

Triple Science Higher Paper

Content Overview	Small Steps	Resources links	GCSE Pod link
Biology Paper 1 Part 1	Label a plant and animal cell.	Google Classroom Classwork Tab - Folder Biology Paper 1, BBC Bitesize, GCSE Pod, PDF Revision Sheets	https://members.gcsepod.com/content?subject_id=6010&exam_board_id=1010&topic_id=8181
	Describe differences between prokaryotic and eukaryotic cells.		
	State functions of organelles found within eukaryotic and prokaryotic cells.		
	Explain cell specialisation and differentiation.		
	Use microscopy techniques and calculations including standard form.		
	Explain modes of transport in cells - diffusion, osmosis and active transport.		
	Link knowledge of osmosis to the required practical using plant tissue.		
Biology Paper 1 Part 2	Explain how to carry out the culturing of microorganisms.	Google Classroom Classwork Tab - Folder Biology Paper 1, BBC Bitesize, GCSE Pod, PDF Revision Sheets	https://members.gcsepod.com/content?subject_id=6010&exam_board_id=1010&topic_id=8182 https://members.gcsepod.com/content?subject_id=6010&exam_board_id=1010&topic_id=8183
	Explain organisation within an animal.		
	Explain organisation within a plant.		
	Explain how to test for carbohydrates, lipids and proteins.		
	Explain the role of the immune system including first line of defence.		
	Identify communicable diseases and ways in which to stop their spread.		
	Explain the role of vaccines in herd immunity.		
Chemistry Paper 1 Part 1	Describe how monoclonal antibodies are produced and used.	Google Classroom Classwork Tab - Folder Chemistry Paper 1, BBC Bitesize, GCSE Pod, PDF Revision Sheets	GCSEPod https://members.gcsepod.com/shared/podcasts/title/10852/66755 GCSEPod https://members.gcsepod.com/shared/podcasts/title/10858/66776 GCSEPod
	Describe plant diseases and give treatments.		
	State the arrangement of the periodic table including the development.		
	Compare and contrast the 3 types of bonds - covalent, ionic and metallic.		
	Use knowledge of state of matter to boiling points and melting points.		
	Explain properties and structures of carbon allotropes.		
	Calculate mass of reactants from a balanced equation.		
Chemistry Paper 1 Part 2	Use moles to balance an equation.	Google Classroom Classwork Tab - Folder Chemistry Paper 1, BBC Bitesize, GCSE Pod, PDF Revision Sheets	https://members.gcsepod.com/shared/podcasts/title/10863/66813 https://members.gcsepod.com/shared/podcasts/title/10864/66803 https://members.gcsepod.com/shared/podcasts/title/10865/66789
	Identify the limiting reactants in a reaction.		
	Calculate the concentration of a solution.		
	Describe the reactivity of metals and relate to the reactivity series.		
	Explain how to produce a soluble salt from an insoluble oxide.		
	Determine the reacting volumes from a titration practical.		
	Explain how electrolysis can be used for extraction.		
Physics Paper 1 Part 1	Represent reactions at electrodes using half equations.	Google Classroom Classwork Tab - Folder Physics Paper 1, BBC Bitesize, GCSE Pod, PDF Revision Sheets	https://members.gcsepod.com/shared/podcasts/title/10469/83167 https://members.gcsepod.com/shared/podcasts/title/10470/82965 https://members.gcsepod.com/shared/podcasts/title/10474/64261 GCSEPod
	Describe energy changes - endothermic and exothermic.		
	Investigate variables which affect temperature change.		
	Calculate the energy change and determine if endothermic or exothermic.		
	Describes ways in which energy is stored and changes .		
	Use calculations relating to energy - Power, GPE, KE & Thermal energy		
	Explain the conservation and dissipation of energy.		
Physics Paper 1	Evaluate the effectiveness of thermal insulators.	Google Classroom	
	Calculate the power & energy transferred via electrical devices.		
Physics Paper 1	Calculate the efficiency of devices.	Google Classroom	
	Explain how the national grid is adapted to reduce unwanted energy transfers.		
Physics Paper 1	Describe the changes of state when relating to particle model.	Google Classroom	
	Explain the motion of particles in terms of energy.		

part 2	Calculate the density of materials and irregular objects.	Classwork Tab - Folder Physics Paper 1, BBC Bitesize, GCSE Pod, PDF Revision Sheets	https://members.gcsepod.com/shared/podcasts/title/10477/64270
	Describe internal energy.		
	Explain how internal energy can be affected.		
	Describe specific heat capacity.		
	Use calculations to determine specific heat capacity.		
	Compare latent heat and internal energy.		
	Calculate the energy for a change of state.		
Biology Paper 2 Part 1	Explain how body temperature is controlled	Google Classroom Classwork Tab - Folder Biology Paper 2, BBC Bitesize, GCSE Pod, PDF Revision Sheets	https://members.gcsepod.com/content?subject_id=6010&exam_board_id=1010&topic_id=8185
	Give the role of the glands found in the endocrine system		
	Explain how blood glucose levels are controlled		https://members.gcsepod.com/shared/podcasts/title/10789/66132
	Describe how our bodies maintain water and nitrogen balance.		
	Explain how plants coordinate their growth using hormones.		
	Planning a practical to show the effect of light or gravity on seedlings.		
Compare and contrast sexual and asexual reproduction			
	Describe the stages of meiosis		
Biology Paper 2 Part 2	Describe DNA structure as a polymer with nucleotides.	Google Classroom Classwork Tab - Folder Biology Paper 2, BBC Bitesize, GCSE Pod, PDF Revision Sheets	https://members.gcsepod.com/shared/podcasts/title/10789/66132
	Explain how protein synthesis occurs and errors which can occur		
	Explain how phenotypes are an expression of genetic inheritance		https://members.gcsepod.com/shared/podcasts/title/10794/66164
	Explain how cystic fibrosis and polydactyl occur.		
	Explain the importance of the carbon and water cycle.		
	Recall abiotic and biotic factors.		
	Describe how the rate of decay can be effected.		
	Describe a method to measure and calculate population size of an organism.		
Chemistry Paper 2 Part 1	Calculate the rate of reaction given data provided.	Google Classroom Classwork Tab - Folder Chemistry Paper 2, BBC Bitesize, GCSE Pod, PDF Revision Sheets	https://members.gcsepod.com/shared/podcasts/title/10867/66783
	Explain how changing variables will affect the rate of reaction.		
	Describe the affect of catalysts on a reaction.		https://members.gcsepod.com/shared/podcasts/title/10868/66795
	Link knowledge of energy changes to reversible reactions.		
	Explain what is meant by equilibrium and how this can be effected.		
	Describe the properties of hydrocarbons - viscosity, BP and flammability.		
Explain how fractional distillation and cracking is used.	https://members.gcsepod.com/shared/podcasts/title/10869/66730		
Explain how to identify unknown ions using flame tests and hydroxides.			
			GCSEPod
Chemistry Paper 2 Part 2	Describe changes in the Earth's atmosphere.	Google Classroom Classwork Tab - Folder Chemistry Paper 2, BBC Bitesize, GCSE Pod, PDF Revision Sheets	https://members.gcsepod.com/shared/podcasts/title/10875/66751
	Explain how oxygen increase and carbon dioxide decreased.		
	State common atmospheric pollutants, describe their causes and effects.		https://members.gcsepod.com/shared/podcasts/title/10878/66825
	Explain use of the Earth's natural resources linking to sustainability.		
	Describe how we obtain potable water.		
	Evaluate alternative methods of metal extraction (phytomining and bioleaching).		
	Explain the uses of materials and recycling - link to life cycle assessments.	GCSEPod	
	Explain the industrial process of producing NPK fertilisers.	GCSEPod	
Physics Paper 2 Part 1	Give differences between scalar and vector quantities.	Google Classroom Classwork Tab - Folder Physics Paper 2, BBC Bitesize, GCSE Pod, PDF	https://members.gcsepod.com/shared/podcasts/title/10483/64293
	Describe how weight is a force and how it is affected on planets.		
	Use vector diagrams to calculate the resultant force of an interaction.		GCSEPod
	Calculate the work done and describe the energy transferred.		

	Explain Hooke's Law and calculate elastic potential energy.	Revision Sheets	GCSEPod
	Calculate pressure in a fluid using calculations.		
	Explain how atmospheric pressure varies.		
	Calculate the speed and acceleration of an object.		GCSEPod
Physics Paper 2 part 2	Draw and interpret distance and velocity time graphs.	Google Classroom Classwork Tab - Folder Physics Paper 2, BBC Bitesize, GCSE Pod, PDF Revision Sheets	GCSEPod
	Describe momentum and changes in momentum.		https://members.gcsepod.com/shared/podcasts/title/10489/64316
	Compare and contrast longitudinal and transverse waves, including sound waves.		https://members.gcsepod.com/shared/podcasts/title/10490/64326
	Calculate the period and wave speed of a wave.		GCSEPod
	Explain how light is reflected and refracted on different surfaces.		GCSEPod
	Describe our solar system including orbital motion.		GCSEPod
	Explain the life cycle of a star.		GCSEPod
Explain the term red-shift.	GCSEPod		
Handling Data	Interpreting data		
	Mode, mean (average), range and median		
	Plotting data		
	Anomolies		
Working Scientifically	Variables in practical planning		
	Methodology writing		
	Reproducibility & repretability		
	Hypothesis, predictions and aims		
	Errors - systematic, zero, human and random		
	Resolution, calibration and accuracy		
	Justification and evaluation		