating smooth material to make it comfortable

Year 10 Learning Cycle 2 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.

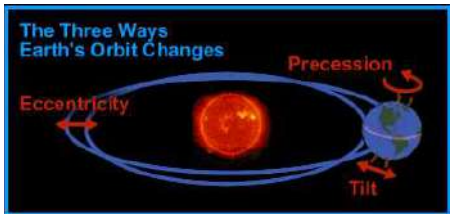
Rocks and Fossils

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!

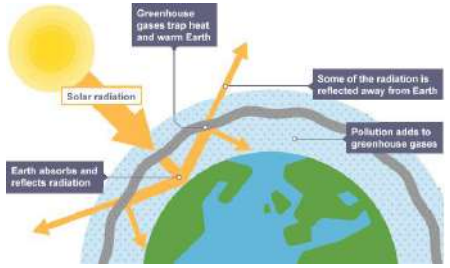
The Eruption Theory

- 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

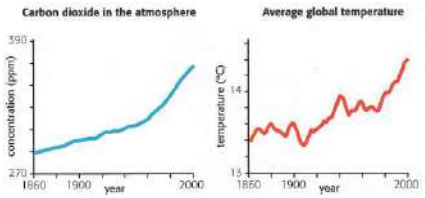
The Greenhouse Effect

- 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

Year 10 Learning Cycle 2 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.

Year 10 Learning Cycle 2 History - Early Elizabethan England, 1558-1588

1. Key Terms	Description
Key Topic 1: What problems did Elizabeth face with religion and government?	
Alliance	A political friendship
Auld	Old or historic
Bishops	Senior members of Church
Clergy	Members of the Church
Crown debt	England's finances
Figurehead	A chosen leader
Gentry	Rich people with land
Heir	Someone who is born to inherit something (e.g. throne)
Legitimate	Born to married parents
Merchant	Dealt with trade and owned land
Militia	Military force
Nobility	People of the highest social class
Privy	Private or close
Uniformity	Being consistent/the same
Settlement	An official agreement
Succession	Relating to who will reign next
Supremacy	Monarch is head of the Church
Vagrants	The homeless and unemployed
Yeomen	Men who owned small estates/land
Key Topic 2: What challenges did Elizabeth face at home and abroad?	
Act	A law
Armada	A large fleet of ships
Commercial	Related to trade and making money
Council of the North	Responsible for governing the north of England for Elizabeth
Circumnavigation	To sail completely around

Key Terms	Description
Depose	Remove someone from a position
Excommunicate	To exclude someone from Catholicism
Fireships	Old, unmanned ships set on fire
Galleon	Ships specially designed for battle
New World	Parts of the Americas conquered by Spain
Persecute	To attack a person or group
Plot	A secret plan
Privateer	Privately funded pirates (won't steal from their country and shares loot with their government)
Recusant	Person who rejected Protestantism
'Sea beggars'	Dutch privateers who attacked Spanish ships
Key Topic 3: What changed in Elizabethan Society?	
Algonquians	Native Americans who lived in the 'Virginia' area
Astrolabe	An instrument that used the stars to aid navigation
Commercial	Related to trade and making money
Enclosure	The fencing off of large open fields to allow for the growing of specific crops or sheep farming
Manteo & Wanchese	Native Americans brought back to England by Raleigh
Mutiny	A rebellion against those in charge on a ship
'Mystery plays'	Religious plays banned by Elizabeth to avoid tensions
New World	Parts of the Americas conquered by Spain
'Nova Albion'	Part of modern-day California claimed by Drake
Poor relief	Money to help the poor
Quadrant	An instrument that measured altitudes to aid navigation
Virginia	North American land that Raleigh named after the 'Virgin Queen'
Wingina	Tribal leader of the Algonquians

Year 10 Learning Cycle 2 History - Early Elizabethan England, 1558-1588

2. Key Dates	Description
1 Who was Elizabeth's mother?	Anne Boleyn
2 When did Elizabeth come to the throne?	1558
3 What was Elizabeth like?	Cautious, only trusted a few advisors, indecisive, reluctant to take decisions quickly, intelligent, confident, well-educated, became a powerful and effective leader
4 Which position in Elizabeth's government was the most important?	Secretary of State
5 What were large landowners who did not have a title called?	Gentry
6 What were 'lower gentry' who owned a small amount of land or an estate called?	Yeoman
7 What were people who became wealthy from trading and selling goods called?	Merchants
8 What was the historic friendship between France and Scotland called?	Auld Alliance
9 What oversees territory had Mary I lost to France?	Calais
10 How much was the crown in debt when Elizabeth became queen?	£300,000
11 Which year was Elizabeth's Religious Settlement?	1559
12 Who were PURITANS?	Extreme Protestants. Many had fled abroad during reign of Mary I and become more radical. Returned when Elizabeth was queen, but thought her Middle Way was too moderate
13 What was the CRUCIFIX CONTROVERSY?	Puritan bishops wanted the crucifix removed from all churches as it was a symbol; Elizabeth wanted to keep them as they were familiar to worshippers – she had to back down and allow them to be removed if the bishops wanted to
14 What was THE VESTMENT CONTROVERSY?	Puritan priests refused to wear the white robes; Elizabeth refused to back down; Puritan priests who refused were sacked
15 How many out of 10,000 clergy accepted the Religious Settlement?	8,000
Key Topic 2: What challenges did Elizabeth face at home and abroad?	
16 What did Pope Pius V issue in 1570 that confirmed Elizabeth's excommunication from the Catholic Church?	Papal Bull
17 Which threat to Elizabeth's rule was the most serious?	Revolt of the Northern Earls, 1569
18 Which plot resulted in the execution of Mary Queen of Scots?	Babington Plot
19 Who oversaw Elizabeth's secret spy network?	Sir Frances Walsingham
20 Which years was Drake's circumnavigation?	1577-80
21 How much Spanish silver and gold was stolen on Drake's circumnavigation?	£400,000
22 Which Duke restored Spain's power in the Netherlands in 1584?	Duke of Palma
23 What was Drake's ship called that he was knighted on?	The Golden Hind
24 Under which treaty did Elizabeth to directly help the Dutch against Spain?	Treaty of Nonsuch, 1585
25 How many Spanish ships did Drake destroy in the Raid of Cadiz?	30
26 The Raid of Cadiz is also known as 'The singeing of the King's what?	Beard
27 Which year was the Spanish Armada?	1588
28 Who was the Spanish naval commander?	Duke of Medina Sidonia

Year 10 Learning Cycle 2 History - Early Elizabethan England, 1558-1588

29 How many Spanish ships were there at the Armada?	130
30 How many returned to Spain after the Armada?	67
31 What shape were the Spanish in at the start of the Armada?	Crescent
32 What was sent to the Spanish for them to cut their anchors?	Fire ships
33 Why couldn't the Spanish dock in the Netherlands?	No deep-water ports
34 What did the English say God blew and the Spanish scattered?	Wind
Key Topic 3: What changed in Elizabethan Society?	
35 What colour is the period after the Armada known as?	Golden
36 Which philosophers were arguing that education was important?	Humanists
37 Cock-fighting and bear-baiting were examples of what kind sport?	Spectator/blood sport
38 Which 2 popular sports did the lower-class play?	Football and wresting
39 Where could all classes enjoy but were separated into three?	Theatre
40 What was the second-biggest city in Elizabethan England?	Norwich
41 Which poor law act ensured poor relief was collected?	Statute of Artificers
42 What was the special prison for vagrants?	House of Correction
43 What was the new standardised (accurate) map called?	Mercator Map
44 What were the new faster and bigger ships called?	Galleons
45 What word means to take over already inhabited land?	Colonise

46 How many colonists did Raleigh send on the first attempt to colonise?	107
47 What ship was damaged en route to Virginia?	The Tiger
48 Who was the leader of the second attempt to colonise Virginia?	John White
49 What word did the English discover on a tree at Roanoke?	Croatoan

3. How do I answer questions for Elizabeth?

Question 1 (4 Marks) Describe 2 features of... *Same as Medicine question	Two points and supporting detail for each: E.g. One feature of the church was that they promoted loyalty to the Queen. This was by repeating prayers of obedience and thanks for her reign in their services. This was by providing religious services such as baptisms, marriages and funerals.
Question 2 (12 Marks) Explain how or why... 3 x P.E.E paragraphs 4 marks per paragraph *Same as Germany/Medicine question	Each paragraph should include: P - state one reason E.g. One reason why the first colony in Virginia failed was due to the damage sustained to the ship, the Tiger. E - Include historical information that supports your point. For example... E - Explain why this is important/its effect - this was important because...
Question 3 (16 Marks) How far do you agree? 3 x P.E.E paragraphs and a conclusion 4 marks per paragraph *Same as Medicine question	PEE paragraph that agrees with the statement in this Q (use a bullet point in the Q if you can/want) PEE paragraph that disagrees with the statement in this Q (use the second bullet point in the Q if you can/want) PEE paragraph that agrees or disagrees with the statement in this Q (use your own knowledge) Conclusion - Answer the question and reach an overall judgement on how far you agree and explain this judgement. (Relative importance)

Year 10 Learning Cycle 2 History - Early Elizabethan England, 1558-1588

Elizabeth reign begins	Religious settlement	Dutch Revolt	Genoese Loan	Revolt of the Northern Earls	Ridolfi Plot	Spanish Fury	Drake's circumnavigation	Drake knighted	Throckmorton plot	Treaty of Nonsuch	Babington Plot	Mary, Queen of Scots is executed	Colony of Roanoke established	Singeing of King of Spain's beard	Spanish Armada	Elizabeth's death
1558	1559	1566	1568	1569	1571	1576	1577-80	1580	1583	1585	1586	1587	1587	1587	1588	1603

4. Elizabethan society

Elizabethan society was a hierarchy in which everyone had a clear place in the social order. There was no social mobility, meaning it would not be possible to 'move up' in society.

The social hierarchy of Elizabethan England

The social hierarchy of towns in Elizabethan England

Wherever you were in Elizabethan society, you owed respect and obedience to those above you and you had a duty of care to those below you, e.g. landowners would take care of tenants, especially during hard times.

5. Religious issues and solutions

When Elizabeth became Queen, the English people were divided into different religious groups:

Key Issue	Catholics	Protestants	Puritans
Who should be head of the church?	The Pope	The Monarch	There should be no head of the Church
Who should help run the church?	Archbishops and bishops	Archbishops and bishops	An elected committee
What language should the Bible be in?	Latin	English	English
How should churches be decorated?	Highly decorated, stained-glass windows	Less decoration in Church	Completely plain churches
Should priests wear vestments?	Yes	No	Absolutely not

Elizabeth's religious settlement aimed to:

- To bring England into line with Elizabeth's own moderate Protestant beliefs
- To prevent rebellions in strongly Catholic areas of England such as the North and the South West
- To prevent Catholic superpowers such as France and Spain from invading England
- To placate (keep happy) Protestant and Puritan MPs in Parliament

6. Revolt of the Northern Earls

The Revolt of the Northern Earls (1569-70) was the first of several major Catholic challenges at home against Elizabeth and her reign.

The plan:
A rebellion **led by** two Catholic earls: *Earl of Westmoreland* and *Earl of Northumberland; Spain* promised support. **Aimed to** replace Elizabeth with *Mary QoS* and marry her to the *Duke of Norfolk*, a Catholic noble.

What were the causes? Was it just about religion?

POWER
Traditional nobles in the north had lost power to Protestant figures close to Elizabeth ***(Council of the North)***.
Elizabeth's close advisers (like William Cecil) were hated by the earls who blamed them for their loss of status.

STATUS AND MONEY
The Earls' wives encouraged the revolt - Westmoreland's wife, Jane Howard, was Norfolk's sister, so would benefit if Norfolk married a potential Catholic queen in Mary QoS.
Northern earls lost significant land and money to Elizabeth - e.g. Northumberland lost copper mines.

However, this all depended on... RELIGION!
The Earls' situation would significantly improve with the potential that Mary QoS presented as a Catholic alternative who was already in England.
One of the key events of the revolt was when the Earls seized Durham cathedral and publicly held mass there.

Ultimately defeated because only 4,600 joined the rebellion (vs 14,000 for Elizabeth) and no help arrived Spain.

Elizabeth responded by executing **800** Catholic rebels.

Significance of the revolt:
- It showed Mary, Queen of Scots, could not be trusted.
- The pope **excommunicated** Elizabeth and called on Catholics to **depose** her.
- Elizabeth and her government now further questioned the loyalty of England's Catholics.
- Elizabeth's harsh treatment of the rebels strengthened her control on the north of England.

8. Factors affecting exploration

There were a number of factors that contributed to exploration increasing in Elizabethan England.

Private investment - this included from Elizabeth, and funded many voyages in hope of increasing their fortunes.

Drake - he became only the second person to successfully circumnavigate the globe from 1577-80: despite difficulties like ship damage and **mutiny**, he discovered *'Nova Albion'*, returned with £400k of Spanish treasure and was knighted for it!

Adventure - the stories of successful explorers like Drake and Raleigh (above) inspired others to explore and seek their fortune.

Trade - English merchants needed new trading opportunities, as war with Spain in the Netherlands had severely damaged the wool and cloth trades.

Ship design - Galleons had bigger sails, were faster and more manoeuvrable, as well as great firepower to protect themselves from pirates. They were also bigger, allowing more supplies.

New technology - Navigation was becoming increasingly more precise. The development of nautical devices, such as **quadrants** and **astrolabes**, made voyages safer, direct and faster.

The Mercator Map (1569) - the first accurate map, thanks to printing. This gave sailors greater confidence that they were going in the right direction.

Triangular trade - John Hawkins discovered iron goods and gins could be sold in West Africa to buy slaves, which could be sold for exotic goods such as sugar in the New World. Other sailors copied this in order to become rich.

7. Other plots against Elizabeth

The Pope's excommunication of Elizabeth encouraged more Catholics plots to overthrow her.

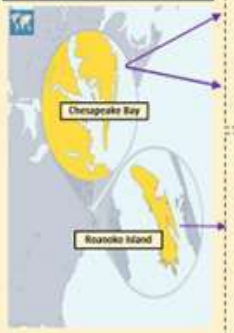
1571 Ridolfi Plot
- Led by Ridolfi (the Pope's banker) / Philip of Spain
- Aimed to assassinate Elizabeth, replace her with Mary QoS, who would marry the Duke of Norfolk
- Defeated because Francis **Walsingham** (Elizabeth's 'spy master') uncovered, arrested and tortured those involved
- Elizabeth executed Norfolk, but not Mary – why?

1583 Throckmorton Plot
- Led by French soldiers funded by the Pope and Philip; Throckmorton was messenger
- Aimed again to kill Elizabeth, and make Mary England's queen.
- Defeated because Throckmorton was captured and tortured and revealed the plot to Walsingham
- Elizabeth responded by refusing to execute MQS but Walsingham now checks her mail; she passed stricter laws to scare off any more plotters.

1586 Babington Plot
- Led by Philip of Spain and **recusant** Babington
- Aimed to assassinate Elizabeth, invade England, free Mary, Queen of Scots and make her queen
- Defeated because Walsingham intercepted letters smuggled in beer barrels
- Elizabeth responded by executing Babington but not Mary, Queen of Scots , until Walsingham and **William Cecil** manipulated her

9. Attempts to colonise Virginia

The two attempts to colonise Virginia failed for several reasons



First attempt (1585)

The Voyage
Vital supplies on board the *The Tiger* spoiled. Illness followed which weakened the colonists. Set off too late to plant crops.

Colonists
Too much variety of skills and not enough farmers. Could not cope with hardship. 'Gentlemen' refused to farm, whilst farmers refused to do all the work. Became reliant on help from natives.

Inexperience
Poor choice of colonists. First attempt inevitably meant that colonists made mistakes. Leaders were also poor and created tension.

Native Americans
They did not trust the English and got fed up with the constant demand for food handouts. Chief **Wingina** feared the English had magic powers as his people kept dying after coming into contact with them. This led to conflict.

Second attempt (1587-90)

Successes
Many lessons were learnt from the first attempt. This time there were more farmers, people who were willing to work hard and a mixture of families. Also, John White who was at the first attempt would lead. Manteo was named *'Lord of Roanoke'*

Failures
The Native Americans were hostile from the start. One colonist was found dead with 16 arrow wounds. Manteo led a disastrous retaliation attack which resulted in the English killing the most-friendly Native Americans. John White was asked to go back for supplies and could not return for 3 years as his ship was seized for the Spanish Armada.

Mystery
When White returned 3 years later, all 115 colonists had disappeared. The only thing that was left was the word 'Croatoan' in a tree. What happened remains a mystery.

Year 10 Learning Cycle 2 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.

1. 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.

2. Micro-nutrients

Vitamins

- 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.
- 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.

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.

Year 10 Learning Cycle 2 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.

Year 10 Learning Cycle 2 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).

Year 10 Learning Cycle 2 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

Year 10 Learning Cycle 2 Music - The Delta blues

1. Key Words

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.

Year 10 Learning Cycle 2 Music - Britpop

1. Key Words

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

Year 10 Learning Cycle 2 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

Year 10 Learning Cycle 2 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

Year 10 Learning Cycle 2 Music - Film Music

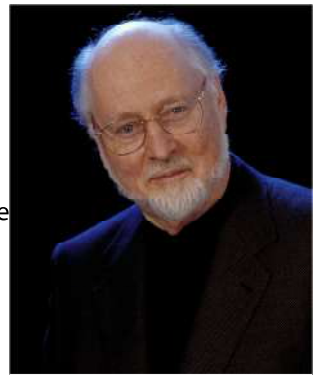
1. Key Words	Definitions
Dynamics	The variation in volume and intensity of music, from soft to loud
Rhythm	The pattern of beats and accents that gives music its groove and sense of timing
Pitch	The highness or lowness of a sound, determining the melody and harmony
Instrumentation	The choice and arrangement 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 Willaims



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

Year 10 Learning Cycle 2 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

Year 10 Learning Cycle 2 Performing Arts - Roles & responsibilities

1. Roles for creating theatre

Roles	Responsibilities
Producer	• Look after the finances and manage how the budget is spent • Negotiate and issue contracts • Organise and manage technical, stage management and workshop functions • Agreeing projects and financial backers • Agreeing production timelines • Setting ticket prices and influencing the marketing strategy • Holding regular meetings with Directors, creative teams and Artists • Ensuring legal compliance such as copyright law, insurance liability, payroll and tax
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	• 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

Role	Responsibilities
Choreographer	• Create dance routines that work with the music and lyrics of a production or performance • Read through a script and interprets each song, creating dance sequences to match the song and interpret a story through dance • Attend rehearsals of Dancers and cast members and ensure everyone has a clear understanding of the routine and ensure everyone is at the same level • Ensure the routine looks good to an audience and everyone is in time with each other and the music • Make sure the movement follows the original interpretation
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
Costume maker	• Communicating with the Costume Designer and Costume Supervisor to ensure they understand the designs given to them. You can find out more about a Costume Designer here • Sourcing fabric samples and other materials with the Costume Supervisor to make costumes • Drafting patterns, cutting and sewing
Prop maker	• Discuss what props are required with Production Staff • Create your own take on plans made by the Production Team and turn their rough sketches into detailed designs • Make sure props look authentic by researching history and culture • Experiment with different tools, methods and materials to create great effects • Hire and buy props when necessary • Repair props
Puppet maker	• Design and make puppets • Create hand, string, rod and shadow puppets from materials such as wood, paper mache, Styrofoam, wires, metal, and rubber • Write or obtain scripts for the performance • Move and control the puppets to animate them for an audience • Study media for ideas that relate to stories, plays and seasonal themes • Sew clothing for puppets by hand or machine • Talk or sing during performances to give the illusion of voice to the puppets • Operate audio equipment during performances • Organise bookings for the puppet show or theatre and deliver on these deadlines. For example, ensure a venue is booked, equipment is prepped and additional staff are hired if necessary

Year 10 Learning Cycle 2 Performing Arts - Roles & responsibilities

Roles	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
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
Hair and wig designer	• Pulls, purchases, alters or manufactures all wigs, hair styles and facial hair as designed by the Costume Designer • Facilitates or performs haircuts needed on specific productions • Maintains the wig/hair stock in an organized and accessible way • Works with the Costume Designer to create any specialty make-up for specific productions • Supervises a crew of hair assistants as necessary • Orders hair and specialty make-up supplies as necessary • Creates a hair maintenance schedule for wig washing, re-sets, and maintenance hair cuts • Facilitates or performs specialty hair processes as necessary. This includes but is not limited to: colouring and permanent waves. • Performs other duties as assigned by Costume Director

Role	Responsibilities
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
Sound designer	• 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
Makeup 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

Year 10 Learning Cycle 2 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

Year 10 Learning Cycle 2 Performing Arts - Frankenstein

1. Key information

Acting style	Realism
Design style	Symbolism
Themes	There are many themes in Frankenstein but you should decide which ones stand out to you're the most as an audience member – Dangerous Knowledge, Birth, Creation, Monstrosity, Family, Revenge, Loneliness, Power, Religion
Purpose	You need to decide that you think the main purpose is after doing your research. You may think the purpose is to education/ challenge/question the audience about a particular theme or issue. It is also a good idea to think about what was happening in science and society at the time the play was written
Creative intentions	You need to decide that you think the main purpose is after doing your research. You may think the purpose is to education/ challenge/question the audience about a particular theme or issue. It is also a good idea to think about what was happening in science and society at the time the play was written

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:

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

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

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

Year 10 Learning Cycle 2 Performing Arts - Frankenstein

5. 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

6. 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

Year 10 Learning Cycle 2 Religious Studies - Islam beliefs

1. Nature of God

There is only ONE God (monotheism). The 'oneness' of God is called Tawhid in Arabic Muslims call God Allah, which means 'the one true God'

In the Qur'an and the Sunnah, Allah has 99 'names'. E.g. the Merciful, the Just, the Almighty…

Allah has revealed his will through his prophets

Allah must never be pictured

Allah is beyond understanding and nothing must ever be compared to Allah. Comparing things to Allah is a terrible sin (shirk)

Immanent – Allah is present everywhere and within all things

Transcendent – Allah is beyond and outside the physical world, He is not limited by it.

"Say "He is Allah who is one."

"He neither begets nor is born. Nor is there any equal to him."

2. Six Articles of Faith and the Five Roots of Usul Ad-Din

Six Articles of Faith – Sunni Islam

1. Tawhid – The oneness of God
2. Malaikah – The belief in Angels
3. Authority of Kutub – Belief in the Holy Books
4. Risalah – Following the prophets
5. Al-Qadr – Predestination
6. Akirah – Belief in afterlife

Five Roots of Usul Ad-Din – Shia Islam

1. Tawhid – The oneness of God
2. Adalat – Justice
3. Nubuwwah – Belief in Prophets
4. Imamate – The human leaders of the religion after Muhammad
5. Mi'ad – The Day of judgement and Akirah

3. Angels

Angels are beings created by Allah from light and given wings. They fulfil all of Allah's wishes, but have no minds of their own. They live to obey.

Jibril/Gabriel – The messenger of Allah. Brought the message of the Qur'an to Muhammad, and spoke to Ibrahim and tested him.

Azrael – The angel of death. Tests people when they are alive, and then helps their souls to paradise when they die

Mi'kail/Michael – He looks after people and brings rain and thunder. Sometimes known as the Angel of Mercy as he forgives us.

Ishrafil – It is his role to play a great trumpet when Allah decides to end the world.

"Anyone who opposes Jibril or the other angels will become an enemy of Allah

4. Al Qadr – Predestination:

This is the idea that life is planned out by Allah.

Sunni Islam - Sunni Muslims believe that God has planned out every event in a person's life in the book of decrees.

However some people see this as being against free will.

Shia Islam - Shia Muslims believe that God knows everything that will happen but did not plan it. This is because he knows us well and is outside of time.

5. Day of Judgement

The events that happen when all life on earth is ended.

Barzakh: When people die they wait in the grave until Allah ends the world. This is called Barzakh. In the grave two angels, Munkar and Nakir, as you three questions. Who is your God? Who is your Prophet? What is your religion? If you answer these correctly then you can rest until judgment day. If you get them wrong you will be beaten and shouted at.

Judgment Day: On Allah's choosing the world will end. He will instruct the Angel Ishrafil to blow a horn and the world will end. Ishrafil then blows again and the dead rise to be judged.

6. Akirah

What happens to the soul after the day of judgement.

- All people will have been reborn with the their souls
- They will gather at Assirat bridge. The bridge is a wide as a hair and as sharp as a knife.
- Two angels will appear and give you a book of your deeds.
- You must then try and cross the bridge, if your bad deeds outweighs your good then you will fall from the bridge.
- If you cross the bridge you reach Jannah (paradise)
- If you fall you enter Jahannam (hell)
- Azrael ensures the right people cross the bridge.

"We will call forward every person with a record of their deeds."

7. Sunni or Shia

Sunni Muslims make up 95% of the worlds Muslim population.

While Shia are most of the remaining 5%.

Sunni Muslims believe that when the Prophet Muhammad died he wanted his friend and follower, Abu Bakr, to take over and lead the faith.

They generally don't follow human leadership on religious matters, but look to the Qur'an for guidance.

Shia Muslims believe that when the prophet died he asked for his son-in-law, Ali, to lead the religion.

They believe in the Imamate, the human leadership of the religion.

Shia Muslims generally pray 3 times a day, by combining prayers, and place a piece of clay on the floor when praying, and resting their head upon it.

Shia Muslims claim that Ali is the "friend of Allah."

8. Muhammad

The Prophet Muhammad is the final prophet in Islam.

Muhammad was an orphan by the age of six. He was raised by his Uncle. He worshipped one god, while others worshipped many gods and prayed to statues. During festivals he would go to a cave to pray and fast and not worship idols.

The Night of Power: During a festival Muhammad was in his cave. The Angel Jibril appeared and spoke to Muhammad. He told Muhammad to "speak" and Muhammad recited the Qur'an. He was chosen by God to bring the final message to the people.

9. Other Prophets

Ibrahim: Ibrahim is often seen as the father of the faith. He had his faith tested by Allah, when Allah asked him to kill his only son. This, however, was just a test. Ibrahim built the Kaaba, which stands in Makkah to this day. Ibrahim's sacrifice is celebrated at Eid Ul Adha, where a goat is killed and the meat shared amongst the people.

Adam: Adam is the first man created by Allah, and the first person given direct messages by Allah. He was created from seven different coloured clays, so he is the father of all races. He was taught by Allah how to farm and plant seeds, and given the role of naming all the animals.

"Each one believes in God, His Angels, His Books, and His prophets"

10. Holy Books

The Qur'an is the final message of Allah. There are other important holy books, but the Qur'an is the infallible word of God.

- The Qur'an was the message of Allah, received by Muhammad via the Angel Jibril. Since Muhammad's death it has not been translated or changed, so the message is still the same.
- Muslims use the Qur'an during worship, to read from.
- They don't eat or drink while it is being read, and keep it on a top shelf as a sign of respect.
- It is a source of rules and guidance. Holy books, the Torah, Scrolls of Ibrahim, Gospels (Injil)

"It is nothing but a revelation revealed, taught to him by one great in

11. Imamate

Imam means leader, and imamate means leadership. In Shia Islam these are the 12 men who led the religion after Muhammad.

Shia Muslims believe the Imam's, starting with Ali, were appointed by Allah, to lead the religion. They are second only to the prophets. Shia Muslims believe them interpret the Qur'an without error.

Sunni Muslims say that an Imam is a leader, but not chosen by God. They can lead prayers, and teach people about the Qur'an, but they are human and capable of making mistakes

Year 10 Learning Cycle 2 Religious Studies - Islam practices

1 Five Pillars

The 5 most important duties for all Muslims, the key to living a good Muslim life.

Shahadah – Declaration of Faith
Salah – Prayer
Zakah – Charity
Sawm – Fasting

Hajj- pilgrimage

There are followed by both Sunni and Shia Muslims, though Shia Muslims also incorporate them into the 10 Obligatory Acts.

2. Ten Obligatory Acts

Shia Muslims combine the five pillars with some additional duties

- Salah – Prayer
- Zakah – Charity
- Sawm – Fasting
- Khums – 20% income tax, half goes to charity, half to six Shi'a leaders
- Hajj- pilgrimage
- Jihad- Struggle to maintain the faith and defend Islam.
- Amr-bil Maruf – encouraging what is good.
- Nahi Anil Munkar – discouraging what is wrong
- Tawallah- To be loving towards the friends of God, including Muhammad and the Imams.
- Tabarra – disassociating with the enemies of God.

They include the Shahadah, but as a part of Salah.

3. Shahadah

This is a declaration of faith, a statement which all Muslims should believe in.

Sunni

- To become a Muslim, a person only has to sincerely recite the Shahadah in front of Muslim witnesses. The Shahadah is recited many times in their life – from the first words they hear to the last (where possible)
- It is the foundation of all the other pillars and the Islamic faith

Shia

- Shia Muslims Add 'and Ali is the friend of God'
- This shows that Ali is the true successor of Muhammad.

"There is no God but Allah and Muhammad is the prophet of Allah"

4. Salah

Sunnis are required to pray five times a day, from sunrise to sunset, Fajr – just before sunrise, Zuhr – just before midday, Asr – afternoon, Maghrib – just after sunset, Isha- Night

Shia Muslims pray three times a day, combining sunset and night prayers and midday and afternoon.

Ra'kah – Prayer prostrations (different movements completed during prayer)

How do they prepare?

- Muslims must be spiritually clean before they pray.
- This is achieved by a ritual washing called Wudu

Direction of prayer

- Must be facing the holy city of Mecca.
- Mosques have a Mihrab, which shows the direction of prayer.

Prayer in a mosque

- A special carpets, set out the space for prayer.
- Prayers are led by an Imam.
- Men and women pray in separate spaces.

"Pray to me and I will hear your prayer"

Jummah: This is the prayer that is done collectively by Muslims at the Mosque on a Friday. It is generally the busiest day of prayer.

Jummah is the midday prayer on Friday.

All Muslims males are supposed to attend on this day.

5. Zakah

Zakah is a charitable donation, or an alms giving, done by all Muslims. Though all Muslims pay Zakah some make additional payments as well.

Zakah: For Muslims who have savings, it is compulsory to give 2.5% of their savings to the poor.It is seen a purifying their money and showing thanks to Allah and a sign of unity and support amongst the faith.

Khums: 20% tax paid by Shi'a Muslims. It is split between religious leaders and the poor. Sadaqah: Any other donation made to charity outside of Zakah and Khums.

"Those who eat while their brother goes hungry is not one of us."

6. Sawm

Fasting from dawn until dusk during Ramadan, one of the Five Pillars of Islam. Completed 30 days. Involves no food, drink or sexual activity.

- This shows a Muslims dedication towards Allah, but also helps them to understand how others feel if they are going without food.
- During this time many Muslims pay their Zakah, as they remember those who are struggling.
- It is performed to remember the Night of Power where Muhammad received the Qur'an, and was fasting. Some Muslims are not required to fast. For example, if they are too young, old, ill or pregnant.

"Those who believe, fasting is prescribed to you."

7. Hajj

This is a pilgrimage to Makkah that all Muslims need to make once in their lives. Makkah is the holy city within Islam, and the birth place of the Prophet.

- Muslims where white outfits, known as an Ihram. This shows equality between all.
- They circle to Kaaba seven times to show harmony of all Muslims
- They walk between the hills of Safa and Marwa, and drink the holy Zam Zam water.
- They stand on Mount Arafat and pray, where Muhammad stood and gave his final sermon
- They throw pebbles at the pillars at Mina, this represents driving away the devil, as Ibrahim threw rocks at the devil.

"Pilgrimage to the house is a duty."

8. Eid

Eid-ul-Fitr: It marks the end of Ramadan, means breaking of the fast. It thanks God for the strength to complete the fast and for providing wisdom and guidance as it the Quran was revealed during this month. It is marked with a feast, normally with family and friends. Gifts of new clothes are common to represent a fresh beginning.

Eid-ul-Adha: Also known as the festival of sacrifice. It lasts for four days and remembers Ibrahim, who was willing to sacrifice his son for God. A goat is killed and its meat is split between you, your family and the poor and needy.

Year 10 Learning Cycle 2 Spanish

1. Topic vocabulary

¿Qué aplicaciones usas?	What apps do you use?
uso … para ...	I use … to…
es una buen aplicación para…	It's a good app. for...
compartir fotos	To share photos
subir y ver	To upload and watch
pasar un rato	To pass a bit of time
estar enganchado	To be hooked
lo/la uso para todo	I use it for everything
un móvil inteligente	A smart phone
ordenador portátil	Laptop
las redes sociales	Social networks
los riesgos	The risks
La música y los festivales	Music and festivals
tocar un instrumento	To play an instrument
cantar	To sing
una canción	A song
un músico	A musician
un cantante	A singer
el público	The audience
el escenario	The stage
asistir	To attend
su voz	His/her voice
las letras	His/her voice
Los acontecimientos deportivos	Big sporting events
la Copa Mundial	The World Cup
los Juegos Olímpicos (J.J.O.O)	The Olympic Games
A leer	Let's read
los tebeos	Comics
los periódicos	Newspapers
las revistas	Newspapers
un ratón de la biblioteca	A book worm
leer en formato digital	To read E-books

2. Key Questions

¿Qué haces en tu tiempo libre?
¿Has ido a un festival de música recientemente?
Describe tu libro preferido.
Describe tu tipo de música favorita.
¿Qué planes tienes para el próximo fin de semana?
¿Piensas que los eventos deportivos son importantes?

3. Future Tenses

Going to - Near future

I'm going	Voy a	+ intinitivo
You are going	Vas a	
He/she is going	Va a	
We are going	Vamos a	
You (pl) are going	Vais a	
They are going	Van a	

No Chop zone	"Will"	
I	é	tener = tendr-
You	ás	hacer = har-
He/She	á	salir = saldr-
We	emos	poder = podr-
You (pl)	éis	habrá = there will be
They	án	

4. Opinions and WOW phrases

Giving an opinion	
lo bueno de	The good thing about
lo malo de	The bad thing about
una ventaja	An advantage
una desventaja	A disadvantage
según	According to
dice que…	He/s he says that...
a mi modo de ver	From my point of view
desde mi punto de vista	From my point of view
me fascina	It fascinates me
admiro	I admire
no aguanto	I can't bear
Exclamations	
How revolting!	¡Qué asco!
What a surprise!	¡Qué sorpresa!
What a miracle!	¡Qué milagro!
What a coincidence!	¡Qué casualidad!

5. Further Reading

Talking about Sport and exercise:
https://www.bbc.co.uk/bitesize/guides/zm7mbdm/revision/1

Talking about Spanish festivals:
https://www.bbc.co.uk/bitesize/guides/zh6h47h/revision/1

Talking about your hobbies:
https://www.bbc.co.uk/bitesize/guides/zk4khbk/revision/1

Talking about the social media:
https://www.bbc.co.uk/bitesize/guides/zr3g2sg/revision/1

Notes Pages

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