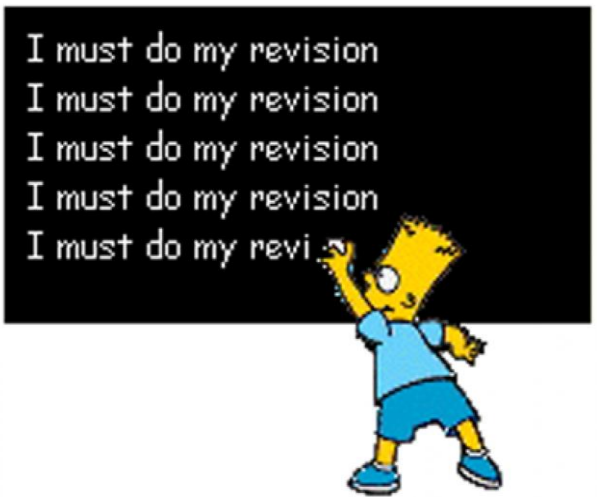
The Holt School

REVISION LIST FOR YEAR 10 PPEs

Summer Term 2018



English Language Paper 2 – Writer's Viewpoints and Perspectives

Reading Questions

QUESTION	What to expect	Marks	TOP TIPS
1	**True or false**	**4**	• The statements are in chronological order, in the same sequence as they appear in the text, so consider each statement in order
2	**Write a summary (two texts) Synthesis of explicit and implicit ideas and information**	**8**	• Write about 2 or 3 differences • Keep in mind the focus of the question • Use comparison words like 'whereas', 'however', 'in contrast' • Use SQuID- *In Source A- Statement, Quotation, Inference- Developed-* ***whereas*** *in Source B- SQuID* • Be perceptive and developed in your inferences (it could suggest/also it could imply) • Interpret differences between texts as well as making inferences about individual quotations
3	**How does the writer use language….**	**12**	• Write about 3 or 4 examples of language • Zoom in on powerful words and phrases • Use varied vocabulary to explore the effect of words and phrases • You will need to identify the language devices the writer uses for effect in the text • Ask yourself: what does the quote make the reader think/feel/imagine?
4	**How the writers present…. Compare writers' ideas and perspectives, and how they are conveyed**	**16**	• Write about 3 or 4 points of comparison • Use the bullet points in the question to guide you • You need to use comparison connectives like 'whereas', 'however', 'in contrast' 'both' • You need to identify the different methods the writers use to convey a certain idea/view/perspective (methods could refer to language AND structure) • Embed your quotations from the text and explore the effects

Mathematics

Year 10 PPE Revision List: Mathematics (Foundation)

	Foundation	Chapter
Number	Use place value when calculating with decimals; Order positive and negative integers and decimals using equal, not equal and inequality symbols; Round to a number of decimal places or significant figures; Add and subtract positive and negative integers and decimals; Multiply and divide positive and negative integers and decimals; Use BIDMAS in multi-stage calculations;	1
Number	Convert between terminating decimals and their corresponding fractions; Compare decimals and fractions using inequality symbols; Find fractions and percentages of amounts; Add and subtract simple fractions and mixed numbers; Multiply and divide simple fractions and mixed numbers; Convert between fractions, decimals and percentages;	5
Number	Round numbers and measures to an appropriate degree of accuracy; Use approximation to make estimates; Check calculations using approximation and estimation; Use standard units of length, mass, volume, capacity, time and area; Use inequality notation to state error intervals and interpret limits of accuracy;	9
Number	Use mathematical language to describe factors, multiples and primes; Use Venn diagrams or factor trees to systematically list the prime factors of a number; Use prime factor decomposition to calculate the HCF and LCM of two or more numbers; Write the HCF and LCM using product notation; Calculate positive integer powers and their roots; Recognise powers of 2, 3, 4 and 5;	13
Geometry	Describe and apply the properties of angles at a point, on a line and at intersecting and parallel lines; Derive and use the sum of angles in a triangle; Derive and apply the properties and definitions of special types of quadrilaterals; Solve geometrical problems on coordinate axes; Identify and use congruence and similarity; Deduce and use the angle sum in any polygon and derive properties of regular polygons;	3
Geometry	Use standard units of measure for length, measure line segments and angles; Use bearings; Interpret maps and scale drawings; Know and apply formulae to calculate the area of triangles, parallelograms and trapezia; Identify, describe and construct reflections, rotations, translations and enlargements;	7
Geometry	Identify and apply circle definitions, properties and formulae; Construct triangles; Use the standard ruler and compass constructions; Solve loci problems;	11
Geometry	Identify the numbers of faces, edges and vertices of 3D shapes; Construct and interpret plans and elevations of 3D shapes; Calculate the volume and surface area of cuboids, cylinders and other prisms; Calculate the volume and surface area of spheres, pyramids, cones and composite solids;	15
Algebra	Use algebraic notation; Substitute numbers into formulae and expressions; Use and understand the words expressions, equations, formulae, terms and factors; Collect like terms and simplify expressions involving sums, products, powers and surds; Use the laws of indices; Multiply a single term over a bracket; Take out common factors in an expression;	2
Algebra	Substitute numerical values into formulae and expressions; Rearrange formulae to change the subject; Identify inequalities, equations, formulae and identities; Expand double brackets; Factorise quadratic expressions of the form $x^2 + bx + c$ and the difference of two squares;	6
Algebra	Derive and solve simple linear equations; Solve quadratic equations algebraically by factorising; Derive and solve two linear simultaneous equations in two variables; Find approximate solutions to two linear simultaneous equations using a graph; Solve linear inequalities in one variable and represent the solution on a number line;	10
Algebra	Work with coordinates in all four quadrants; Plot straight-line graphs including	14

	diagonal, vertical and horizontal lines; Identify gradients and intercepts of straight lines graphically and algebraically; Use the form y = mx + c to identify parallel lines; Use one point and the gradient of the line to find its equation; Use two points to find the equation of a line; Interpret the gradient of a straight line graph as a rate of change; Plot and interpret graphs involving distance, speed and acceleration;	
Ratio & Proportional Reasoning	Use fractions and percentages to describe a proportion; Use ratio notation and simplify ratios; Use scale factors, scale diagrams and maps; Solve problems involving percentage change;	12
Statistics	Identify when a sample may be biased; Construct and interpret frequency tables and two-way tables; Construct and interpret pictograms, bar-line charts and bar charts; Interpret and construct pie charts and know their appropriate use; Compare distributions using median, mean, mode and range and identify outliers;	4
Probability	Use experimental data to estimate probabilities and expected frequencies; Calculate theoretical probabilities and expected frequencies using the idea of equally likely events; Compare theoretical probabilities with experimental probabilities; Recognise mutually exclusive events and exhaustive events and know that the probabilities of mutually exclusive exhaustive events sum to 1;	8

Year 10 PPE Revision List: Mathematics (Higher)

	Higher	**Chapter**
Number	Order positive and negative integers and decimals; Round numbers to a given number of decimal places or significant figures; Use mental and written methods to add, subtract, multiply and divide with positive and negative integers and decimals; Use BIDMAS to complete calculations in the correct order;	1
Number	Find fractions and percentages of amounts; Add, subtract, multiply and divide with fractions and mixed numbers; Convert between fractions, decimals (including recurring decimals) and percentages; Order fractions, decimals and percentages;	5
Number	Use approximate values obtained by rounding to estimate calculations; Use an estimate to check an answer obtained using a calculator; Use and convert between, standard units of length, mass, capacity and other measures including compound measures; Solve problems involving compound measure such as speed and density; Find upper and lower bounds on the value of a quantity that has been rounded; Find upper and lower bounds on expressions that involve quantities that have been rounded;	9
Number	Know and use the language of prime numbers, factors and multiples; Write a number as a product of its prime factors; Find the HCF and LCM of a pair of integers; Estimate the square or cube root of an integer; Find square and cube roots of numbers and apply the laws of indices; Simplify expressions involving surds including rationalising fractions;	13
Geometry	Use angle facts including at a point, on a line, at an intersection and for parallel lines; Use bearings to specify directions; Identify types of triangle and quadrilateral and use their properties; Identify congruent shapes and use congruence to prove geometric results; Identify similar shapes and use similarity to find lengths and areas; Calculate the properties of polygons including interior and exterior angles for regular polygons;	3
Geometry	Measure line segments and angles accurately; Use scale drawings and bearings; Calculate the areas of triangles, parallelograms, trapezia and composite shapes; Describe and transform shapes using reflections, rotations, translations (described as 2D vectors) and enlargements (including fractional and negative scale factors); Identify what changes and what is invariant under a combination of transformations;	7
Geometry	Find the area and circumference of a circle and composite shapes involving circles; Calculate arc lengths, angles and areas of sectors; Prove and apply circle theorems; Use standard ruler and compass constructions and solve problems involving loci;	11

Geometry	Draw and interpret plans and elevations of 3D shapes; Calculate the volume of cuboids and right prisms; Calculate the surface area and volume of spheres, pyramids, cones and composite shapes; Know and apply the relationship between lengths, areas and volumes of similar shapes;	15
Algebra	Use algebraic notation and simplify expressions by collecting like terms; Substitute numbers into formulae and expressions; Use the laws of indices; Multiply a single term over a bracket; Take out common factors in an expression; Simplify algebraic fractions and carry out arithmetic operations with algebraic fractions;	2
Algebra	Substitute values into formulae and rearrange formulae to change their subject; Write and equation to represent a function, and find inputs and outputs; Find the inverse of a function and use composite functions; Use the terms expression, equation, formula, identity, inequality, term and factor; Construct proofs of simple statements using algebra; Expand brackets to get a quadratic expression and factorise quadratics into brackets	6
Algebra	Solve linear equations including when the unknown appears on both sides; Solve quadratic equations using factorisation, completing the square and the quadratic formula; Solve a pair of linear or linear plus quadratic simultaneous equations; Use iterative processes to find approximate solutions to equations; Solve inequalities and display your solution on a number line or graph	10
Algebra	Find and interpret the gradient and y-intercept of a line and relate these to the equation of the line in the form y=mx + c; Identify parallel and perpendicular lines using their equations; Draw line graphs and quadratic curves; Identify roots, intercepts and turning points of quadratic curves using graphical and algebraic methods; Use graphs to solve problems involving distance, speed and acceleration;	14
Ratio & Proportional Reasoning	Find fractions and percentages of amounts and express one number as a fraction or percentage of another; Divide a quantity in a given ratio and reduce a ratio to its simplest form; Use scale factors, scale diagrams and maps; Solve problems involving percentage change	12
Statistics	Identify when a sample may be biased; Construct and interpret frequency tables, bar charts and pie charts; Calculate the mean, median and mode of a data set; Use averages and measures of spread to compare data sets;	4
Probability	Use experimental data to estimate probabilities and expected frequencies; Use tables to represent the outcomes of probability experiments; Calculate theoretical probabilities and expected frequencies using the idea of equally likely events; Recognise mutually exclusive events and exhaustive events and know that the probabilities of mutually exclusive exhaustive events sum to 1; Compare theoretical probabilities with experimental probabilities;	8

Y10 Biology Summer Exam Revision list

TRIPLES & COMBINED

B1 Cell – Level Systems

Cell structures

Lesson	Aiming for 4		Aiming for 6		Aiming for 8	
B1.1.1 Plant and animal cells	I can state the organelles (structures) present in a plant and animal cell.	☐	I can compare the organelles present in plant and animal cells.	☐	I can discuss the reasons for the presence or absence of organelles in different plant and animal cells.	☐
	I can state the function of each of the main organelles present in a plant and animal cell.	☐	I can explain the function of the organelles, relating the structure and molecules present to the function of the organelles.	☐	I can explain the roles of the molecules or structures within the organelles, such as the receptors in the cell membrane.	☐
	I can label the organelles in representational models of plant and animal cells.	☐	I can explain how a model cell is similar to, and different from, a real cell.	☐	I can discuss the benefits and drawbacks of using a representational model to help in explaining the structures and functions of cell organelles.	☐
B1.1.2 Bacterial cells	I can name some examples of prokaryotes.	☐	I can compare prokaryotic and eukaryotic cells.	☐	I can discuss the reasons for the presence or absence of organelles in different prokaryotic cells.	☐
	I can state the main organelles present in a prokaryotic cell.	☐	I can explain the function of the organelles, relating the structure to the function of the organelles.	☐	I can discuss how the organelles of the prokaryote can carry out all of the functions of the eukaryotic cell.	☐
	I can use a method, with some help to obtain results, working safely.	☐	I can use a method independently to obtain results, noting some major hazards.	☐	I can use a method independently to obtain results, justifying the steps to minimise risks.	☐
B1.1.3 Light microscopy	I can identify the components of the light microscope.	☐	I can explain the role of each part of the microscope.	☐	I can discuss why different lenses on the microscope are needed.	☐
	I can describe how to use a microscope to observe cells.	☐	I can explain why stains are used to highlight cell features.	☐	I can discuss why different stains might be required when viewing different cells or tissues.	☐
	I can use a microscope to observe and draw a cell.	☐	I can draw an accurate representation of a cell and calculate the magnification used to make the drawing.	☐	I can calculate specimen size, image size and magnification by substituting values into an equation, rearranging when necessary.	☐
B1.1.4 Electron microscopy	I can describe simply how a transmission electron microscope (TEM) works.	☐	I can explain how electron microscopy has increased understanding of subcellular structures.	☐	I can discuss how useful the electron microscope has been in medicine and biology.	☐
	I can state an advantage of using an electron microscope.	☐	I can describe the advantages of using the electron microscope compared with the light microscope.	☐	I can evaluate the relative advantages and disadvantages of using an electron microscope compared with a light microscope.	☐
	I can state the resolution achieved by an electron microscope in SI units using the correct order of magnitude.	☐	I can compare the increase in resolution, in standard form, of an electron microscope with that of a light microscope.	☐	I can calculate how many times greater the resolution of an electron microscope is compared with a light microscope.	☐

What happens in cells?

Lesson	Aiming for 4		Aiming for 6		Aiming for 8	
B1.2.1 DNA	I can describe the structure of DNA.	☐	I can describe the structure of the nucleotide as the building block of DNA.	☐	I can explain what is meant by complementary base pairing.	☐
	I can state the role of DNA.	☐	I can describe the role of a gene.	☐	I can explain the relationship between DNA, genes, and chromosomes.	☐
	I can use the correct apparatus to follow a method with help.	☐	I can use a method to carry out an experiment appropriately and independently, having due regard for the correct manipulation of apparatus.	☐	I can use a method to carry out an experiment appropriately and independently, with due regard to the correct manipulation of apparatus and the accuracy of measurements.	☐
B1.2.2 Bacterial cells (H)			I can compare the difference in structure between mRNA and DNA.	☐	I can distinguish between the roles of mRNA and DNA in the process of protein synthesis.	☐
			I can describe the process of protein synthesis; to include transcription and translation.	☐	I can explain how the base sequence in the DNA molecule determines the amino acid sequence in the protein.	☐
			I can summarise and evaluate with accuracy and clear understanding.	☐	I can summarise and critically evaluate with detailed and perceptive understanding.	☐
B1.2.3 Enzymes	I can state what an enzyme is.	☐	I can describe the structure of an enzyme.	☐	I can explain what is meant by enzyme specificity.	☐
	I can describe simply how an enzyme works.	☐	I can explain how an enzyme works.	☐	I can explain in detail how an enzyme interacts with its substrate to catalyse a reaction.	☐
	I can describe how an enzyme works by communicating simply and with some clarity for the audience.	☐	I can illustrate how an enzyme works by communicating effectively, sustaining the audience's interest.	☐	I can interpret how an enzyme works by communicating, with impact and influence.	☐
B1.2.4 Enzyme reactions	I can state the factors that affect enzyme-controlled reactions.	☐	I can describe the effect of a factor on the rate of an enzyme-controlled reaction.	☐	I can explain how different factors affect the rate of an enzyme-controlled reaction.	☐
	I can state what is meant by denaturation.	☐	I can describe what happens when an enzyme is denatured.	☐	I can explain how denaturation affects the rate of an enzyme-controlled reaction.	☐
	I can record observations from an experimental procedure, using a range of apparatus.	☐	I can record measurements from an experimental procedure, and plot a simple graph having been given the axes.	☐	I can record accurate measurements from an experimental procedure, plotting an accurate rate graph.	☐

Respiration

Lesson	Aiming for 4		Aiming for 6		Aiming for 8	
B1.3.1 Carbohydrates, proteins, and lipids	I can describe the components of carbohydrates, proteins, and lipids.	☐	I can explain how carbohydrates, proteins, and lipids are synthesised and broken down.	☐	I can distinguish between monomers and polymers in biological molecules.	☐
	I can state what is meant by metabolic rate.	☐	I can describe the relationship between metabolic rate, activity levels, and food intake.	☐	I can explain that metabolic reactions can be divided into different groups.	☐
	I can use scientific vocabulary, terminology, and definitions, with limited accuracy of spelling, punctuation, and grammar.	☐	I can use scientific vocabulary, terminology, and definitions accurately with occasional errors in spelling, punctuation, and grammar.	☐	I can use scientific vocabulary, terminology, and definitions accurately and error-free in spelling, punctuation, and grammar.	☐
B1.3.2 Aerobic respiration	I can state the word equation for respiration.	☐	I can state the chemical equation for respiration.	☐	I can discuss the use by the body of the energy transferred in respiration.	☐
	I can state that respiration transfers energy.	☐	I can describe the process of aerobic respiration as an exothermic reaction.	☐	I can explain how ATP is produced during aerobic respiration.	☐
	I can plot a graph of data from experiments.	☐	I can plot an appropriate line graph of two variables from experimental data.	☐	I can plot an appropriate accurate line graph of two variables from experimental data, and interpret the data to draw conclusions.	☐
B1.3.3 Anaerobic respiration	I can state the word equation for anaerobic respiration.	☐	I can state a chemical equation for anaerobic respiration.	☐	I can compare the processes of aerobic and anaerobic respiration in terms of energy yield.	☐
	I can state that there are different types of anaerobic respiration in different organisms.	☐	I can describe the different processes of anaerobic respiration and where they occur.	☐	I can explain the consequences of anaerobic respiration in muscles in terms of oxygen debt.	☐
	I can use the correct apparatus to follow a method with help.	☐	I can use a method to carry out an experiment appropriately and independently, having due regard to the correct manipulation of apparatus.	☐	I can use a method to carry out an experiment appropriately and independently, having due regard to the correct manipulation of apparatus and the accuracy of measurements.	☐

Photosynthesis

Lesson	Aiming for 4		Aiming for 6		Aiming for 8	
B1.4.1 Photosynthesis	I can state the word equation for photosynthesis.	☐	I can state the chemical equation for photosynthesis.	☐	I can discuss the fate of the products of photosynthesis.	☐
	I can state that sunlight energy is required for the process of photosynthesis.	☐	I can describe the process of photosynthesis as an endothermic reaction.	☐	I can explain that photosynthesis is a two stage process, and where those stages occur.	☐
	I can state basic facts (about photosynthesis), communicating simply and with some clarity.	☐	I can illustrate the process of photosynthesis using labelled diagrams that communicate effectively, making coherent statements.	☐	I can annotate diagrams to explain the process of photosynthesis in detail, communicating coherently and with impact.	☐
B1.4.2 Photosynthesis experiments	I can describe how to test a leaf for the presence of starch.	☐	I can explain how to use the starch test to investigate the factors that affect whether or not photosynthesis occurs.	☐	I can justify the use of each of the steps in the test for starch.	☐
	I can use the correct apparatus to follow a method with help, having due regard for some health and safety considerations.	☐	I can follow a method to carry out an experiment appropriately and independently, having due regard for most health and safety considerations.	☐	I can follow a method to carry out an experiment appropriately and independently, having due regard for the correct manipulation of apparatus and all health and safety considerations.	☐
	I can state a simple conclusion from a scientific observation.	☐	I can interpret experimental observations, drawing a valid conclusion.	☐	I can interpret fully all experimental observations, to provide a detailed conclusion.	☐
B1.4.3 Factors affecting	I can state the factors affecting the rate of photosynthesis.	☐	I can describe the effect of light intensity, carbon dioxide concentration, and temperature on the rate of photosynthesis.	☐	I can explain the effect of light intensity, carbon dioxide concentration, and temperature on the rate of photosynthesis.	☐
	I can record data from an experiment in the table provided.	☐	I can calculate a class average (mean) from data collected in an experiment.	☐	I can calculate the mean rate of photosynthesis from data collected in an experiment, and plot a rate graph as a line graph.	☐
photosynthesis	I can state any difficulties encountered carrying out this method.	☐	I can suggest how any difficulties have affected the repeatability of the results.	☐	I can evaluate the method, discussing the impact upon the validity of the results, and suggest improvements.	☐
B1.4.4 Interaction of limiting factors (H)			I can explain the concept of a limiting factor.	☐	I can explain how factors interact to limit the rate of photosynthesis.	☐
			I can calculate relative light intensity using the inverse square law.	☐	I can explain the relationship between light intensity and distance from a lamp.	☐
			I can describe how light intensity, carbon dioxide concentration, and temperature can be controlled.	☐	I can discuss how controlling the factors that affect the rate of photosynthesis can affect the yield of a plant crop.	☐

B2 – Scaling up

Supplying the cell

Lesson	Aiming for 4		Aiming for 6		Aiming for 8	
B2.1.1 Diffusion	I can state some examples of diffusion.	☐	I can describe the process of diffusion.	☐	I can explain fully at a molecular level the process of diffusion.	☐
	I can state factors that affect the rate of diffusion.	☐	I can describe the effect of factors on the rate of diffusion.	☐	I can explain the reasons for the effects of factors on the rate of diffusion.	☐
	I can describe by communicating simply, producing text with basic structure and familiar vocabulary.	☐	I can describe by communicating effectively, producing coherent text, which is well structured, and use some appropriate scientific vocabulary.	☐	I can describe by communicating with impact, producing effectively-structured texts, using a full range of precise scientific vocabulary.	☐
B2.1.2 Osmosis	I can state that osmosis is the movement of water molecules into or out of cells.	☐	I can describe the process of osmosis.	☐	I can explain the effect of osmosis on potato cells.	☐
	I can state that osmosis is a type of diffusion.	☐	I can explain why osmosis occurs.	☐	I can explain, in terms of water potential, why osmosis occurs.	☐
B2.1.3 Active transport	I can state some examples of active transport.	☐	I can describe examples of active transport in plants and animals.	☐	I can explain the importance of active transport in plants and animals.	☐
	I can state the differences between active transport and diffusion.	☐	I can describe how molecules move by active transport.	☐	I can explain how carrier proteins function in the process of active transport.	☐
	I can record measurements from an experimental method, and calculate a change in mass.	☐	I can record measurements from an experimental method, and calculate a percentage change in mass.	☐	I can record measurements from an experimental method, calculate a percentage change in mass, and plot the data to determine the concentration that is equal to the cell.	☐
B2.1.4 Mitosis	I can state the stages of the cell cycle.	☐	I can describe the key features of each stage of the cell cycle.	☐	I can explain the process of DNA replication in the cell cycle.	☐
	I can state the purpose of mitosis.	☐	I can describe the process of mitosis.	☐	I can explain the process of mitosis in terms of the movement of chromosomes.	☐
	I can use a model to illustrate the major steps in the cell cycle.	☐	I can use a representational model to describe the key events during the cell cycle.	☐	I can use a representational model to develop scientific explanations of all of the events during the cell cycle.	☐
B2.1.5 Cell differentiation	I can state what is meant by cell differentiation.	☐	I can explain why cells become differentiated.	☐	I can explain the need for cellular differentiation in multicellular organisms.	☐
	I can state some examples of specialised cells.	☐	I can describe the adaptations of a range of specialised cells.	☐	I can explain the link between the adaptation of each specialised cell and its function.	☐
	I can use text to be able to describe features with some accuracy.	☐	I can summarise text, with accuracy, to show clear understanding of cell features.	☐	I can summarise text showing detailed and perceptive understanding of cell features and functions.	☐
B2.1.6 Stem cells	I can state where stem cells are found.	☐	I can describe the difference between a stem cell and a differentiated cell.	☐	I can explain the difference between embryonic and adult stem cells.	☐
	I can state some uses of stem cells.	☐	I can describe the function of stem cells.	☐	I can evaluate the advantages and disadvantages of using stem cells in medicine.	☐
	I can use general references to scientific texts to support my comments and opinions.	☐	I can use appropriate references to scientific texts to support their understanding and opinions.	☐	I can justify my understanding and opinions with illuminating use of references to scientific texts.	☐

The challenges of size

Lesson	Aiming for 4		Aiming for 6		Aiming for 8	
B2.2.1 Exchange and transport	I can state some examples of exchange surfaces and transport systems.	☐	I can describe the features of an efficient exchange surface.	☐	I can explain why multicellular organisms require adapted exchange surfaces.	☐
	I can calculate the surface area or volume of an object.	☐	I can calculate the surface area: volume ratio.	☐	I can compare the relationship between the surface area: volume ratio and the size of an organism/cell.	☐
	I can describe simple observations made during an experiment.	☐	I can interpret observations and data made during an experiment.	☐	I can interpret observations and data obtained during an experiment, identifying patterns and drawing conclusions.	☐
B2.2.2 Circulatory system	I can state the function of the circulatory system.	☐	I can describe the structure of the double circulatory system.	☐	I can explain the need for a double circulatory system in mammals.	☐
	I can the different types of blood vessels found in a circulatory system.	☐	I can describe the structure of the blood vessels.	☐	I can explain the link between the structure and function of the different types of blood vessels.	☐
	I can use familiar vocabulary to some effect to describe the circulatory system.	☐	I can use vocabulary appropriate to purpose and effect to describe the structure of the circulatory system.	☐	I can use a wide range of well-selected and precise vocabulary to enhance impact when explaining the functioning of the circulatory system.	☐
B2.2.3 Heart and blood	I can identify the components of the blood.	☐	I can describe the functions of the main components of the blood.	☐	I can explain the adaptations of the red blood cell that enable it to carry out its function.	☐
	I can identify the main structures in the heart.	☐	I can describe the flow of blood through the heart.	☐	I can explain how the thickness of the chambers of the heart are related to their function.	☐
	I can state the names of the major parts of the heart and blood.	☐	I can use the correct names of the parts of the heart and blood when describing their function.	☐	I can use an appropriate range of scientific vocabulary and terminology when explaining the functions of the blood and heart.	☐
B2.2.4 Plant transport systems	I can state the function of xylem.	☐	I can describe the function and distribution of xylem tissue.	☐	I can explain how the structure and distribution of xylem tissue is related to its function.	☐
	I can state the function of phloem.	☐	I can describe the function and distribution of phloem tissue.	☐	I can explain how the structure and distribution of phloem tissue is related to its function.	☐
	I can label diagrams using simple sentence structure and familiar vocabulary.	☐	I can annotate diagrams using varied sentence types and appropriate scientific vocabulary.	☐	I can annotate diagrams using a wide range of sentence types, including precise and appropriate scientific vocabulary.	☐
B2.2.5 Transpiration stream	I can state what is meant by transpiration.	☐	I can describe the transpiration stream.	☐	I can explain the mechanisms by which water is moved through the plant.	☐
	I can state the location of most stomata in a plant.	☐	I can describe the structure of a stoma.	☐	I can explain how stomata control water loss from leaves.	☐
	I can describe the observations made during each experiment.	☐	I can explain the observations made during each experiment.	☐	I can relate the findings of both experiments to one another, to explain how water is lost from the plant.	☐
B2.2.6 Factors affecting transpiration	I can state the factors that affect the rate of transpiration.	☐	I can describe the relationship between a given factor and the rate of transpiration.	☐	I can explain how environmental factors affect the rate of transpiration.	☐
	I can state what a potometer measures.	☐	I can describe how to use a potometer.	☐	I can explain how to calculate the rate of transpiration using a potometer.	☐
	I can state a limitation found with the method.	☐	I can discuss a range of limitations with this method, which might affect the results.	☐	I can discuss a range of limitations with this method, which might affect the results, suggesting a series of improvements.	☐

B3 – Organ Level Systems

The nervous system

Lesson	Aiming for 4		Aiming for 6		Aiming for 8	
B3.1.1 Nervous system	I can state the function of the nervous system.	☐	I can describe the pathway taken by an impulse in a nervous reaction.	☐	I can explain how the nervous system produces a coordinated response.	☐
	I can state the difference between a nerve and a neurone.	☐	I can describe the different types of neurone in the nervous system.	☐	I can explain the difference in function of sensory and motor neurones.	☐
	I can state that the reaction time measured is controlled by the nervous system.	☐	I can identify reasons for reaction times measured, by describing the pathway taken by the impulse.	☐	I can explain the reasons for different reaction times between dominant and non-dominant hands.	☐
B3.1.2 Reflexes	I can state what is meant by a reflex action.	☐	I can describe the pathway of the impulse in the reflex arc during a reflex action.	☐	I can explain how a specific example of a reflex action occurs.	☐
	I can list examples of reflex actions.	☐	I can describe the difference between a reflex action and a voluntary action.	☐	I can explain why a reflex action is faster than a voluntary action.	☐
	I can plan a simple experiment to make a basic observation of the iris reflex.	☐	I can plan a series of simple experiments to make observations of the iris reflex. .	☐	I can plan a systematic series of experiments to fully investigate the iris reflex.	☐

Triple content

B3.1.3 The eye	I can identify the main structures of the eye. .	☐	I can describe the function of each of the main structures in the eye.	☐	I can explain how the eye focuses light on the retina.	☐
	I can name some defects of vision.	☐	I can describe some defects of vision.	☐	I can explain how common defects of vision can be corrected.	☐
	I can use a model to observe how light travels through the eye.	☐	I can use a model to describe how the structures of the eye focus light on the retina.	☐	I can use a model to explain how changes in the lens shape would result in accommodation of light rays.	☐

B3.1.4 The brain	I can name the main structures in the brain.	☐	I can describe the location of the main structures of the brain.	☐	I can describe the function of the main structures in the brain.	☐
			I can describe some of the different techniques used to investigate brain function. (H)	☐	I can explain why it is difficult to investigate brain function. (H)	☐
			I can describe a range of practical and ethical concerns in scientific research. (H)	☐	I can justify decisions about the ethics of scientific research methods. (H)	☐
B3.1.5 Nervous system damage (H)			I can describe examples of damage to nervous tissue.	☐	I can explain how damage to nervous has an effect on the functioning of the body.	☐
			I can describe some methods used to treat damage to the nervous system.	☐	I can explain the difficulties in treating the nervous system.	☐
			I can describe some of the personal implications to the patient of treatments for damage to the nervous system.	☐	I can evaluate the personal implications to the patient of treatments for damage to the nervous system.	☐

The endocrine system

Lesson	Aiming for 4		Aiming for 6		Aiming for 8	
B3.2.1 Hormones	I can name examples of endocrine glands and the hormones they release.	☐	I can describe how a hormone reaches its target organ.	☐	I can explain how a hormone acts as a chemical messenger.	☐
	I can state the function of a hormone.	☐	I can describe the specific roles of some hormones in the body.	☐	I can explain how named hormones bring about homeostatic regulation in the body.	☐
	I can use simple sentence types and familiar vocabulary, limited to scientific names, when producing texts.	☐	I can use a variety of sentence types and vocabulary appropriate to purpose when describing the actions of hormones.	☐	I can use a wide range of well-selected sentence types and precise vocabulary when explaining the action of hormones.	☐
B3.2.2 Negative feedback (H)			I can describe the role of thyroxine and adrenaline in the body.	☐	I can explain how the roles of thyroxine and adrenaline are brought about by a number of responses in the body.	☐
			I can describe how negative feedback occurs.	☐	I can explain the purpose of negative feedback.	☐
			I can use a model to describe how negative feedback occurs.	☐	I can use a model to explain how negative feedback brings about control.	☐
B3.2.3 The menstrual cycle	I can state the hormones involved in the menstrual cycle.	☐	I can describe how the levels of the hormones change during the menstrual cycle.	☐	I can explain how some hormones control the level of production of other hormones during the menstrual cycle. (H)	☐
	I can describe the main stages of the menstrual cycle.	☐	I can describe how hormones cause the changes that occur at the different stages of the menstrual cycle.	☐	I can explain how hormones interact to control the menstrual cycle. (H)	☐
	I can state simple factual statements based on data and observations from texts.	☐	I can use data and observations from texts to describe processes in detail.	☐	I can interpret data and observations from texts to explain how changes in the menstrual cycle are related to patterns in the hormone levels.	☐

B3.2.4 Controlling reproduction	I can state some examples of contraception.	☐	I can describe how the different methods of contraception work.	☐	I can evaluate different methods of contraception.	☐
	I can name the different types of hormone-based contraception.	☐	I can explain how hormones are used in contraception.	☐	I can evaluate hormonal contraception methods compared with non-hormonal contraception.	☐
	I can state that applications of science have helped humans control their reproduction.	☐	I can discuss how knowledge of reproduction allowed scientists to develop applications to control reproduction.	☐	I can explain the need for scientists to evaluate reproductive applications of science, in order to inform the public.	☐
B3.2.5 Using hormones to treat infertility (H)			I can describe some causes of infertility.	☐	I can discuss issues surrounding fertility treatment.	☐
			I can describe the process of in vitro fertilisation (IVF).	☐	I can explain how hormones can be used to treat infertility.	☐
			I can use evidence to support or reject the use of IVF.	☐	I can justify decisions about the suitability of IVF based on an evaluation of the evidence and arguments about the technique.	☐

Triple content

B3.2.6 Plant hormones	I can name the process by which plants respond to light.	☐	I can describe the process of phototropism.	☐	I can explain the role of auxins on phototropism.	☐
	I can name the process by which plants respond to gravity.	☐	I can describe the process of gravitropism.	☐	I can explain the role of auxins in gravitropism.	☐
	I can use scientific facts to develop a method, given a hypothesis.	☐	I can use scientific theories to develop a hypothesis.	☐	I can use scientific theories to develop a hypothesis that clearly links a dependent and independent variable.	☐

B3.2.7 Uses of plant hormones	I can give an example of a plant hormone.	☐	I can describe some of the effects of plant hormones on the plant.	☐	I can explain how plant hormones have their effects on plants.	☐
	I can state one advantage of the use of plant hormones.	☐	I can describe commercial uses of plant hormones. (H)	☐	I can explain the commercial advantages of using plant hormones. (H)	☐
			I can describe some impacts on society of the use of plant hormones. (H)	☐	I can evaluate the economic and other benefits to society of the commercial use of plant hormones. (H)	☐

Triple content

Maintaining internal environments

Lesson	Aiming for 4		Aiming for 6		Aiming for 8	
B3.3.1 Controlling body temperature	I can state some of the changes that occur in the skin at high or low temperatures.	☐	I can describe the function of the skin in controlling body temperature.	☐	I can explain in detail the body's responses to temperature change. (H)	☐
	I can state what is meant by homeostasis.	☐	I can describe how overheating or cooling can affect the body. (H)	☐	I can explain the importance of maintaining a constant internal environment.	☐
	I can make and record measurements from an experiment.	☐	I can make and record accurate measurements in a clear table.	☐	I can make and record accurate, repeated measurements systematically in a well-organised table with clear headings and units.	☐
B3.3.2 Controlling blood sugar	I can name a hormone involved in blood sugar control.	☐	I can explain the role of insulin in maintaining blood glucose levels.	☐	I can explain the role of glucagon and insulin in maintaining blood glucose levels. (H)	☐
	I can state why blood sugar levels change throughout the day.	☐	I can describe the main differences between type 1 and type 2 diabetes.	☐	I can explain the differences between the treatments for type 1 and type 2 diabetes.	☐
	I can state basic observations about blood sugar levels obtained in an experiment.	☐	I can interpret data, obtained in an experiment, to describe the changes in blood glucose levels.	☐	I can Interpret data, obtained in an experiment, to explain the changes in blood glucose levels and compare with other data.	☐
B3.3.3 Maintaining water balance	I can state the ways in which water enters and leaves the body.	☐	I can describe how the water level in the blood is maintained by the production of urine.	☐	I can explain how the body maintains water balance by varying urine concentration.	☐
	I can state that water moves into and out of a cell by osmosis.	☐	I can describe the effect of osmosis on cells.	☐	I can explain the movement of water into and out of cells down a water potential gradient.	☐
	I can use a model to make observations of osmosis in cells.	☐	I can use a model to describe the effect of osmosis on cells.	☐	I can use models to explain the significance of water potential gradients in scientific applications.	☐
B3.3.4 Inside the kidney	I can identify the structures present in the kidney.	☐	I can describe the function of the different regions of a nephron.	☐	I can explain ultrafiltration and selective reabsorption in the nephron.	☐
	I can state that the concentration of urine can change.	☐	I can describe how the kidney can produce varying amounts of urine depending upon the body's level of hydration. (H)	☐	I can explain how ADH determines the amount of water that is reabsorbed. (H)	☐
	I can use some scientific vocabulary when discussing the structure or function of the kidney.	☐	I can use appropriate scientific vocabulary when describing the function of the nephron.	☐	I can use a full range of scientific vocabulary and terminology to explain the functioning of the nephron.	☐
B3.3.5 Responding to osmotic challenges (H)			I can describe the effects of over- and under-hydration on the body.	☐	I can explain how the body responds to dehydration and over-hydration.	☐
			I can describe the constituents of different types of sports drinks.	☐	I can evaluate the effectiveness of sports drinks.	☐
			I can communicate findings from experiments and provide a basic conclusion.	☐	I can communicate findings and give a reasoned conclusion based on scientific understanding.	☐

For this section combined need to learn the following:

- Be able to explain the importance of maintain a constant internal environment in response to internal and external change
- All of the controlling blood sugar section, to include a comparison of type I and type II diabetes
- Be able to describe the gross structure of the kidney and the structure of the kidney tubule.

Triples need to learn all of the statements in the grid.

Chemistry – Triples & Combined

C1 Particles

The particle model

Lesson	Aiming for 4		Aiming for 6		Aiming for 8	
C1.1.1 Introducing particles	I can draw diagrams to show the arrangements of particles in the three states of matter.	☐	I can describe the movement and arrangement of particles in the three states of matter, and give examples of three	☐	I can compare the movement and arrangement of particles in the three states of matter.	☐
	I can describe typical physical properties of a substance in a given state.	☐	I can compare the physical properties of a substance in its three states.	☐	I can use the particle model to explain the differences in physical properties of a substance in its three states.	☐
	I can state whether a given particle model is in two or three dimensions.	☐	I can compare the features of 2D and 3D models to represent particles.	☐	I can evaluate the advantages and disadvantages of given 2D and 3D models to represent particles.	☐
C1.1.2 Chemical and physical changes	I can make observations, and give examples of physical and chemical changes.	☐	I can state whether an observed change is physical or chemical.	☐	I can justify classifying a given observed change as physical or chemical.	☐
	I can state the definition of a physical change and a chemical changes.	☐	I can compare the features of physical and chemical changes.	☐	I can explain the differences between physical and chemical changes using the particle model.	☐
	I can compare reactants and products in a chemical reaction using particle diagrams or physical models.	☐	I can deduce whether a given change is physical or chemical by interpreting particle diagrams of reactants and products.	☐	I can draw particle diagrams of reactants and products to model a chemical reaction.	☐
C1.1.3 Limitations of the particle model	I can name the type of force that acts between particles.	☐	I can describe how the strength of the forces between particles changes with distance.	☐	I can explain why the strength of the forces between particles affects the properties of a substance.	☐
	I can compare the relative distances between particles in the three states of matter.	☐	I can state typical distances between particles in the gas state.	☐	I can calculate the ratio distance to diameter, the distance between particles in a gas state, and the sizes of objects in scale models.	☐
	I can describe one way in which the particle model is unlike the situation it represents.	☐	I can describe three limitations of the particle model.	☐	I can use mathematical ideas to explain some limitations of the particle model.	☐

Atomic structure

Lesson	Aiming for 4		Aiming for 6		Aiming for 8	
C1.2.1 Atomic structure	I can list the subatomic particles in an atom.	☐	I can describe the subatomic particles in an atom.	☐	I can explain evidence for the structure of the atom.	☐
	I can qualitatively describe: the relative sizes of an atom, chemical bonds, and simple molecules.	☐	I can use standard form to describe the sizes of atoms, chemical bonds, and molecules.	☐	I can explain why a relative scale is used to compare subatomic particles.	☐
	I can state the size of a typical atom.	☐	I can use data to calculate the sizes, masses, and charges of subatomic particles.	☐	I can use data to calculate the relative sizes, masses, and charges of subatomic particles.	☐
C1.2.2 Isotopes	I can state definitions of the terms ion, atomic number, mass number, and isotope.	☐	I can use an example to describe the similarities and differences between isotopes in terms of subatomic particles.	☐	I can explain why isotopes of the same element may have different physical properties but identical chemical properties.	☐
	I can describe how an atom becomes an ion.	☐	I can use standard notation to represent an ion.	☐	I can use and interpret standard notation to represent atoms, ions, and isotopes.	☐
	I can state the number of protons, neutrons, and electrons from given values of atomic number and mass number.	☐	I can state the numbers of protons, neutrons, and electrons in an atom when a Periodic Table is supplied.	☐	I can state the number of protons, neutrons, and electrons for an ion when a Periodic Table is supplied.	☐
C1.2.3 Developing the atomic model	I can recall the main features of the plum-pudding model and the Bohr model.	☐	I can describe the development of the atomic model.	☐	I can explain why the atomic model has changed over time.	☐
	I can state the contribution Dalton, Thomson, Rutherford, Bohr, Geiger, and Marsden made to the atomic model.	☐	I can explain the contribution of Dalton, Thomson, Rutherford, Bohr, Geiger, and Marsden to the development of the atomic model.	☐	I can justify amendments to the model of the atom.	☐
	I can state what an atom is.	☐				

C2 Elements, compounds and mixtures

Purity and separating mixtures

Lesson	Aiming for 4		Aiming for 6		Aiming for 8	
C2.1.1 Relative formula mass	I can state definitions of relative atomic mass, relative molecular mass, and relative formula mass.	☐	I can use data from the Periodic Table to compare the relative atomic masses of different elements.	☐	I can explain why relative formula mass is a useful measurement.	☐
	I can use the Periodic Table to find the chemical symbol for an element.	☐	I can interpret simple formulae to list the number of each type of atom present.	☐	I can interpret diagrams of molecular compounds to write chemical formulae.	☐
	I can use the Periodic Table to give the relative atomic mass of an element.	☐	I can calculate the relative formula mass or relative molecular mass of a simple substance when the relative atomic mass and formula are given.	☐	I can calculate the relative formula mass or relative molecular mass of substances from diagrams or formulae (including those with brackets).	☐
C2.1.2 Empirical formula	I can state a definition of empirical formula.	☐	I can use an example to explain how a molecular formula and an empirical formula can be the same.	☐	I can explain why ionic compounds are always referred to by their empirical formulae.	☐
	I can calculate the empirical formula for a simple covalent compound when the molecular formula is given.	☐	I can calculate the empirical formula for a compound from a diagram.	☐	I can calculate an empirical formula from a molecular formula that contains brackets.	☐
	I can use a balanced symbol equation to calculate the relative formula mass or relative molecular mass when the relative atomic masses are given.	☐	I can explain when the term relative molecular mass can be used.	☐	I can explain how the sum of the M_r values of the reactants must equal the sum of the M_r values of the products in a balanced symbol equation.	☐
C2.1.3 Pure and impure substances	I can state definitions of the terms pure and mixture.	☐	I can explain the different meanings of pure in everyday and scientific language.	☐	I can explain why a mixture is often more useful than a pure substance.	☐
	I can give an example of a pure substance and a mixture.	☐	I can identify a substance as either pure or a mixture.	☐	I can explain the effect on melting point of adding different substances to a pure substance.	☐
	I can safely determine the melting point of a substance.	☐	I can identify a substance from melting point data.	☐	I can evaluate the purity of a sample from its melting point data.	☐
C2.1.4 Filtration and crystallisation	I can safely separate a mixture to collect an insoluble substance from a liquid or solution.	☐	I can describe the process of filtering.	☐	I can explain how filtration separates an insoluble solid from a liquid or solution.	☐
	I can safely separate a solution to collect the solute.	☐	I can describe the process of crystallisation.	☐	I can explain how crystallisation separates the components of a solution.	☐
	I can identify the solute, solvent, residue, and filtrate in named solutions or suspensions that have been separated.	☐	I can suggest and describe a suitable technique to separate a named solution or suspension.	☐	I can evaluate different techniques for folding filter paper.	☐
C2.1.5 Distillation	I can list and recognise the key equipment used in a simple distillation.	☐	I can describe the process of simple distillation.	☐	I can explain how simple distillation separates a solution.	☐
	I can safely use distillation to separate two miscible liquids.	☐	I can describe the process of fractional distillation.	☐	I can explain how fractional distillation separates a mixture of liquids.	☐
	I can state the types of mixtures that can be separated by distillation.	☐	I can suggest and describe a suitable technique to separate a named solution.	☐	I can predict and justify the value shown on a thermometer in a distillation, given the mixture and relevant data.	☐
C2.1.6 Chromatography	I can state definitions for the stationary and mobile phases in chromatography.	☐	I can describe how to complete paper chromatography.	☐	I can explain how separation occurs in a chromatography experiment.	☐
	I can safely complete a paper chromatogram.	☐	I can describe how to complete thin-layer chromatography.	☐	I can explain how chromatograms for the same substances can be different when phases are changed.	☐
	I can recall the formula for the R_f value.	☐	I can calculate R_f values given a chromatogram.	☐	I can interpret a chromatogram.	☐
C2.1.7 Purification and checking purity	I can describe one purification technique to separate a simple mixture.	☐	I can suggest a multistep separation technique for a mixture.	☐	I can explain how a multistep method can be used to separate a given mixture.	☐
	I can describe the processes of paper, thin-layer, and gas chromatography.	☐	I can explain the processes of paper, thin-layer, and gas chromatography.	☐	I can evaluate the different types of chromatography.	☐
	I can use a chromatogram to classify a substance as pure or a mixture.	☐	I can explain how a chromatogram can be used to identify a pure substance or a mixure.	☐	I can justify the use of different purification techniques in different circumstances.	☐

Bonding

Lesson	Aiming for 4		Aiming for 6		Aiming for 8	
C2.2.1 Metals and non-metals	I can list the physical properties of metals and non-metals.	☐	I can describe the differences between the chemical properties of metals and non-metals.	☐	I can predict the physical and chemical properties of an element based on its position in the Periodic Table.	☐
	I can state where metals and non-metals are found in the Periodic Table.	☐	I can describe an experiment to determine whether an element is a metal or a non-metal.	☐	I can evaluate an experiment designed to classify an element as a metal or a non-metal.	☐
	I can use the Periodic Table to classify an element as a metal or a non-metal.	☐	I can identify patterns in the Periodic Table for the physical properties of elements.	☐	I can identify and justify anomalous elements in the Periodic Table.	☐
C2.2.2 Electronic structures	I can state definitions of a group and a period in the Periodic Table.	☐	I can identify an element given the group and period number, and vice versa.	☐	I can determine the electronic structure of each of the first 20 elements given group number and period number.	☐
	I can state the maximum number of electrons in each of the first three shells.	☐	I can use simplified electronic structure notation to draw the electronic structure of the first 20 elements in the Periodic Table.	☐	I can interpret simplified electronic notation for the first 20 elements to determine group number, period number, and element.	☐
	I can draw the electronic structure of the first 20 elements given the number of electrons.	☐	I can draw the electronic structure of the first 20 elements using the Periodic Table to determine their number of electrons.	☐	I can justify the study of the electronic structures of only the first 20 elements.	☐
C2.2.3 Forming ions	I can state the definition of the term ion.	☐	I can use electron diagrams to explain how ions are formed.	☐	I can explain the charge on a given ion in terms of subatomic particles and electron transfer.	☐
	I can recognise an ion from its symbol.	☐	I can explain whether a given electron diagram represents an atom or an ion.	☐	I can explain how atoms and ions of different elements can have the same electronic structure.	☐
	I can draw or state the electronic structure of an ion given its charge and the electronic structure of the neutral atom.	☐	I can draw the electronic structure of an ion given its charge and the number of electrons in the neutral atom.	☐	I can predict the electronic structure of an ion given its position in the Periodic Table.	☐
C2.2.4 Ionic compounds	I can state that ionic compounds tend to form between a metal and a non-metal.	☐	I can explain the formation of ionic bonds in terms of electron transfer.	☐	I can justify the formation of ionic bonds in terms of the stability of the atoms and ions involved.	☐
	I can draw dot-and-cross diagrams to represent simple binary ionic compounds in which one electron per atom is transferred.	☐	I can draw dot-and-cross diagrams to represent ionic compounds in which more than one electron per atom is transferred.	☐	I can justify how a space-filling model for a given compound arises from its dot-and-cross diagram.	☐
	I can describe the structure and bonding in an ionic compound.	☐	I can explain how a given model represents an ionically bonded compound.	☐	I can evaluate different models to represent ionic compounds.	☐
C2.2.5 Simple molecules	I can state that covalent compounds form between non-metal atoms.	☐	I can describe the formation of covalent bonds in terms of electron sharing.	☐	I can explain how covalent bonds form between non-metal atoms.	☐
	I can recognise covalent bonding and identify substances as covalently bonded.	☐	I can describe structure and bonding in simple molecular substances.	☐	I can evaluate different models to represent covalent compounds.	☐
	I can draw dot-and-cross diagrams of simple covalent substances, limited to the first 20 elements and single bonds.	☐	I can draw displayed formulae or dot-and-cross diagrams of covalent compounds, limited to the first 20 elements with single and/or double bonds.	☐	I can suggest the displayed formula, space-filling, or dot-and-cross diagrams for covalent compounds, including those with multiple bonds.	☐
C2.2.6 Giant covalent structures	I can state that covalent compounds form between non-metal atoms.	☐	I can describe the formation of covalent bonds in terms of electron sharing.	☐	I can use examples to explain how covalent bonds hold together a giant covalent structure.	☐
	I can state examples of substances with giant covalent structures.	☐	I can describe the structure and bonding in giant covalent structures.	☐	I can evaluate different models to represent covalent compounds.	☐
	I can draw a 3D representation of a giant covalent structure.	☐	I can determine the empirical formula of a substance with a giant covalent structure.	☐	I can justify the use of empirical formulae to describe substances that have giant covalent structures.	☐

C2.2.7 Polymer molecules	I can state definitions of the terms monomer and polymer and give examples of each.	☐	I can describe the formation of a polymer.	☐	I can explain how monomers join together to form an addition polymer.	☐
	I can describe the difference between the properties of thermosoftening and thermosetting polymers.	☐	I can describe an experiment to classify a polymer as thermosoftening or thermosetting.	☐	I can explain how the structures of thermosoftening and thermosetting polymers affect their properties.	☐
	I can identify a monomer and polymer in a model.	☐	I can explain a model to represent a polymer.	☐	I can evaluate different models to represent polymers.	☐
C2.2.8 Structure of metals	I can list examples of substances with metallic bonds.	☐	I can describe the formation of metallic bonds.	☐	I can explain how monomers join together to form an addition polymer.	☐
	I can describe the lattice structure of a metallic crystal.	☐	I can use a model to explain the lattice structure of a metallic crystal.	☐	I can explain how the structures of thermosoftening and thermosetting polymers affect their properties.	☐
	I can recognise a model of a metallic lattice.	☐	I can compare metallic bonds with covalent and ionic bonds.	☐	I can evaluate different models to represent polymers.	☐
C2.2.9 Developing the Periodic Table	I can describe how the elements are listed in the Periodic Table.	☐	I can explain how Mendeleev organised the elements in the Periodic Table.	☐	I can explain why the modern Periodic Table is not the same as Mendeleev's Periodic Table.	☐
	I can use the Periodic Table to determine the symbol, atomic number, and relative atomic mass of an element.	☐	I can explain why Mendeleev's Periodic Table was not adopted straight away.	☐	I can evaluate the Periodic Table as a method of displaying information about the elements.	☐

C2.2.10 Atomic structure and the Periodic Table	I can state the number of electrons in the outer electron shells for the elements in Groups 1 and 8.	☐	I can use the Periodic Table to suggest the electronic structure for the first 20 elements.	☐	I can use the Periodic Table to suggest the number of outer-shell electrons and the number of electron shells for an element.	☐
	I can describe the trend in the reactions of the Group 1 elements with water.	☐	I can predict and explain the trend in reactivity of elements in Groups 2 and 6.	☐	I can explain, in terms of electronic structure, why noble gases are described as inert.	☐
	I can describe observations from displacement reactions.	☐	I can use the Periodic Table to make predictions about the chemical reactions of elements with oxygen.	☐	I can evaluate the versatility of the Periodic Table as new elements are discovered.	☐

Properties of materials

Lesson	Aiming for 4		Aiming for 6		Aiming for 8	
C2.3.1 Carbon	I can describe the structure and bonding in graphite and diamond.	☐	I can explain how carbon can form different families of compounds.	☐	I can explain the uses of graphite and diamond in terms of their properties.	☐
	I can list the properties of graphite and diamond.	☐	I can explain the properties of graphite and diamond in terms of structure and bonding.	☐	I can predict the properties of carbon allotropes, given information about their structure and bonding.	☐
	I can name examples of carbon allotropes.	☐	I can explain the term allotrope using carbon to illustrate.	☐	I can predict the properties or structure of Group 4 elements.	☐
C2.3.2 Changing state	I can describe changes of state in terms of bonds and forces of attraction.	☐	I can explain changes of state in terms of bonds and interactions between particles.	☐	I can use an example to explain sublimation.	☐
	I can state what is meant by melting point and boiling point.	☐	I can use melting and boiling point data to determine the state of a substance at a given temperature.	☐	I can use melting and boiling point data to suggest the type of substance and/ or type of bonds present in a sample.	☐
	I can explain why the boiling point of a substance is always higher than its melting point.	☐	I can use melting and boiling point data to interpret the relative strengths of forces of attraction.	☐	I can explain how to use melting and boiling point data to interpret the relative strengths of forces of attraction.	☐
C2.3.3 Bulk properties of materials	I can state a definition of the term bulk properties.	☐	I can explain that individual atoms do not exhibit the bulk properties of a material.	☐	I can justify the choice of a material for a function based on its bulk properties.	☐
	I can list the main bulk properties of ionic compounds, simple molecules, giant covalent structures, polymers and metals.	☐	I can explain how structure and bonding cause the bulk properties of a material.	☐	I can predict the bulk properties of a material given information about its structure and bonding.	☐
	I can recognise models of ionic compounds, simple molecules, giant covalent structures, polymers and metals.	☐	I can use models of ionic compounds, simple molecules, giant covalent structures, polymers and metals to explain bulk properties.	☐	I can evaluate models of ionic compounds, simple molecules, giant covalent structures, polymers and metals used to explain bulk properties.	☐

Nanoparticles -TRIPLES ONLY

C2.3.4 Nanoparticles	I can state the relative size of nanoparticles and use this to classify substances.	☐	I can describe how the properties of nanoparticles relate to their uses.	☐	I can use standard form where appropriate, to describe the size of nanoparticles.	☐
	I can calculate the surface area of a cube given the formula.	☐	I can describe and explain how the surface-area-to-volume ratio affects properties.	☐	I can calculate the surface-area-to-volume ratio of a cube.	☐
	I can list some examples of the use of nanotechnology.	☐	I can list the advantages and disadvantages of nanotechnology.	☐	I can evaluate the use of nanotechnology.	☐

C3 Chemical Reactions

Introducing chemical reactions

Lesson	Aiming for 4		Aiming for 6		Aiming for 8	
C3.1.1 Formulae of elements and molecules	I can name the elements in a familiar simple covalent substance, given the formula.	☐	I can state the number of atoms of each element in an unfamiliar simple covalent substance, given the formula.	☐	I can explain why metal elements are described using empirical formula and noble gases using just the element symbol.	☐
	I can use the Periodic Table to find symbols for elements.	☐	I can write the molecular formula of a compound that exists as simple covalent molecules, given the name or the number of atoms of each element present.	☐	I can write the molecular formula for a simple covalent compound, given the structural formula.	☐
C3.1.2 Formulae of ionic compounds	I can state the charges on ions in Groups 1, 2, 6 (IUPAC 16), and 7 (IUPAC 17).	☐	I can determine the number and type of elements in unfamiliar ionic substances, given the formulae.	☐	I can explain how a compound can contain both covalent and ionic bonds.	☐
	I can state the ions in familiar ionic substances, given the formulae.	☐	I can write the formula of ionic compounds containing one metal and one non-metal, given the name.	☐	I can write the formulae of ionic compounds that include compound ions.	☐
	I can state that transition metals can make more than one type of ion.	☐	I can write the formula of a named ion, including using the Roman numeral convention.	☐	I can name ionic compounds that contain transition metals using the Roman numeral convention.	☐
C3.1.3 Conservation of mass	I can state the law of conservation of mass.	☐	I can use the particle model to explain the law of conservation of mass.	☐	I can explain why, in some chemical reactions performed in the laboratory, there appears to be a change in total mass.	☐
	I can predict the total mass of the products or reactants in a closed chemical system, given the total mass of the reactants or products.	☐	I can predict the total mass of the products or reactants in a non-enclosed chemical system, given the total mass of the reactants or products.	☐	I can calculate the mass of one substance from a balanced symbol equation, given the masses of the other substances.	☐

C3.1.4 Chemical equations	I can write a word equation, given a statement naming the reactants and products.	☐	I can explain why a symbol equation must be balanced.	☐	I can write a balanced symbol equation, given a statement describing a familiar chemical reaction.	☐
	I can identify the reactants and products in a word or symbol equation.	☐	I can balance symbol equations with formulae that do not contain brackets.	☐	I can balance symbol equations with formulae that include brackets.	☐
	I can recognise state symbols for solids, liquids, and gases.	☐	I can add state symbols to balanced symbol equations and explain what they mean.	☐	I can evaluate the use of the terms equations, balanced symbol equations, and state symbols to describe a chemical system.	☐
C3.1.5 Half equations and ionic equations (H)			I can determine the ions in a compound, including those containing compound ions.	☐	I can write an ionic equation or half equations, given a description of a chemical reaction.	☐
			I can balance an ionic equation or half equation and explain what the equation shows.	☐	I can explain what spectator ions are, and determine them in a given example.	☐
			I can explain why precipitation reactions can be described by ionic equations.	☐		
C3.1.6 The mole (H)			I can calculate the number of particles in a sample of a substance, given the amount in moles.	☐	I can explain the relationship between the mole and the Avogadro constant.	☐
			I can state the formula that links the amount in moles, mass, and molar mass.	☐	I can calculate the mass or amount in moles of a given sample of a substance.	☐
			I can use the Periodic Table to determine the molar mass of monatomic and polyatomic elements and compounds.	☐	I can use standard form in calculations involving amounts of substance.	☐

C3.1.7 Mole calculations (H)		I can define a limiting reactant.	☐	I can explain the effect of a limiting amount of a reactant.	☐
		I can identify a limiting reactant, given the mole values for a reaction.	☐	I can use mass data to determine the stoichiometry and generate a balanced symbol equation for a reaction.	☐
		I can calculate the number of moles of a substance used or produced in a chemical reaction, given the amounts of all of the other substances.	☐	I can calculate the mass of a substance used or produced in a chemical reaction, given the mass of the limiting reactant.	☐

Energetics

Lesson	Aiming for 4		Aiming for 6		Aiming for 8	
C3.2.1 Exothermic and endothermic reactions	I can state definitions of the terms exothermic and endothermic.	☐	I can describe the observations that indicate whether a reaction is exothermic or endothermic.	☐	I can draw a line graph to calculate the maximum temperature change during a reaction, determine when the reaction stopped, and predict the temperature at different times during the reaction.	☐
	I can identify a reaction as exothermic or endothermic when the temperature change is given.	☐	I can describe an experiment to determine if a reaction is exothermic or endothermic.	☐	I can evaluate an experiment to classify a reaction as exothermic or endothermic.	☐
	I can state an example of an exothermic and an endothermic reaction.	☐	I can explain the use of endothermic and exothermic reactions for a stated function.	☐	I can compare endothermic and exothermic reactions.	☐
C3.2.2 Reaction profiles	I can state a definition of activation energy.	☐	I can describe activation energy using a reaction profile.	☐	I can explain, in terms of bonds, the need for activation energy.	☐
	I can identify a reaction as exothermic or endothermic from the reaction profile.	☐	I can sketch a general reaction profile for an exothermic and an endothermic reaction.	☐	I can sketch a specific reaction profile for a given reaction.	☐
	I can identify bond breaking as endothermic and bond making as exothermic.	☐	I can explain why bond breaking is endothermic and bond making is exothermic.	☐	I can use the particle model to model a chemical reaction in terms of bond breaking and bond making.	☐
C3.2.3 Calculating energy changes (H)			I can define the term bond energy.	☐	I can compare bond energies for different bonds, and suggest reasons for differences.	☐
			I can calculate the number and type of bonds in a molecule, given the displayed formula.	☐	I can draw displayed formulae of familiar covalent molecules.	☐
			I can use bond energy data to calculate the energy change in a given reaction.	☐	I can explain why the calculated energy change may not be the same as the actual value.	☐

Types of chemical reaction

Lesson	Aiming for 4		Aiming for 6		Aiming for 8	
C3.3.1 Redox reactions	I can state definitions of reduction, oxidation, and redox.	☐	I can explain reduction, oxidation, and redox in terms of electrons.	☐	I can write balanced half equations to illustrate reduction and oxidation.	☐
	I can state an example of a redox reaction.	☐	I can balance half equations.	☐	I can explain why oxidation or reduction does not happen in isolation.	☐
	I can describe an oxidising agent and a reducing agent.	☐	I can identify substances as oxidising agents or reducing agents, given the balanced symbol equation.	☐	I can construct balanced symbol equations by combining half equations and adding spectator ions.	☐
C3.3.2 The pH scale	I can state definitions of an acid and an alkali and give examples.	☐	I can explain the terms acid and alkali in terms of ions.	☐	I can use ionic equations to explain how acids produce hydrogen ions and alkalis produce hydroxide ions in solution.	☐
	I can identify a solution as acidic or alkaline given its pH.	☐	I can describe a method to use universal indicator or a pH probe to determine the pH of a solution.	☐	I can evaluate the use of indicators or pH probes and dataloggers to determine the pH of a solution.	☐
	I can safely use an indicator to classify a substance as an acid or an alkali.	☐	I can explain the pH scale in terms of acidity and alkalinity.	☐	I can explain the difference between an alkali and a base.	☐
C3.3.3 Neutralisation	I can state a definition of neutralisation.	☐	I can describe neutralisation in terms of reactants, products, and reacting ions.	☐	I can write an ionic equation for the neutralisation of an alkali by an acid.	☐
	I can describe some uses of neutralisation.	☐	I can write a balanced symbol equation to describe a neutralisation reaction.	☐	I can write balanced symbol equations with state symbols for unfamiliar neutralisation reactions.	☐
	I can predict the name of a salt made from a named alkali and common strong acids.	☐	I can state the formula of the salt made from a given alkali and strong acid.	☐	I can use the particle model to explain how the products of neutralisation form.	☐
C3.3.4 Reactions of acids	I can predict the names of the products of a reaction between a metal or a metal carbonate and an acid.	☐	I can predict the observations that might be made during a reaction between a metal or a metal carbonate and an acid.	☐	I can explain why the reaction between a metal or a metal carbonate and an acid is classified as a neutralisation reaction.	☐
	I can write a word equation to model a reaction between a metal or a metal carbonate and an acid.	☐	I can write a balanced symbol equation to model a reaction between a metal or a metal carbonate and an acid.	☐	I can write a balanced symbol equation, including state symbols, to model a reaction between a metal or a metal carbonate and an acid.	☐
	I can describe how to test and identify a gas made when a metal or a metal carbonate reacts with an acid.	☐	I can describe how to make and collect a dry sample of a named salt from a reaction between a metal or a metal carbonate and an acid.	☐	I can explain how the reactions of metals and metal carbonates with acids can be used to determine the reactivity of the metal.	☐
C3.3.5 Hydrogen ions and pH (H)			I can describe what is meant by a strong acid and a weak acid.	☐	I can explain the difference between a strong acid and a weak acid.	☐
			I can describe how an acid can be dilute or concentrated.	☐	I can explain the difference between a concentrated acid or alkali and a dilute acid or alkali.	☐
			I can collect data to plot a pH curve.	☐	I can interpret pH curves to determine the titre and the strength of reactants.	☐

Electrolysis

Lesson	Aiming for 4		Aiming for 6		Aiming for 8	
C3.4.1 Electrolysis of molten salts	I can explain why solid compounds of a metal with a non-metal do not conduct electricity.	☐	I can describe the components of an electrolysis circuit, and how to mobilise the ions in the electrolyte.	☐	I can explain why electrolysis provides evidence for the existence of ions.	☐
	I can state that electrolysis breaks ionic compounds down into their component elements.	☐	I can describe the process of electrolysis.	☐	I can explain the process of electrolysis in detail.	☐
	I can predict the products of electrolysis.	☐	I can predict the products at the anode and the cathode during the electrolysis of molten ionic compounds.	☐	I can write half equations for the reactions that occur at the anode and the cathode, and explain in terms of electron transfer why these are redox reactions.	☐
C3.4.2 Electrolysis of solutions	I can state that inert electrodes are made from unreactive metals or graphite.	☐	I can explain why inert electrodes are used for the electrolysis of water (and aqueous solutions) and state the products of this reaction.	☐	I can use half equations to explain the formation of the products at each electrode during the electrolysis of water.	☐
	I can name some products of the electrolysis of solutions.	☐	I can predict and describe the products at each electrode during the electrolysis of a solution.	☐	I can predict and explain the products at each electrode during the electrolysis of a solution.	☐
	I can set up an electrolysis circuit and collect/observe some products formed by the electrolysis of a solution.	☐	I can identify products formed by the electrolysis of a solution.	☐	I can collect and identify the products at each electrode during the electrolysis of a solution.	☐
C3.4.3 Electroplating	I can state that electrolysis can be used to electroplate metals.	☐	I can describe the process of electroplating.	☐	I can write half equations to show what happens at the anode and the cathode during electroplating.	☐
	I can describe some components of an electroplating circuit.	☐	I can suggest suitable substances for the anode, cathode, and electrolyte when electroplating.	☐	I can explain in detail the components of an electroplating circuit.	☐

	I can explain that copper can be purified by electrolysis.	☐	I can explain how electrolysis is used to purify copper.	☐	I can write half equations to explain what happens at the anode and the cathode during the purification of copper using electrolysis.	☐

Physics – Core

Please remember that memorising and applying formulae in physics is extremely important.

All objectives highlighted in yellow contain a formula you must memorise in order to use it in your exam.

All objectives highlighted in pink contain a formula you are given in the exam but you must know how to use.

P1 Matter

Lesson 1

◙ describe how and why the atomic model has changed over time – to include Rutherford (alongside Geiger and Marsden) and Bohr models
◙ describe the atom as a positively charged nucleus surrounded by negatively charged electrons, with the nuclear radius much smaller than that of the atom and with almost all of the mass in the nucleus
◙ recall the typical size (order of magnitude) of atoms and small molecules – typically 1 x 10^{-10}m)

Lesson 2

◙ define density
◙ recall and apply: density (kg/m^3) = mass (kg) / volume (m^3)

Lesson 3

◙ explain the differences in density between the different states of matter in terms of the arrangements of the atoms and molecules
◙ apply the relationship between density, mass and volume to changes where mass is conserved

Lesson 4

◙ describe how mass is conserved when substances melt, freeze, evaporate, condense and sublimate
◙ describe that these physical changes differ from chemical changes because the material recovers its original properties if the change is reversed

Lesson 5

◙ describe how heating a system will change the energy stored within the system and raise its temperature or produce changes of state
◙ define the term specific heat capacity
◙ apply the relationship between change in internal energy of a material and its mass, specific heat capacity and temperature change to calculate the energy change involved
◙ apply: change in thermal energy (J) = mass (kg) x specific heat capacity (J/kg°C) x change in temperature (°C)

Lesson 6

◙ define the term specific heat capacity and distinguish between it and the term specific latent heat
◙ apply the relationship between change in internal energy of a material and its mass, specific heat capacity and temperature change to calculate the energy change involved
◙ apply the relationship between specific latent heat and mass to calculate the energy change involved in a change of state
◙ apply: thermal energy for a change in state (J) = mass (kg) x specific latent heat (J/kg)

Lesson 7

◙ explain how the motion of the molecules in a gas is related both to its temperature and its pressure – application to closed systems only
◙ explain the relationship between the temperature of a gas and its pressure at constant volume

TRIPLE SCIENCE ONLY

Lesson 8

◙ recall that gases can be compressed or expanded by pressure changes and that the pressure produces a net force at right angles to any surface

◙ explain how increasing the volume in which a gas is contained, at constant temperature can lead to a decrease in pressure

◙ explain how doing work on a gas can increase its temperature e.g. a bicycle pump

◙ apply: for gases: pressure (Pa) x volume (m^3) = constant (for a given mass of gas and at a constant temperature)

Lesson 9

◙ describe a simple model of the Earth's atmosphere and of atmospheric pressure – an assumption of uniform density; knowledge of layers is not expected

◙ explain why atmospheric pressure varies with height above the surface of the planet

Lesson 10

◙ describe the factors which influence floating and sinking

◙ explain why pressure in a liquid varies with depth and density and how this leads to an upwards force on a partially submerged object

◙ calculate the difference in pressure at different depths in a liquid (to include knowledge that g is the strength of the gravitational field and has a value of 10 N/kg near the Earth's surface

◙ apply: pressure due to a column of liquid (Pa) = height of column (m) x density of liquid (kg/m^3) x g (N/kg)

P2 Forces (Part One)

Lesson 1

◙ recall and apply: distance travelled (m) = speed (m/s) x time (s)
◙ describe how to measure distance and time in a range of scenarios
◙ describe how to measure distance and time and use these to calculate speed
◙ calculate average speed for non-uniform motion
◙ make calculations using ratios and proportional reasoning to convert units and to compute rates
◙ explain the vector- scalar distinction as it applies to displacement and distance, velocity and speed
◙ explain why an object moving in a circle with a constant speed has a changing velocity (qualitative only)

Lesson 2

◙ relate changes and differences in motion to appropriate distance-time, and velocity-time graphs, and interpret lines, slopes and enclosed areas in such graphs
◙ explain the vector-scalar distinction as it applies to displacement and distance, velocity and speed

Lesson 3

◙ recall and apply: acceleration (m/s^2) = change in speed (m/s) / time (s)
◙ relate changes and differences in motion to appropriate distance-time, and velocity-time graphs, and interpret lines, slopes and enclosed areas in such graphs
◙ explain the vector- scalar distinction as it applies to displacement and distance, velocity and speed

Lesson 4-5

◙ calculate average speed for non-uniform motion
◙ apply: (final velocity (m/s))^2 - (initial velocity (m/s))^2 = 2 x acceleration (m/s^2) x distance (m)
◙ apply formulae relating distance, time and speed, for uniform motion, and for motion with uniform acceleration

Lesson 6-7

◙ apply Newton's First Law to explain the motion of an object moving with uniform velocity and also an object where the speed and/or direction change
◙ describe examples of the forces acting on an isolated solid object or system
◙ describe, using free body diagrams, examples where two or more forces lead to a resultant force on an object (qualitative only)
◙ describe, using free body diagrams, examples of the special case where forces balance to produce a resultant force of zero

Lesson 8

◙ recall and apply Newton's Third Law
◙ recall examples of ways in which objects interact
◙ describe how such examples involve interactions between pairs of objects which produce a force on each object
◙ represent such forces as vectors

Lesson 9

◙ describe examples of the forces acting on an isolated solid object or system
◙ describe, using free body diagrams, examples where two or more forces lead to a resultant force on an object (qualitative only)
◙ use vector diagrams to illustrate resolution of forces, a net force, and equilibrium situations.
◙ describe, using free body diagrams, examples of the special case where forces balance to produce a resultant force of zero

Lesson 10

◙ define momentum and describe examples of momentum in collisions
◙ recall and apply: momentum (kgm/s) = mass (kg) x velocity (m/s)

P2 Forces (Part Two)

Lesson 1-2
◙ recall and apply: force (N) = mass (kg) × acceleration (m/s^2)
◙ apply Newton's Second Law in calculations relating forces, masses and accelerations.
◙ explain that inertia is a measure of how difficult it is to change the velocity of an object and that the mass is defined as the ratio of force over acceleration.
◙ apply formulae relating force, mass, velocity and acceleration to explain how the changes involved are inter-related.

Lesson 3
◙ recall and apply: work done (J) = force (N) × distance (m) (along the line of action of the force)
◙ use the relationship between work done, force, and distance moved along the line of action of the force and describe the energy transfer involved
◙ calculate relevant values of stored energy and energy transfers; convert between newton-metres and joules

Lesson 4
◙ recall and apply: gravity force (N) = mass (kg) x gravitational field strength, g (N/kg)
◙ recall and apply: (in a gravity field) potential energy (J) = mass (kg) x height (m) x gravitational field strength, g (N/kg)
◙ describe that all matter has a gravitational field that causes attraction, and the field strength is much greater for massive objects
◙ recall the acceleration in free fall (=$10m/s^2$)
◙ define weight, describe how it is measured and describe the relationship between the weight of an object and the gravitational field strength (g) (and) has a value of 10N/kg at the Earth's surface

Lesson 5
◙ recall and apply: kinetic energy (J) = 0.5 x mass (kg) x $(\text{speed (m/s)})^2$
◙ calculate relevant values of stored energy and energy transfers; convert between newton-metres and joules

Lesson 6
◙ recall and apply: power (W) = work done (J) / time (s)
◙ explain, with reference to examples, the definition of power as the rate at which energy is transferred

Lesson 7-8
◙ explain that to stretch, bend or compress an object, more than one force has to be applied
◙ describe the difference between linear and non-linear relationships between force and extension

Lesson 9
◙ describe the relationship between force and extension for a spring and other simple systems
◙ describe the difference between elastic and plastic deformation (distortions) caused by stretching forces
◙ recall and apply: force exerted by a spring (N) = extension (m) x spring constant (N/m)
◙ calculate a spring constant in linear cases

Lesson 10
◙ apply: energy transferred in stretching (J) = 0.5 x spring constant (N/m) x $(\text{extension (m)})^2$
◙ calculate the work done in stretching

TRIPLE SCIENCE ONLY

P2 Forces (Part Three)

Lesson 1

◙ apply formulae relating force, mass, velocity and acceleration to explain how the changes involved
are inter-related

◙ apply formulae relating force, mass and relevant physical constants, including gravitational field strength (g), to explore how changes in these are inter-related

Lesson 2

◙ describe examples in which forces cause rotation

◙ define and calculate the moment of the force in such examples

◙ recall and apply: moment of a force (Nm) = force (N) × distance (m) (normal to direction of the force)

Lesson 3

◙ explain how levers and gears transmit the rotational effects of forces.

Lesson 4

◙ recall that the pressure in fluids (gases and liquids) causes a net force at right angles to any surface

◙ use the relationship between the force, the pressure and the area in contact

◙ recall and apply: pressure (Pa) = force normal to a surface (N) / area of that surface (m^2)

P3 Electricity

Lesson 1

◙ Describe that charge is a property of all matter and there are +ve and –ve charges. The effects of charges are not normally seen on bodies that are neutral as their effects cancel out.
◙ Describe the production of static electricity, and sparking, by rubbing surfaces, and evidence that charged objects exert forces of attraction and repulsion on one another when not in contact.
◙ Explain how transfer of electrons between objects can explain the phenomena of statics.
◙ Explain the concept of an electric field and how it helps to explain the phenomena of statics.

Lesson 2

◙ Recall that current depends on both resistance and p.d, and the units in which these are measured.
◙ Recall and apply the V, I and R relationship and that for some resistors the value of R remains constant but that in others it can change as the current changes.
◙ Apply the equations relating p.d., current, quantity of charge, resistance, power, energy and time, and solve problems for circuits which include resistors in series, using the concept of equivalent resistance.

Lesson 3

◙ Recall that current is the rate of flow of charge (electrons) and the conditions needed for charge to flow
◙ Recall and use the relationship between quantity of charge, current and time.
◙ Recall and apply: charge flow (C) = current (A) x time (s)
◙ Recall and apply: energy transferred (J) = charge (C) x potential difference (V)

Lesson 4

◙ Recall that current depends on both resistance and p.d, and the units in which these are measured.
◙ Recall and apply the V, I and R relationship and that for some resistors the value of R remains constant but that in others it can change as the current changes.
◙ Calculate the currents, p.ds and resistances in d.c. series and parallel circuits.
◙ Apply the equations relating p.d., current, quantity of charge, resistance, power, energy and time, and solve problems for circuits which include resistors in series, using the concept of equivalent resistance.
◙ Recall and apply: potential difference (V) = current (A) x resistance (Ω)

Lesson 5

◙ Describe the differences between series and parallel circuits.
◙ Represent d.c. circuits with the conventions of +ve and –ve terminal, and the symbols that represent common circuit elements.
◙ Explain why, if two resistors are in series the net R is increased, whereas if two resistors are in parallel it is decreased.
◙ Calculate the currents, p.ds and resistances in d.c. series and parallel circuits.
◙ current, quantity of charge, resistance, power, energy and time, and solve problems for circuits which include resistors in series, using the concept of equivalent resistance.

Lesson 6

◙ Describe the differences between series and parallel circuits.
◙ Explain why, if two resistors are in series the net R is increased, whereas if two resistors are in parallel it is decreased.
◙ Calculate the currents, p.ds and resistances in d.c. series and parallel circuits.
◙ Apply the equations relating p.d., current, quantity of charge, resistance, power, energy and time, and solve problems for circuits which include resistors in series, using the concept of equivalent resistance.

Lesson 7

◙ Use graphs to explore whether circuit elements are linear of non-linear
◙ Use graphs and relate the curves produced to the function and properties of circuit elements

Lesson 8

◙ Explain how the power transfer in any circuit device is related to the p.d. across it and the current, and to the energy changes over a given time.

◙ Apply the equations relating p.d., current, quantity of charge, resistance, power, energy and time, and solve problems for circuits which include resistors in series, using the concept of equivalent resistance.

◙ Recall and apply: power (W) = potential difference (V) x current (A) = (current (A))^2 x resistance (Ω)

◙ Recall and apply: energy transferred (J, kWh) = power (W, kW) x time (s, h)

P4 Magnetism

Lesson 1

◙ Describe the attraction and repulsion between unlike and like magnetic poles

◙ Describe the difference between permanent and induced magnets

◙ Describe the characteristics of the magnetic field of a magnet, showing how strength and direction change from one point to another

◙ Explain how the behaviour of a magnetic (dipping) compass is related to evidence that the core of the Earth must be magnetic

Lesson 2

◙ Describe the difference between permanent and induced magnets

◙ Describe how to show that a current can create a magnetic effect and describe the directions of the magnetic field around a conducting wire

◙ Recall that the strength of the field depends on the current and the distance from the conductor

◙ Explain how solenoid arrangements can enhance the magnetic effect

Lesson 3

◙ Describe how a magnet and a current-carrying conductor exert a force on one another

◙ Show that Fleming's left-hand rule represents the force, conductor and magnetic field orientations

◙ Apply the equation that links force on the conductor to the magnetic flux density, current and length of the conductor

◙ apply: force on a conductor (at right angles to a magnetic field) carrying a current (N) = magnetic flux density (T) x current (A) x length (m)

Lesson 4

◙ Explain how the force exerted from a magnet and a current-carrying conductor is used to cause rotation in electric motors

TRIPLE SCIENCE ONLY

Lesson 5

◙ Recall that a change in the magnetic field around a conductor can give rise to an induced potential difference across its ends, which could drive a current, generating a magnetic field that would oppose the original change

Lesson 6

◙ Explain how this effect is used in an alternator to generate a.c., and in a dynamo to generate d.c.

Lesson 7

◙ Explain how the effect of an alternating current in one circuit, in inducing a current in another, is used in transformers

◙ Explain how the ratio of the potential differences across the two circuits depends on the ratio of the numbers of turns in each one

◙ Apply the equations linking the p.ds and the number of turns in the two coils of a transformer, to the currents that flow in the circuits

◙ Apply: potential difference across primary coil (V)/ potential difference across secondary coil (V) = number of turns in primary coil / number of turns in secondary coil

Lesson 8

◙ Explain the action of the microphone in converting the pressure variations in sound waves into variations in current in electrical circuits, and the reverse effect used in loudspeakers and headphones

AQA (9-1) GCSE Business – revision list year 10

3.1 The purpose and nature of businesses

3.1.1 The purpose and nature of businesses	
Content	**Additional information**
• Purpose of business • Reasons for starting a business • Basic functions and types of business • Business enterprise and entrepreneurship • Dynamic nature of business	• Understand what a business is and the reasons for starting a business • Understand the difference between goods and services, needs and wants • Understand the meaning of factors of production – • Define opportunity cost • Understand primary, secondary and tertiary • Understand the terms enterprise and entrepreneur • Outline the characteristics of an entrepreneur • Outline the objectives of an entrepreneur, • Understand that businesses face a constantly changing business environment

3.1.2 Business ownership	
Content	**Additional information**
• Sole traders • Partnerships • Private limited companies (ltd) • Public limited companies (plc) • Not-for-profit organisations	• Understand the different legal structures that businesses adopt • Analyse the benefits and drawbacks of each legal structure) • Understand the concept of limited liability and which legal structures benefit from this • Evaluate which legal structure would be most appropriate for a variety of business examples, including new start-up businesses and large established businesses.

3.1.3 Setting business aims and objectives	
Content	**Additional information**
• What are business aims and objectives • Purpose of setting objectives • Role of objectives in running a business • Changing objectives • Use of objectives in judging success	• Understand the main aims and objectives for businesses: • Understand the role of objectives in running a business • Understand how and why the objectives set will differ between businesses • Understand how and why the objectives set may change as businesses evolve • Understand the success of a business can be measured in other ways than profit.

3.1.4 Stakeholders	
Content	**Additional information**
• Main stakeholders of business • Objectives of stakeholders • Impact of business activity on stakeholders • Impact and influence stakeholders have on businesses	• Understand what is meant by a stakeholder and who the main stakeholders of a business are • Understand stakeholders' main objectives • Understand the impact and influence stakeholders have on businesses and their objectives and how businesses may face conflict between stakeholders.

3.1.5 Business location	
Content	**Additional information**
• Factors influencing the location decision of a business	• understand the factors that influence where a business is located

3.1.6 Business planning	
Content	**Additional information**
• The purpose of business planning • The main sections within a business plan • Basic financial terms • Basic financial calculations	• Understand the reasons why businesses create plans • Understand the main sections of a business plan • Analyse the benefits and drawbacks of business planning • Understand the difference between variable costs, fixed costs and total costs • Understand the concept of revenue, costs, profit and loss.

3.1.7 Expanding a business	
Content	**Additional information**
• Methods of expansion • Benefits and drawbacks of expansion • Economies of scale • Diseconomies of scale	• Discuss the advantages and disadvantages of methods of growth • Understand the methods used by businesses when expanding • Understand the benefits of growth and the drawbacks of growth • Understand the meaning of purchasing and technical economies of scale • Understand that with growth businesses increase the risk of diseconomies of scale occurring • Calculate and interpret average unit costs.

3.5 Marketing

3.5.1 identifying and understanding customers	
Content	**Additional information**
The importance of identifying and satisfying customer needs	the importance of identifying and satisfying customer needs, in order to: • Provide a product or service that customers will buy • Increase sales • Select the correct marketing mix • Avoid costly mistakes • Be competitive

3.5.2 segmentation	
Content	**Additional information**
Types of segmentation	understand how and why different businesses use segmentation to target customers, including: • Gender • Age • Location • Income

3.5.3 The purpose and methods of market research	
Content	**Additional information**
Purpose of market research Collect information about: • Demand • Competition • Target market	• understand why businesses conduct market research, such as to identify market opportunities and to get a better insight into their customers and competitors.
Methods of market research to include primary and secondary: • Questionnaires • Surveys • Interviews • Focus groups • Internet research • Printed press eg newspapers	• identify the benefits and drawbacks for various market research techniques and select the best method for a given business.
Use of market research: information that may help decision making	• interpret and use qualitative and quantitative market research findings to help make appropriate decisions for different types of business. • manipulate and interpret data from tables and charts. • identify market size and market share.

3.5.4 The elements of the marketing mix: Price, Product. Promotion and Place (4Ps)	
Content	**Additional information**
Pricing methods, including: • Price skimming • Price penetration • Competitive pricing • Loss leader • Cost-plus	• understand the main features of the pricing methods and the impact they will have on a business.
The factors that include pricing decisions, including: • Costs • Nature of the market • Degree of competition • Product life cycle	• recognise the factors, internal and external, which might influence the pricing decision, particularly as businesses grow and expand. • evaluate these factors and use them to assess the suitability of pricing methods for a given business. • understand the basic relationship between price and demand ie as prices rise demand is likely to fall.
Product	• benefits and risks of developing new products. importance of product design, image and the needs of the target market when designing new products.
Product differentiation: • Unique Selling Point (USP) • Brand image	• significance of having a USP in a competitive market and the importance of a good brand image.

The product lifecycle:
 	
• Research and development
• Introduction
• Growth
• Maturity
• Decline
• Extension strategies:
  • Updating package
  • Adding more or different features
  • Changing target market
  • Advertising
  • Price reduction
	• understand the product life cycle and demonstrate how demand for a product or service might change over time.
	• evaluate the effectiveness of extension strategies and when they would be suitable.

Product portfolio	• understand how and why businesses might broaden and balance their product portfolio using the Boston Matrix. • identify and explain the four categories of the Boston Box.
Promotional methods Advertising including: • Newspapers • Magazines • Television • Internet • Billboards	• promotional methods which are likely to be used by a given business. • benefits and drawbacks of promotional methods used by businesses. • analyse factors influencing the selection of the promotion mix to assess their suitability for a given business.

PR: • Sales promotion • Point of sales displays • 2 for 1 offers • Free gifts • Samples • Coupons • Competitions • Sponsorship • Social media Factors influencing the selection of the promotional mix: • Finance available • Competitor actions • The nature of the product or service • The nature of the market • Target market Reasons for promotion: • Inform/remind customers about the product • Create or increase sales • Create or change the image of the product • Persuade customers to buy the product	
Place (the different channels of distribution used by businesses): • Retailers • Wholesalers • Telesales	• different channels of distribution used by businesses to gain access to potential customers. • analyse the appropriateness of each distribution method for a given scenario.
E-commerce and m-commerce	• analyse the growing importance of e-commerce and m-commerce and how it can extend the reach of businesses to include international markets. • benefits and drawbacks of a business using e-commerce and m-commerce.
• Integrated nature of the marketing mix • Using the marketing mix to inform and implement business decisions	• importance of the four elements and how they work together. • recommend appropriate marketing activities for a given business. • recognise how the marketing mix evolves over time and evaluate how businesses may react to this.

3.6 Finance (year 10)

3.6.1 Sources of Finance	
Content	**Additional information**
• Methods businesses use to raise finance • Appropriateness of sources of finance	• Understand the main internal and external sources of finance available (including family and friends, retained profit, a new share issue, obtaining a loan or mortgage, selling unwanted assets, overdrafts, trade credit, hire purchase and government grants) • Analyse the advantages and disadvantages of each method for a given situation • Evaluate the suitability of sources of finance for new and established businesses.

3.6.2 Cash flow	
Content	**Additional information**
• Importance of cash to business • Interpreting cash flow forecasts • Difference between cash and profit	• Understand the consequences of cash flow problems and the effect of positive cash flow • Understand how and why cash flow forecasts are constructed • Complete and interpret sections of a cash flow forecast • Evaluate possible solutions to cash flow problems

3.6.3	
Content	**Additional information**
• Basic financial terms • Basic calculations • Average rate of return • Break-even	• Understand the difference between variable costs, fixed costs and total costs • Understand the concept of revenue, costs, profit and loss • Understand the main investment projects that businesses undertake and to be able to calculate the average rate of return for these projects • Understand the meaning of the term break-even output and interpret break-even charts • Identify the break-even level of output and margin of safety from a break-even chart • Evaluate the value of using break-even analysis to a business.

Child Development

- To help you achieve your personal best, high light the key words for each question. Underline these in a coloured pen, to show you understand the meaning of the question
- Ensure you answer in full sentences – one word answers will not be accepted
- Read the free response essay questions very carefully. If the question is in **2** parts you **MUST** give equal weighting to both parts of the question. Show evidence of **PLANNING** your answer. This can be in the form of a spider diagram or bullet points. Refer continually back to the question and your plan. Answer in essay style, not as a list and remember to give an introduction

- If you are given a chart to answer information from make sure you use the information given on the paper **DO NOT** make up your own answers

- Note all the marks for the questions this is an indication of the response which is expected of you
- Remember use the marks in the margin as guidance to how many points the questions expect you to make. If there are **3** marks then make **3** different points
- Take your time to read each question thoroughly and carefully – you do not have to start at the beginning of the paper ,find a question you know you can do well in and do this first, you will then feel confident to tackle the rest of the paper

- Check all sides of the paper so you do not miss anything out
- Be as neat as you can

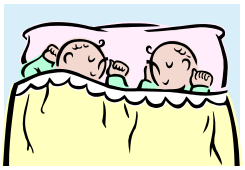
Leave 5 minutes at the end to read through and tidy up

KEY AREAS FOR YOU TO FOCUS ON:

- Contraception, learn at least 6 different types, which can be purchased and which need medical recommendation
- Understand different types of contraception that can be used by men and women

REPRODUCTION

- Signs of pregnancy
- Pre-conception care of the mum everything a mum has to do to ensure she is in the best of health – include lifestyle and diet
- Menstrual cycle
- Twins



PREPARATION FOR THE BIRTH

- Home /Hospital birth
- Methods of pain relief and the disadvantages
- The need for blood tests
- Labour / Caesarean sections
- Health professionals

FEEDING

- Bottle feeding
- Breast feeding
- Weaning

OCR GCSE Computer Science (J276)

Specification: http://www.ocr.org.uk/qualifications/gcse-computer-science-j276-from-2016/

You will have two exam papers, each lasting 1 hour 30 minutes:

- Computer systems (J276/01)
- Computational thinking, algorithms and programming (J276/02)

You will need to attempt all questions; each exam paper will be a whole new unseen paper which is being provided by OCR. The papers will include a mixture of short and long answer questions, some of which will require you to write pseudocode/algorithms.

Remember you will not be allowed to use a calculator.

You may find it useful to practice your programming skills – use https://www.codecademy.com/ and http://www.learnpython.org/

To prepare for the PPEs you should:

- Refer to your colour coded specification
    - Start your revision using the red coloured sections , then do the orange ones, then the green ones
- Use the online textbook (Cambridge elevate) – attempt end of chapter questions as well as using your own notes/previous exam papers
- Presentations on the N drive
- Past Papers and mark schemes for the old specification can be found here under the subheading past papers, mark schemes and reports: http://www.ocr.org.uk/qualifications/gcse-computing-j275-from-2012/

Other useful resources:

GCSE MOOC – you should have already registered as a learner -
https://www.cambridgegcsecomputing.org/

Teach-ict.com (Username – RG411EE, Password: binary9) :

http://www.teach-ict.com/2016/GCSE_Computing/OCR_J276/OCR_J276_home.html

BBC Bitesize GCSE Computer Science: Although not specific to our course, there is a lot of useful information and quizzes to be used on there. http://www.bbc.co.uk/education/subjects/z34k7ty

You should be keeping up to date with technology news:
BBC Click: http://news.bbc.co.uk/1/hi/programmes/click_online/
BBC Technology news: http://www.bbc.co.uk/news/technology/
The Guardian Technology news: http://www.guardian.co.uk/technology
The Daily Telegraph technology news: http://www.telegraph.co.uk/technology/
How Stuff Works: http://electronics.howstuffworks.com/tech

YouTube Playlists:
CraignDave - https://youtu.be/t8H6-anK0t4?list=PLCiOXwirraUAvkTPDWeeSqAKty3LAG37-

Computer Science Tutor -
https://www.youtube.com/playlist?list=PL04uZ7242_M60Z2F8qV7sId99cuwV_Z3T

Design & Technology – Core

(This applies to all material areas)

Key areas	I know this	Ask for support
The impact of new and emerging technologies		
Evaluating new and emerging technologies to inform design decisions		
Energy Generation, storage and choosing appropriate sources		
Smart and composite materials and technical textiles		
Mechanical devices used to produce movement - Levers		
Papers and Boards		
Timbers		
Basic Maths		

Design & Technology - Textiles

Key areas	In particular	I know this	Ask for support
Design and development The design process	Context Analysis Design Brief Research Specification Designs Development Final Design Planning Making Evaluating Testing Modification Use of ICT in designing		
Sustainability	The 6Rs Social moral and cultural issues Environmental issues Globalisation		
Materials	Fibres and their performance characteristics Fabrics and their performance characteristics Modern and Smart materials		
Processes and Construction methods	Weaving Knitting Joining fabrics Finishing Decorative techniques Printing techniques Patterns and marking Care labelling and symbols		
Industrial production	Job, batch, mass, and JIT production Dyeing and printing Patterns grading and lay planning Health and safety QA & QC Use of ICT in production- CAD/CAM		
There will be some long answer questions so please be prepared to write a few paragraphs, check spelling (sometimes the words you use are in the exam paper already so copy the correct spelling!), grammar and punctuation.			

Design & Technology – Resistant Materials

Key areas	In particular	I know this	Ask for support
Design Process	Key words – definitions and examples and reasons for each Context Analysis Design Brief Research Specification Designs Development Final Design Planning Making Evaluating Testing Modification		
Manufacturing processes	Plastic moulding techniques		
Finishing methods	On different materials – especially polymers		
Shaping materials	Polymers		
Modelling techniques	Ways of making models including CAD / CAM modelling – Advantages and Disadvantages		
Purpose of modelling	Why do designers produce models		
Modelling materials	What materials are suitable for modelling – including smart and modern materials		
Plastic processes	How plastics are formed into products – the different methods		
Plastic properties	Why certain plastics are used in certain situations		
Product development	Improving designs.		
There will be some long answer questions so please be prepared to write a few paragraphs, check spelling (sometimes the words you use are in the exam paper already so copy the correct spelling!), grammar and punctuation.			

Design & Technology – Graphics

Key areas	In particular	I know this	Ask for support
Design Process	Key words – definitions and examples and reasons for each: *Context* *Analysis* *Design Brief* *Research* *Specification* *Designs* *Development* *Final Design* *Planning* *Making* *Evaluating* *Testing* *Modification*		
Packaging materials	Different materials used to package products – reasons – advantages and disadvantages		
Book binding	All the types and processes		
Materials - Paper and Board	Different types, their uses and properties		
Joining methods	Plastics and board and card		
Manufacturing systems	One off / batch / mass – costs JIT		
Modelling materials	What materials are suitable for modelling – including smart and modern materials		
Purpose of modelling	Why do designers produce models		
Modelling techniques	Ways of making models including CAD / CAM modelling – Advantages and Disadvantages		
ACCESSFM ME	Meaning of each of the words		
Basic Maths	To apply to questions areas, use of basic formulas		
There will be some long answer questions so please be prepared to write a few paragraphs, check spelling (sometimes the words you use are in the exam paper already so copy the correct spelling!), grammar and punctuation.			

Drama GCSE (AQA)

What's in the exam? The exam is 1 hour 45 minutes long and you must answer Section A, Section B and Section C. **You need to bring your copy of the set text, '*The 39 Steps*' to the exam, to help you answer questions in Section B.**

Section A - You must have knowledge of: stage positioning, theatre roles and responsibilities and types of staging**. You will be asked 4 multiple choice questions, worth 1 mark each.**

-Use your GCSE pocket revision book and your 'theatre roles and responsibilities' hand out to revise this.

Section B is about your set text, **'*The 39 Steps'*. You must bring your copy to the exam.** In this section, you will be given an extract from a scene and asked to write about how you would design the lighting/set/costume for the extract and how as an actor, you would play the parts of the characters within the extract, using your physical and vocal skills, the stage space and your interaction with other characters. You will also have to make reference to other parts of the play to justify your interpretations.

You will have 4 questions to answer - worth 4, 8 12 and 20 marks. Your fourth question will be a choice between acting or design– worth 20 marks.

You will need to use your class notes to revise the dramatic objective of every scene in the play, the BMFVG skills of playing the part, the set, props, sound, costume and lighting choices of every scene – appropriate to period and context and style. Use the N Drive/Shared area to access shared notes on certain scenes and video clips of your interpretations of key scenes.

-Re-read the play to be secure on your knowledge of action and character.

-Revisit your notes on the context: 1930s fashion, furniture, Alfred Hitchcock, John Buchan

- Watch the Alfred Hitchcock film, *The 39 Steps.*

-Practice questions from your exam question list, incorporating WHAT, HOW and WHY into your answers.

Section C is your response to live theatre**.** You will write about '*Things I Know to be True'* by Frantic Assembly. **You will answer one question from a choice of three – worth 32 marks**. You will be asked to focus on how an actor (/S) used their vocal and physical skills and stage space to communicate their character. You will be asked about how costume, lighting or sound was used to support the action of the play or reflect the style of the play.

- **You should revise all the notes you made on acting, lighting, costume, sound and set.**
- **You should read the play and learn quotes from key scenes.**
- **Read the 'Frantic Assembly' resource pack on FROG to further your understanding of interpretations.**
- **Read theatre reviews on the performance to further your knowledge of the play.**
- **Study the pictures on FROG to remember key scenes where actors' physicality, facial expressions, costumes, use of set or lighting communicated mood.**

-Use your GCSE pocket revision book to revise key drama terminology to support this question.

Further suggestions:

-Exemplar answers: Read through them again (we've looked at them in class) and compare the higher mark answers to yours. What have you missed and where are you doing well? What do you need to do to make improvements?

ECONOMICS GCSE - OCR

1. Introduction to Economics	
Topic	*Learners should be able to*
1.1 Main economic groups and factors of production	• explain the role of the main economic groups: **consumers**, **producers** and the **government**, including their interdependence • explain the **factors of production**: land, labour, capital and enterprise, including how they might be combined

2. The role of markets and money	
Topic	*Learners should be able to*
2.1 The role of markets	• explain what is meant by a **market** • explain the features of the **primary**, **secondary** and **tertiary sectors,** including the difference between the production of **goods** and **services** • explain the difference between **factor** and **product markets**, including their interdependence • evaluate the costs and benefits of **specialisation** and **exchange** in **markets** including for producers, workers, regions and countries
2.2 Demand	• explain what is meant by **demand** • draw and explain a **demand curve** using data, including individual and market demand • draw shifts of, and movements along, the demand curve • analyse the causes and consequences for consumers and producers, of shifts of, and movements along, the demand curve • explain **price elasticity of demand** • draw demand curves of different elasticity • evaluate the importance of price elasticity of demand for consumers and producers
2.3 Supply	• explain what is meant by **supply** • draw and explain a **supply curve** using data, including individual and market supply • draw shifts of, and movements along, the supply curve • analyse the causes and consequences for consumers and producers, of shifts of, and movements along, the supply curve • explain **price elasticity of supply** • draw supply curves of different elasticity • evaluate the importance of price elasticity of supply for consumers and producers
2.4 Price	• explain **price** as a reflection of worth and its role in determining an efficient distribution of resources • explain what is meant by **equilibrium price** and **quantity** • draw and analyse the interaction of demand and supply • explain the role of markets in the **determination of price** and the **allocation of resources** • analyse how the **market forces** of demand and supply affect **equilibrium price** and **quantity**

2.5 Competition	• explain **competition** between producers in a **market economy**, including the reasons why producers compete • analyse how competition affects price • evaluate the economic impact of competition on producers and consumers • explain the meaning of **monopoly** and **oligopoly** and how they differ from **competitive markets**
2.6 Production	• explain the role of producers, including individuals, firms and the government • evaluate the importance of **production** and **productivity** for the economy • calculate and explain **total cost**, **average cost**, **total revenue**, **average revenue**, **profit** and **loss** • evaluate the importance of **cost**, **revenue, profit** and **loss** for producers, including how costs and revenues affect profit and supply • explain what is meant by **economies of scale**
2.7 The labour market	• explain the role and operation of the **labour market**, including the interaction between workers and employers • analyse the determination of wages through supply and demand, including factors affecting the supply and demand of labour • explain and calculate **gross** and **net pay**, including deductions through **income tax**, **national insurance** and **pension** contributions
2.8 The role of money and financial markets	• explain the role of **money** as a **medium of exchange** • explain the role of the **financial sector** for the economy, including financial institutions such as **banks**, **building societies** and **insurance** companies • evaluate the importance of the financial sector for consumers, producers and government • analyse how different **interest rates** affect the levels of **saving**, **borrowing** and **investment** • calculate the effect on savings and borrowings of changes in the rate of interest.

Food, Preparation and Nutrition

GUIDANCE AND REVISION IDEAS FOR YEAR 10 SUMMER 2018

- Read the questions carefully before you begin, high-light the key words in a coloured pen to show you understand the meaning of a question.
- It is essential you do not isolate the knowledge you have gained so far in your practical application. You should be able to transfer skills and knowledge to the demands of some of the questions on the paper.
- One word answers are rarely sufficient; you are advised to make use of the mark allocation on the paper as an indication of the depth of response required. This will also give you an idea of how long to spend on each question.
- Look at all of the work we have covered since the beginning of Year 10.
- Think clearly about your answers - check both sides of the paper so you do not miss anything out.

KEY AREAS FOR YOU TO FOCUS ON:

- Current dietary guidelines
- Hygiene/cross contamination/ use of the refrigerator
- Freezing
- Obesity / reducing fat in the diet
- Labelling
- Ethical considerations – local foods/culture/Fairtrade
- Vegetables-purchasing/types , effects of cooking

French

Year 10 French students will be doing Reading and Writing papers during the PPE period in May. The class teacher will inform the students if they are going the Foundation or Higher tier papers.

The exams will cover the entire specification including the units we have covered so far as well as the units we will study in year 11. This is because we will use a real GCSE paper so that we can get the most accurate grade for the students.

To help students, we will provide a vocabulary help sheet for both reading and listening papers, see below.

Students are reminded to revise their tenses as well as the vocabulary, how the tenses are formed (verb endings), and their meaning for the writing paper.

The Listening assessment will be carried out in class either before or after the PPE period.

GCSE French Rubrics / Instructions for the examination

Coche (✔) les [deux/trois/quatre …] bonnes cases.	Tick (✔) the [two/three/four …] correct boxes.
Coche (✔) les [deux/trois/quatre …] phrases correctes.	Tick (✔) the [two/three/four …] correct sentences.
Complète le paragraphe.	Complete the paragraph.
Complète la phrase.	Complete the sentence.
Écris la bonne lettre dans la case.	Write the correct letter in the box.
Écris les [deux/trois/quatre…..] bonnes lettres dans les boîtes.	Write the [two/three/four…..] correct letters in the boxes.
Écris la bonne lettre pour décrire…..	Write the correct letter to describe…..
Lis ce dépliant…	Read this leaflet.
Lis cet email…..	Read this email.
Lis ce poster…..	Read this poster.
Lis ce sms de [name].	Read [name's] text message?
Lis ces gros titres dans un journal.	Read these headlines from a newspaper.
Lis cette annonce dans un magazine pour les jeunes.	Read this advert from a magazine for young people.
Lis cette petite annonce.	Read this advert.
Relie avec les images et écris les [deux/trois/quatre …] bonnes lettres dans les boîtes.	Match with the pictures and write the [two/three/four …] correct letters in the boxes
Relie les phrases et les images pour compléter les …..	Match the sentences and the pictures to complete the …..
Trouve les bonnes paires et complète les phrases.	Match the pairs to complete the sentences
Utilise les mots dans la boîte.	Use the words in the box.
Utilise les mots dans la boîte et écris la bonne lettre.	Use the words in the box and write the correct letter.

French - Year 10 Revision for Higher Writing PPE

This exam will involve-

- one 90 word essay on 4 bullet points
- one 150 word essay on 2 bullet points
- translation from English to French
-

You should do general revision on the topics we have covered so far in the course and grammar structure.

Year 10 Revision for Foundation Writing PPE

This exam will involve-

- 4 statements describing a picture
- one 40 word response on 4 bullet points
- translation from English to French
- one 90 word essay on 4 bullet points
- You should do general revision on the topics we have covered so far in the course and grammar structure.

For both tiers of entry please:

Ensure that you can give a range of opinions and explain your views in detail.

Revise how to connect your sentences effectively.

Check that you can include examples of a range of tenses (even if the question does not explicitly request them).

Prepare to make use of a wide range of vocabulary and structures in your work.

YEAR 10 French GCSE PPE 2018 FOUNDATION LISTENING VOCAB

As part of your revision, fill in the English meanings.

Why not make a Quizlet to revise the words?

Section A	
Les loisirs	hobbies
Une entreprise	business
Se reposer	to relax
étrangers	stranger, foreigner
Un réveil	alarm clock
À la mode	fashionable
Ce n'est pas juste	It's not fair
En désordre	untidy, in disarray
Argent de poche	pocket money
Ouvert	open
La faim	hunger
l'incendie	fire
Voler	to steal, to fly
En grève	on strike
La pluie	rain
Propre	clean, own
L'eau du robinet	tap water
Pollué	polluted
Section B	
Né	born
Essayer	to try
rejoindre	to meet, to catch up with
J'ai envie de	I want to …

YEAR 10 French GCSE PPE 2018 HIGHER LISTENING VOCAB

As part of your revision, fill in the English meanings.

Why not make a Quizlet to revise the words?

Section A	
l'incendie	
Voler	
En grève	
La pluie	
La commande	
Sauf	
Les pistes cyclables	
Les embouteillages	
(les voitures)Rouler	
Moins	
Furieux	
Plus d'emplois	
Enfermer	
Couteuse	
N'assure pas	
Télécharger	
Le grand écran	
À voix haute	
Même si	
Ne compter pas	
Un baccalauréat	
Rendre intéressant	
La bijouterie	

Attirer	
Abondantes	
Les produits locaux	
Propre	
L’eau du robinet	
Section B	
Né	
Essayer	
rejoindre	
Rêver	
Quelque chose	
Un bout de papier	
Le sommeil	
Trop tard	
Trop tot	
La fatigue	

YEAR 10 French GCSE PPE 2018 HIGHER READING VOCAB

As part of your revision, fill in the English meanings.

Why not make a Quizlet to revise the words?

Section A	
en avoir marre	
vol	
l'hôtesse	
louer	
le trajet	
quant	
construire	
réussir	
inquiet	
égal	
une telle chose	
gestes	
rémunéré	
compter	
ne … aucune	
faculté	
loyer	
chômage	
essayer	
aussitôt	
licenciée	
se sentir	
coupable	

pire	
laisser tomber	
endroit	
en colère	
se conseiller	
fauteuil	
perte de temps	
espérait	
m’ennuie	
bijou	
au milieu	
tort	
sauf	
pleurer	
se détendre	
semble	
la circulation	
gaz d’échappement	
malgré	
sans-abris	
puisque	

YEAR 10 French GCSE PPE 2018 FOUNDATION READING VOCAB

As part of your revision, fill in the English meanings.

Why not make a Quizlet to revise the words?

Section A	
Passer ma vie	
Doux	
Un ensoleillement	
Une colline	
La gastronomie	
Prête	
La rentrée	
Avoir besoin	
Rencontrer	
Gagner du temps	
Le gout	
Le metier	
Tard	
Tôt	
Le patron	
Le chômage	
Perdre	
Rien	
Les études	
Les loisirs	
Des meubles	
La mort	
Le propriétaire	

Voir	
Les déchets	
Les transports en commun	
Le chauffage	
La matière	
Gratuity	
Une séance	
Avoir envie ds	
Pleurer	
Suivre	
Le travail bénévole	
Les affaires	
dépenser	

Year 10 Geography PPE Revision Check List

Natural Hazards

Key Ideas	Specification Content
Natural hazards pose major risks to people and property.	Definition of a natural hazard. Types of natural hazard. Factors affecting hazard risk.
Earthquakes and volcanic eruptions are the result of physical processes.	Plate tectonics theory. Global distribution of earthquakes and volcanic eruptions and their relationship to plate margins. Physical processes taking place at different types of plate margin (constructive, destructive and conservative) that lead to earthquakes and volcanic activity.
The effects of, and responses to, a tectonic hazard vary between areas of contrasting levels of wealth.	Primary and secondary effects of a tectonic hazard. Immediate and long-term responses to a tectonic hazard. Use named examples to show how the effects and responses to a tectonic hazard vary between two areas of contrasting levels of wealth.
Management can reduce the effects of a tectonic hazard.	Reasons why people continue to live in areas at risk from a tectonic hazard. How monitoring, prediction, protection and planning can reduce the risks from a tectonic hazard.
Global atmospheric circulation helps to determine patterns of weather and climate.	General atmospheric circulation model: pressure belts and surface winds.
Tropical storms (hurricanes, cyclones, typhoons) develop as a result of particular physical conditions.	Global distribution of tropical storms (hurricanes, cyclones, typhoons). An understanding of the relationship between tropical storms and general atmospheric circulation. Causes of tropical storms and the sequence of their formation and development. The structure and features of a tropical storm. How climate change might affect the distribution, frequency and intensity of tropical storms.
Tropical storms have significant effects on people and the environment.	Primary and secondary effects of tropical storms. Immediate and long-term responses to tropical storms. Use a named example of a tropical storm to show its effects and responses. How monitoring, prediction, protection and planning can reduce the effects of tropical storms.
The UK is affected by a number of weather hazards.	An overview of types of weather hazard experienced in the UK.
Extreme weather events in the UK have impacts on human activity.	An example of a recent extreme weather event in the UK to illustrate: •• causes •• social, economic and environmental impacts •• how management strategies can reduce risk. Evidence that weather is becoming more extreme in the UK.
Climate change is the result of natural and human factors,	Evidence for climate change from the beginning of the Quaternary period to the present day.

and has a range of effects.	Possible causes of climate change: •• natural factors – orbital changes, volcanic activity and solar output •• human factors – use of fossil fuels, agriculture and deforestation. Overview of the effects of climate change on people and the environment.
Managing climate change involves both mitigation (reducing causes) and adaptation (responding to change).	Managing climate change: •• mitigation – alternative energy production, carbon capture, planting trees, international agreements •• adaptation – change in agricultural systems, managing water supply, reducing risk from rising sea levels.

The Living World

Key Ideas	Specification Content
Ecosystems exist at a range of scales and involve the interaction between biotic and abiotic components.	An example of a small scale UK ecosystem to illustrate the concept of interrelationships within a natural system, an understanding of producers, consumers, decomposers, food chain, food web and nutrient cycling. The balance between components. The impact on the ecosystem of changing one component. An overview of the distribution and characteristics of large scale natural global ecosystems.
Tropical rainforest ecosystems have a range of distinctive characteristics.	The physical characteristics of a tropical rainforest. The interdependence of climate, water, soils, plants, animals and people. How plants and animals adapt to the physical conditions. Issues related to biodiversity.
Deforestation has economic and environmental impacts.	Changing rates of deforestation. A case study of a tropical rainforest to illustrate: •• causes of deforestation – subsistence and commercial farming, logging, road building, mineral extraction, energy development, settlement, population growth •• impacts of deforestation – economic development, soil erosion, contribution to climate change.
Tropical rainforests need to be managed to be sustainable.	Value of tropical rainforests to people and the environment. Strategies used to manage the rainforest sustainably – selective logging and replanting, conservation and education, ecotourism and international agreements about the use of tropical hardwoods, debt reduction.
Hot desert ecosystems have a range of distinctive characteristics.	The physical characteristics of a hot desert. The interdependence of climate, water, soils, plants, animals and people. How plants and animals adapt to the physical conditions. Issues related to biodiversity.
Development of hot desert environments creates opportunities and challenges.	A case study of a hot desert to illustrate: •• development opportunities in hot desert environments: mineral extraction, energy, farming, tourism •• challenges of developing hot desert environments: extreme temperatures, water supply, inaccessibility.
Areas on the fringe of hot deserts are at risk of desertification.	Causes of desertification – climate change, population growth, removal of fuel wood, overgrazing, over-cultivation and soil erosion. Strategies used to reduce the risk of desertification – water and soil management, tree planting and use of appropriate technology.

Urban Issues and Challenges

Key Ideas	Specification Content
A growing percentage of the world's population lives in urban areas.	The global pattern of urban change. Urban trends in different parts of the world including HICs and LICs. Factors affecting the rate of urbanisation – migration (push–pull theory), natural increase. The emergence of megacities.
Urban growth creates opportunities and challenges for cities in LICs and NEEs.	A case study of a major city in an LIC or NEE to illustrate: •• the location and importance of the city, regionally, nationally and internationally •• causes of growth: natural increase and migration •• how urban growth has created opportunities: •• social: access to services – health and education; access to resources – water supply, energy •• economic: how urban industrial areas can be a stimulus for economic development •• how urban growth has created challenges: •• managing urban growth – slums, squatter settlements •• providing clean water, sanitation systems and energy •• providing access to services – health and education •• reducing unemployment and crime •• managing environmental issues – waste disposal, air and water pollution, traffic congestion. An example of how urban planning is improving the quality of life for the urban poor.
Urban change in cities in the UK leads to a variety of social, economic and environmental opportunities and challenges.	Overview of the distribution of population and the major cities in the UK. A case study of a major city in the UK to illustrate: •• the location and importance of the city in the UK and the wider world •• impacts of national and international migration on the growth and character of the city •• how urban change has created opportunities: •• social and economic: cultural mix, recreation and entertainment, employment, integrated transport systems •• environmental: urban greening •• how urban change has created challenges: •• social and economic: urban deprivation, inequalities in housing, education, health and employment •• environmental: dereliction, building on brownfield and greenfield sites, waste disposal •• the impact of urban sprawl on the rural–urban fringe, and the growth of commuter settlements. An example of an urban regeneration project to show: •• reasons why the area needed regeneration •• the main features of the project.
Urban sustainability requires management of resources and transport.	Features of sustainable urban living: •• water and energy conservation •• waste recycling •• creating green space. How urban transport strategies

German

There will be three papers at either Foundation or Higher level. 10Y1 and 10X1 will do Higher. 10Y2 and 10X2 will do Foundation at this stage of the course.

The papers are –

- Listening
- Reading
- Writing

Attached are the vocabulary lists to be revised for the **Listening** and **Reading** papers.

For the **Writing** you should revise your corrected oral notes on the following topics:

Personal identity, family and marriage
Technology in everyday life
Freetime, food and festivals.

Corrected versions of notes can be found on the N drive –

N:\Departments\MFL\LessonResources\German\GCSE\Oral notes for conversation\Yr 10 and then your class name.

3.5.1 Rubrics and instructions

The following is a guide to the sort of rubrics and instructions which will be used in Section B of the Listening and Reading exams. The list is indicative, not exclusive.

German	English
Achtung! Du kannst die Buchstaben mehr als ein Mal benutzen.	**N.B.** You can use the same letter more than once.
Beantworte **die beiden Teile der Frage.**	Answer **both parts of the question.**
Beantworte die Fragen auf **Deutsch**.	Answer the questions in **German.**
Beantworte diese Fragen.	Answer these questions.
Ergänze ... auf **Deutsch**.	Complete... in **German**.
Ergänze den folgenden Text mit jeweils **einem** Wort von der Liste unten.	Complete the following gap-text with **one** word for each gap from the list below.
Ergänze die Lücken.	Fill in the gaps/blanks.
Ergänze die Tabelle auf **Deutsch**.	Complete the table in **German**.
Erwähne einen postiven Aspekt/einen Vorteil/einen negativen Aspekt/einen Nachteil.	Mention one positive aspect/one advantage/one negative aspect/one disadvantage.
Es ist welche Person? Schreibe den Namen ins Kästchen.	Which person is it? Write the name in the box.
Füll die Tabelle auf **Deutsch** aus.	Complete the table in **German**.
Für eine negative Meinung, schreib **N**, für eine positive Meinung, schreib **P**, für eine positive und	For a negative opinion, write **N**, for a positive opinion, write **P**, for a positive and negative opinion,

German	English
negative Meinung, schreib **P + N.**	write **P + N.**
Gib (zwei) Details.	Give (two) details.
Hör das folgende Gespräch/die folgende Diskussion/das folgende Interview/den folgenden Bericht.	Listen to the following conversation/discussion/interview/report.
Lies ...	Read...
Schreib den richtigen Buchstaben ins Kästchen.	Write the correct letter in the box.
Schreib **R**, wenn die Aussage richtig ist, **F**, wenn die Aussage falsch ist, **NT**, wenn die Aussage nicht im Text ist.	Write **(R),** if the statement is correct, **(F),** if the statement is false and **(NT)**, if the statement is not mentioned.
Vollständige Sätze sind **nicht** nötig.	It is not necessary to write in full sentences.
Wähle die richtige Aktivität und schreib den Buchstaben ins Kästchen.	Choose the correct activity and write the correct letter in the box.
Welche **(sechs)** Aussagen sind richtig?	Which **(six)** statements are correct?
Welche Antwort ist richtig?	Which answer is correct?

The following is a guide to the sort of rubrics and instructions which will be used in the Writing exam. The list is indicative, not exclusive.

German	English
Beschreib...	Describe...

German	English
Du musst ungefähr **40** Wörter auf **Deutsch** schreiben.	You must write approximately **40** words in **German**.
Du musst ungefähr **90** Wörter auf **Deutsch** schreiben. Scheib etwas über alle Punkte der Aufgabe.	You must write approximately **90** words in **German**. Write something about each bullet point.
Du musst ungefähr **150** Wörter auf **Deutsch** schreiben. Schreib etwas über beide Punkte der Aufgabe.	You must write approximately **150** words in **German**. Write something about both bullet points.
Schreib…	Write…
Schreib etwas über…	Write something about…
Schreib **vier** Sätze auf **Deutsch** über das Foto.	Write **four** sentences in **German** about the photo.
Vergleich...	Compare...

Foundation Reading German GCSE

Im Ausland	abroad
Geheimnisse	secrets
Keine(e)	No/not any
Sich streiten	argue
Sich gut verstehen	To get on well
wichtig	important
nervig	annoying
peinlich	embarrassing
morgen	tomorrow
heute	today
Darf nicht	Not allowed
besuchen	To visit
krank	ill
Geschenk	present
gekauft	bought
Geburtstagskarte	birthday
Hunger haben	To be hungry
Durst haben	To be thirsty
möchte	Would like
wandern	To hike
Hütte	hut
Den Weg zeigen	To show the way
wiedersehen	To see again
Warten auf	To wait for
Theaterkasse	Theatre box office
Karten	tickets

Samstag	Saturday
U-Bahn	Underground train /tube
Nach Hause	home
Nacht	night
krank	ill
Krankenhaus	hospital
Ich weiß/du weißt	I know/you know
wo	where
welche	which
Wie weit	How far
wie	how
wer	who
alles	everything
Küche	kitchen
schicken	To send
SMS	A text
Laufen/gelaufen	To run (can also mean to walk on foot)/ran ,walked
ungesund	unhealthy
Schlagzeug	drums
In die Berge	To the mountains
Aufs Land	To the country
teuer	expensive
Jugendklub	Youth club
Zeit	time
selten	Rarely/not often
Geburtstag	birthday
Stadtmitte	Town centre
Zu Hause	At home

Essen lieber	To prefer eating
Schulregeln	School rules
Kein(e)	No/not any
Sich schminken	To put on make up
verboten	forbidden
Ohrringe	earrings
Weder …. noch	Neither nor
stören	To disturb
rauchen	smoking
Treppe	stairs
mitten	In the middle
Stadt	town
sitzen	To sit
Zu Fuß	On foot
zehn	Ten (revise numbers 1-10)
Tochter	daughter
ihre	Her (can also mean their)
sie	She (can also mean they)
kühl	cool
Auf Urlaub	On holiday
richtig	Right/correct/true
Aussagen	statements
Buchstaben	Letters of alphabet
Kästchen	box
bleiben	To stay
mindestens	At least
entspannen	To relax
fast	almost

alle	all
Im Meer	In the sea
Am Strand	On the beach
Sich sonnen	To sunbathe
Die meisten	Most of
heiß	hot
Sprechen/spricht	Speak/speaks
Kellner(in)	Waiter/waitress
lecker	delicious
Vorteil	advantage
schnell	Quick,fast
buchen	To book
sparen	To save
er	he
wohnen	To live

Erdkunde	Geography
toll	great
Geschichte	history
langweilig	boring
Nachmittags	In the afternoons
gern	With pleasure (to like doing something)
Andere(n)	other
Schüler	pupils
Letzt(es)	last
Kino	cinema
gegangen	went

Foundation Listening German GCSE

Fisch	**fish**
Birnen	**pears**
Lehrer/Lehrerin	**teacher**
Gärtner	**gardener**
Musiker	**musician**
Feuerwehrmann	**fireman**
Kellnerin	**waitress**
Koch	**cook**
nett	**nice**
hilfsbereit	**helpful**
streng	**strict**
Hausaufgaben	**homework**
viele	**Lots of**
Jetzt	**now**
fernsehen	**Watch tv**
ungesund	**unhealthy**
wohnen	**To live**
gern	**With pleasure (like)**
dort	**there**
weil	**because**
ruhig	**quiet**
laut	**loud**
Viele Leute	**Lots of people**
Jeden Tag	**Every day**
windsurfen	**Wind surfing**
Essen gehen	**Go out to eat**
langweilig	**boring**

Kino	**cinema**
Schloss	**castle**
Stadt	**town**
Geschenke	**presents**
kaufen	**To buy**
modisch	**fashionable**
nutzlos	**useless**
obwohl	**although**
wichtig	**important**
Jedes Wochenende	**Every weekend**
sicher	**safe**
fühlen	**To feel**
Um…….zu	**In order to**
Als Kleinkind	**As a small child**
Vor drei Jahren	**Three years ago**
entspannend	**relaxing**
Selber gelernt	**Self-taught**
gekauft	**bought**
Profi	**A professional**
Im Ausland	**abroad**
Alt/älter/ältest	**Old/older/oldest**
Besucher	**visitors**
Fernsehturm	**TV tower**
Gebäude	**building**
Denkmal	**Memorial**
berühmt	**famous**
zerstören	**To destroy**
Die Umwelt	**The environment**

Rad fahren	**To cycle**
Zu Fuß	**On foot/walk**
verbessern	**improve**
Luftqualität	**Quality of the air**
Abgase	**Exhaust fumes**
Veterinärmedizin	**Veterinary medicine**
Licht ausmachen	**Switch off light**
sparen	**To save**
warum	**why**
Arbeit suchen	**Look for a job/ for work**
praktisch	**practical**
In den Sommerferien	**In the Summer holidays**
Urlaub machen	**To go on holiday**
Mechaniker(in)	**mechanic**

Higher Reading German GCSE

Im Ausland	abroad
Geheimnisse	secrets
Keine(e)	No/not any
Sich streiten	argue
Sich gut verstehen	To get on well
wichtig	important
nervig	annoying
peinlich	embarrassing
morgen	tomorrow
heute	today
Darf nicht	Not allowed
besuchen	To visit
krank	ill
Geschenk	present
gekauft	bought
Geburtstagskarte	birthday
Hunger haben	To be hungry
Durst haben	To be thirsty
möchte	Would like
wandern	To hike
Hütte	hut
Den Weg zeigen	To show the way
wiedersehen	To see again
Warten auf	To wait for
Tormann/Torfrau	goalkeeper
Nationalmannschaft	National team

Das erste Mal	The first time
Weltmeisterschaft	World Cup
Die Saison	season
Am Anfang	At the start
stundenlang	For hours
täglich	daily
Zeit	time
teilen	To share
Motorrad	Motor bike
reagieren	To react
erstaunt	surprised
damit	With it (can also be so that)
Auf den ersten Blick	At first sight
heiraten	To marry
Vor einem Jahr	A year ago
Wollen/wollte	Want/wanted
nur	only
befreundet	To be friends with
Abitur	A levels
Heimat	Home country
Braut	bride
Eltern	parents
gemischt	mixed
Gymnasium	Grammar school
Lehrer	teacher
streng	strict
obwohl	although
schwierig	hard

Erdkunde	Geography
Im Unterricht	In lessons
aufpassen	To pay attention
mündlich	Oral/speaking
stark	strong
andere	other
Fremdsprachen	Foreign languages
Ausbildung	training
Bankkauffrau/Bankkaufmann	Bank clerk
üben	To practise
schlafen	To sleep
Straße	street
Viele Leute	Many people
Obdachlose	Homeless people
bieten	To offer
Schlafplatz	Place to sleep
Medezinische Versorgung	Medical provision
verloren	lost
Wohnung	flat
Zu Hause	home
Geschenk	present
nach	After (can also mean to)
schlecht	bad
Magen	stomach
Es stimmt nicht	It’s not true
Flüssigkeit	liquid
füllen	To fill
enthalten	To contain

verdünnen	To thin/dilute
Schuljahr	School year
Regeln	rules
kritisieren	To criticize
Schüler	pupils
reden	To talk
Küste	coast
Fischer	fisherman
wo	where
was	what
wie	how
wer	who
lassen	To let
warum	why
gebraucht	needed
fleißig	Hard working
Sachen	things
geflogen	flew
Erinnerung(en)	Memory /Memories
Diese(n)	This/these
Urlaub	holiday
gegen	against
Karibik	Caribbean
wirklich	really
Arbeitskollegen	Work colleagues
Doppelhaus	Semi detached house
Gute Noten	Good marks
bekommen	To get

Tochter	daughter
arbeiten	To work
Frau	Woman/wife/Mrs
trennen	To separate
Scheiden lassen	To get divorced

Higher Listening German GCSE

Als Kleinkind	As a small child
Vor drei Jahren	Three years ago
entspannend	relaxing
Selber gelernt	Self-taught
gekauft	bought
Profi	A professional
Im Ausland	abroad
Alt/älter/ältest	Old/older/oldest
Besucher	visitors
Fernsehturm	TV tower
Gebäude	building
Denkmal	Memorial
berühmt	famous
Eine eins	A grade 1 (top grade)
Eine Fünf/eine Sechs	A 5 or 6 (bad grades)
Lehrer	teacher
verstehen	understand
Zu schwer/schwierig	Too hard/difficult

Gymnasium	Grammar school
Realschule	Secondary modern school
Einwohner	inhabitants
Rentner	pensioners
Die meisten	Most of them
wenig	Not much/little
Zu tun	To do
Landschaft	landscape
Gegend	area
Laufen	running
prima	great
Angst haben	To be frightened
spannend	excited
gleichzeitig	At the same time
gleich	same
Meinung	opinion
Nie wieder	Never again
Sich freuen	To be happy
traurig	sad
Viel Neues	Lots of new things
gelernt	learned
frische Luft	Fresh air
Süßigkeiten	sweets
Sich ernähren	To eat
besser	better
Sich entscheiden	To decide
Monaten	months
gestohlen	stolen

jemand	someone
ohne	without
leben	live
Neuster Technologie	Latest technology
Unfall	accident
Stau	Traffic jam
Autobahn	motorway
Bleiben	stay
Geduld	patience
Nebel	fog
einchecken	To check in
Fluggäste	Passengers on the flight
Gartenfest	Garden festival
Eng	close
Beziehung	relationship
selten	rarely
Streit	arguments
reden	To talk
alles	everything
vorschlagen	To suggest
Schulmannschaft	School team
zusammengehören	To belong together
immer	always
füreinander	For each other
da	There (also means as,because)
benutzen	To use
Auswahl	choice
Groß/größer	Big/bigger

Rund um die Uhr	Round the clock/24 hours a day
zerstören	To destroy
Die Umwelt	The environment
Rad fahren	To cycle
Zu Fuß	On foot/walk
verbessern	improve
Luftqualität	Quality of the air
Abgase	Exhaust fumes
Veterinärmedizin	Veterinary medicine
Licht ausmachen	Switch off light
sparen	To save
warum	why
hoffen	To hope
In Zukunft	In future
Tierarzt	vet
Studium	Degree/studying
jahrelang	For years
verdienen	earn
Stadt/Stadtrand/Vorort	Town/edge of town/suburb
wo	where
angenehm	pleasant
Grünanlagen	Green spaces

History

The History PPE will consist of 1 examination lasting one hour and 45minutes. There will be two sections each worth 40 marks. They will consist of the following question types:

Section 1: 2x 4 mark questions and 1x 8 mark question on two interpretations. A 4 mark question, and 8 mark question, and a 12 mark question.

Section 2: 1x 4 mark source question and 1 x12 mark 'how useful' source question. An 8 mark question, and a 16 mark question.

Topics to revise for section 1: America 1920-73

1. Mass Production and the motor industry
2. Other reasons for the boom e.g. hire purchase, tariffs, consumerism
3. Who did and did not benefit from the boom
4. Entertainment and Jazz
5. Women in the 20's
6. Organised crime, prohibition and its effect on society
7. Causes of racial tension/immigration
8. KKK and the Red Scare
9. The Great depression: unemployment, farmers and business men
10. Hoover's response to the depression and his unpopularity
11. Roosevelt's election as President
12. Successes and limitations of the New Deal
13. Opposition to the New Deal and the Supreme Court
14. Was the New Deal successful or not?
15. Culture in the 1930s (literature, movies and music)
16. The impact of the Second World War on the economy
17. Women and Black Americans during World War two
18. The American Dream and economic growth
19. McCarthyism
20. Popular culture, Rock and Roll and television
21. The Civil Rights Movement in the 60s
22. Martin Luther King and the Civil Rights movement
23. Malcolm X and Black Power movement
24. The Civil Rights Acts of 1964 and 1968
25. Social Policies of Presidents Kennedy and Johnson
26. Feminism in the 60s

Topics to revise for section 2: Conflict and Tension 1918-39

1. Aims of the Big Three
2. Why the Big Three disagreed
3. Terms of the Treaty of Versailles
4. Allied reaction to the Treaty
5. Judging who got the most from the Treaty
6. German reaction to the Treaty
7. Was the Treaty fair?
8. Structure and aims of the League of Nations
9. Weaknesses of the League of Nations
10. How the League helped people
11. Successes and failures of the League in the 1920s
12. Locarno Treaty and the Kellogg-Briand Pact
13. Why Japan invaded Manchuria
14. How the League reacted to the Japanese invasion of Manchuria
15. Why Italy invaded Abyssinia
16. How the League reacted to the Italian invasion of Abyssinia
17. Hitler's aims and how other countries reacted
18. Hitler's early policies): Disarmament conference, Dolfuss Affair, Rearmament

Hitler's early policies b): Saar, Stresa Front, Anglo-German naval Agreement

19. The remilitarisation of the Rhineland
20. Anschluss with Austria
21. Reasons for and against appeasement
22. The Sudetenland crisis
23. The Munich agreement
24. The Collapse of Czechoslovakia
25. The Nazi Soviet Pact

Music

The exam will be 1 hour 45 minutes long and will consist of:

- **6 listening questions** on set works
- **1 listening question** on an unknown piece**.**
- **1 long answer question** comparing a set work to an unknown piece (which you will hear)
- **1 melodic and rhythmic dictation question.**

You will need to revise **all** of the set works that you have studied so far which will include:

- Queen- Killer Queen
- Purcell- Music for a While
- J Williams- Star Wars
- Schwartz- Defying Gravity
- Beethoven- Movement 1 from 'Pathetique' sonata.

For each set work you will need to be familiar with the key features such as:

- Structure
- Harmony/tonality
- Dynamics
- Texture
- Instrumentation
- Rhythm
- Tempo/metre

It is also a good idea to listen to the other set works that we **haven't** yet studied in detail as there will be one **general** listening question on one of these.

Top tips for music revision:

- **Categorise your revision notes** into the different musical features above- make sure you know at least a few features for each set work in each category.
- **Active listening** to the set works is the key. Don't just have them on in the background as you do other revision. Listen carefully to different features each time you play the set work, e.g. focus on the texture one time, instruments another time etc.
- **Listen to small chunks** of the music. In the exam you will only hear a 30 second extract of the music. Practice writing down the features to 30 second sections. **Remember**- musical features are not always the same all the way through so the features may change depending on which section of the set work you listen to.

Physical Education

1.17 Anaerobic and aerobic exercise

3.1 Health, fitness and exercise

3.2 The components of fitness and fitness testing

3.3 Onwards – All components of fitness: Cardiovascular fitness, strength, muscular endurance, flexibility, body composition, agility, balance, coordination, reaction time, speed, power

3.14 Onwards – Principles of training: Individual needs, specificity, progressive overload, overtraining, reversibility

3.20 to 3.24 Methods of training

3.26 PAR-Q

3.27 How to optimise training and avoid injury

3.28 Sporting Injuries

3.29 Performance Enhancing Drugs

3.30 Warm ups and cool downs

4.1 Onwards… Lifestyle choices, balanced diet, optimum weight, maintaining an optimum weight

5.4 Setting SMART targets

Remember that marks come from the application and the analysis of the topics.

You must develop all statements and make LINKS TO PERFORMANCE.

Spanish

Spanish: Vocabulary for Foundation Listening PPE

Llave	
principal	
La caja fuerte	
La ropa de cama	
Sacar fotos	
Chatear	
Descargar	
Navegar por internet	
Bombero	
valiente	
periodista	
Casarse	
preocuparse	
La lluvia	
bañarse	
Ducharse	
encender	
El aire acondicionado	
El papel	
La lata	
Hacer falta de	
ancianos	
Los mayores	
recuerdos	
Las instalaciones	
decepcionado	
Un palacio	
Un castillo	
La pizzara	
En cuanto a	
Hace viento	

Learn the vocabulary for:

- ✓ different types of food and drinks
- ✓ different types of film and TV programme
- ✓ sports and freetime activities
- ✓ opinion vocabulary

Spanish: Vocabulary for Higher Listening PPE

As for foundation with this additional vocabulary…

Un asiento	
Aficionados	
Los partidos	
El Gordo	
repartir	
El premio	
Días festivos	
extranjeros	
Fumar porros	
emboracharse	
Desde entonces	
La empresa	
Subirse el sueldo	
pedir	
aconsejar	
Tener ganas de	
conductor	
apagar	
Vale la pena	
huérfano	
todavía	
egoísta	
agradecer	
lograr	
olvidar	
incierto	
orgulloso	
Volver a empezar	
Tal vez	
dejar	
Una marca	
La juventud	
fabricar	
algodón	
Pieles de animales	
Fibras sintéticas	
Estar equivocado	
amenazar	
mezclar	
prendas	
sobrina	
Sacar buenas notas	
La enseñanza	
concurrido	
Me fastidia que	
Los almacenes	
Organizaciones benéficas	
El AVE	
EL andén	

vía	
volar	
Tener confianza con	
comportarse	
El cariño	

Spanish: Vocabulary for Year 10 Foundation Reading PPE

Revise: sports, family members, healthy living, rooms of the house and furniture, Film & TV programmes, jobs

Las afueras	
Compañeros de clase	
Un partido	
Un parque temático	
climatizada	
La cocina	
Consejos	
alimentos	
La tentación	
Acostarse	
Los marineros	
El paisaje	
parar	
hermoso	
El oro	
pobre	
¡Qué raro!	
Las reglas	
Las instalaciones	
Hacer falta	
El recreo	
La ventana	
retratos	
fuera	
La Guerra civil	
Los ricos	
La pobreza	
El hambre	
jubilarse	
Trabajar a tiempo parcial	
Hacerse socio de	
El rio	
El bosque	
El vestido	
La batería	

Las noticias	
Un taller	
mascotas	
raciones	
Un novio/una novia	
Un torero	
Una fecha	
Un polideportivo	
mandar	
encontrar	

Spanish: Vocabulary for Year 10 Higher Reading PPE

As for Foundation paper plus …..

Las redes sociales	
Estar equivocado	
buscar	
quejarse	
aprovechar	
Ser cuidadoso	
El muro	
Unas faltas	
probar	
Un sueldo	
Ser decepcionado	
romper	
Disfrutar de	
Darse cuenta de	
jovencita	
cargar	
camiones	
fastidiarse	
ganar	
Hacer huelga	
El alquiler	
mudarse	
Echar de menos	
Sin techo	
festejar	
Tener lugar	
quemar	
La tristeza	
La alegría	
sucio	
cerrar	
abrir	
Una sonrisa	
parda	
Los cristales	
lejana	
sola	
La liga	
tonto	
comportarse	

Spanish: Year 10 Foundation Writing PPE

You will be expected to write:

1) 4 statements describing a picture
2) Approximately 40 words on the topic of free time.
3) Translate 5 short statements into Spanish
   (key words- ducharse: to have a shower, menos:less)
4) Approximately 90 words about either:
   School and future plans, a recent celebration
   Or
   Holidays (recent and future)

Spanish: Year 10 Higher Writing PPE

You will be expected to write:

1) Approximately 90 words about either:
   School and future plans, a recent celebration
   Or
   Holidays (recent and future)
2) Approximately 150 words about either:
   Being happy and healthy
   Or
   Being a good friend and future plans
3) Translate a short passage of approximately 60 words into Spanish

Spanish

3.5.1 Rubrics and instructions

The following is a guide to the sort of rubrics and instructions which will be used in Section B of the Listening and Reading exams. The list is indicative, not exclusive.

Spanish	English
Completa/Rellena la tabla/el texto/el espacio blanco en **español**.	Complete/Fill in the table/the text/the blank space in **Spanish**.
Completa la frase/las frases…	Complete the phrase(s)/sentence(s)...
Contesta a las preguntas en **español**.	Answer the questions in **Spanish**.
Da (dos) detalles...	Give (two) details...
Empareja…	Match…
Escribe la(s) letra(s) correcta(s) en cada casilla.	Write the correct letter(s) in each box.
Escribe la letra correcta/el número correcto en la casilla.	Write the correct letter/number in the box.
Escribe todos los detalles.	Write all the details/Give full details.
Escoge...	Choose…
Escucha la descripción/la opinión/la entrevista/ las noticias…	Listen to the description/the opinion/the interview/the news…
Indica…	Indicate…
Indica las…frases verdaderas.	Indicate the …true phrases/sentences.
Lee el texto / el artículo / la lista de actividades / la lista de instrucciones / la información.	Read the text/the article/the list of activities/the list of instructions/the information.
Lee lo que dicen…	Read what they say…
Menciona una ventaja/desventaja…	Mention one advantage/disadvantage…
No es necesario escribir con frases completas.	It is not necessary to write in full sentences.
Escribe: **P** si la opinión es positiva **N** si la opinión es negativa **P+N** si la opinión es positiva y negativa	Write : **P** if the opinion is positive **N** if the opinion is negative **P+N** if the opinion is positive and negative
Puedes escribir la misma letra más de una vez.	You can use the same letter more than once.
¿Quién…?	Who…?
Responde a las dos partes de la pregunta.	Answer both parts of the question.
Selecciona/Escoge el párrafo…	Select/Choose the paragraph…

The following is a guide to the sort of rubrics and instructions which will be used in the Writing exam. The list is indicative, not exclusive.

Spanish	English
Escribe aproximadamente **40** palabras en **español**.	Write approximately **40** words in **Spanish**.
Escribe aproximadamente **90** palabras en **español**. Responde a todos los aspectos de la pregunta.	Write approximately **90** words in **Spanish**. Write something about each bullet point.
Escribe aproximadamente **150** palabras en **español**. Responde a los dos aspectos de la pregunta.	Write approximately **150** words in **Spanish**. Write something about both bullet points.
Escribe **cuatro** frases en **español** que describan la foto.	Write **four** sentences in **Spanish** about the photo.
Escríbele sobre…	Write to him/her about…
Escríbele una carta/un email.	Write a letter/email to him/her.
Menciona…	Mention...

☆☆☆☆☆