YEAR TEN

	Unit title	Learning objectives	Assessment and Assignments
TERM 1	B1.1 Keeping Healthy	 evaluate information about the effect of food on health evaluate information about the effect of lifestyle on development of disease analyse and evaluate claims made by slimming programmes, and slimming products. relate the contribution of Semmelweiss in controlling infection to solving modern problems with the spread of infection in hospitals explain how the treatment of disease has changed as a result of increased understanding of the action of antibiotics and immunity evaluate the consequences of mutations of bacteria and viruses in relation to epidemics and pandemics evaluate the advantages and disadvantages of being vaccinated against a particular disease. 	End of Unit modules Tests. ISAs. Mock exam. GCSE exams.
	B1.2 Nerves and Hormones	 evaluate the benefits of, and the problems that may arise from, the use of hormones to control fertility, including In Vitro Fertilisation (IVF) evaluate the use of plant hormones in horticulture as weedkillers and to encourage the rooting of plant cuttings. 	
	B1.3 The use and Abuse of drugs	 evaluate the effect of statins in cardiovascular disease evaluate different types of drugs and why some people use illegal drugs for recreation evaluate claims made about the effect of prescribed and non-prescribed drugs on health consider the possible progression from recreational drugs to hard drugs evaluate the use of drugs to enhance performance in sport and to consider the ethical implications of their use. 	
TERM 2	C1.1 The fundamental ideas in Chemistry	 Atoms and elements are the building blocks of chemistry Atoms contain protons, neutrons and electrons When elements react they produce compounds. 	
	C1.2 Limestone and Building Materials	consider and evaluate the environmental, social and economic effects of exploiting limestone and	

		and the stand of the standard state of the second	
		producing building materials from it	
		evaluate the developments in using limestone,	
		cement and concrete as building materials, and	
		their advantages and disadvantages over other	
		materials.	
	C1.3 Metals	consider and evaluate the social, economic and	
		environmental impacts of exploiting metal ores, of	
		using metals and of recycling metals	
		evaluate the benefits, drawbacks and risks of	
		using metals as structural materials.	
	C1.4 Crude oil and Fuels	evaluate the impact on the environment of burning	
		hydrocarbon fuels	
		consider and evaluate the social, economic and	
		environmental impacts of the uses of fuels	
		evaluate developments in the production and uses	
		of better fuels, for example ethanol and hydrogen	
		evaluate the benefits, drawbacks and risks of	
		using plant materials to produce fuels.	
TERM 3	P1.1 The transfer of energy	compare ways in which energy is transferred in and	
	by heating processes and	out of objects by heating and ways in which the	
	the factors that affect the	rates of these transfers can be varied	
		evaluate the design of everyday appliances that	
	rate at which	transfer energy by heating, including economic	
	that energy is transferred	considerations	
		evaluate the effectiveness of different types of	
		material	
		used for insulation, including U-values and economic	
		factors including payback time	
		evaluate different materials according to their specific	
		heat capacities.	
	P1.2 Energy and Efficiency	 compare the efficiency and cost effectiveness of 	
		methods used to reduce 'energy consumption'	
		describe the energy transfers and the main energy	
		wastages that occur with a range of appliances	
		 interpret and draw a Sankey diagram. 	
	P1.3 The usefulness of	 compare the advantages and disadvantages of using 	
		different electrical appliances for a particular	
	electrical appliances	application	
		 consider the implications of instances when 	
		electricity is not available.	
		Electricity is hut available.	

Single Science AQA

YEAR ELEVEN

	Unit title	Learning objectives	Assessment and Assignments
TERM 1	B1.4Interdependence and Adaptation	 suggest how organisms are adapted to the conditions in which they live observe the adaptations, eg body shape, of a range of organisms from different habitats develop an understanding of the ways in which adaptations enable organisms to survive suggest the factors for which organisms are competing in a given habitat evaluate data concerned with the effect of environmental changes on the distribution and and behaviour of living organisms. 	End of Unit modules Tests. ISAs. Mock exam. GCSE exams.
	B1.5 Energy and Food Chains	 interpret pyramids of biomass and construct them from appropriate information. 	
	B1.6 Waste materials from plants and Animals	evaluate the necessity and effectiveness of schemes for recycling organic kitchen or garden waste.	
	B1.7 Genetic Variation and it's control	 interpret information about cloning techniques and genetic engineering techniques make informed judgements about the economic, social and ethical issues concerning cloning and genetic engineering, including genetically modified (GM) crops. 	
	B1.8 Evolution	 interpret evidence relating to evolutionary theory suggest reasons why Darwin's theory of natural selection was only gradually accepted identify the differences between Darwin's theory of evolution and conflicting theories, such as that of Lamarck suggest reasons for the different theories. 	
TERM 2	C1.5 Other useful substances from crude oil	 evaluate the social and economic advantages and disadvantages of using products from crude oil as fuels or as raw materials for plastics and other chemicals evaluate the social, economic and environmental impacts of the uses, disposal and recycling of polymers evaluate the advantages and disadvantages of making ethanol from renewable and non-renewable sources. 	
	C1.6 Plant oils and their	evaluate the effects of using vegetable oils in foods	

	uses	and the impacts on diet and health	
		 evaluate the use, benefits, drawbacks and risks of 	
		emulsifiers in foods.	
	C1.7 Changes in the Earth	recognise that the Earth's crust, the atmosphere and	
	and it's Atmosphere	the oceans are the only source of minerals and other	
		resources that humans need	
		explain why Wegener's theory of crustal movement	
		(continental drift) was not generally accepted for	
		many years	
		 explain why scientists cannot accurately predict when earthquakes and volcanic eruptions will occur 	
		 explain and evaluate theories of the changes that 	
		have occurred and are occurring in the Earth's	
		atmosphere	
		explain and evaluate the effects of human activities	
		on the atmosphere	
		describe why we do not know how life was first	
		formed.	
TERM 3	P1.4 Methods we use to	evaluate different methods of generating electricity	
	generate electricity	evaluate ways of matching supply with demand, either by increasing supply or degraphing demand	
		 either by increasing supply or decreasing demand compare the advantages and disadvantages of 	
		overhead power lines and underground cables.	
	P1.5 The use of waves for	 compare the use of different types of waves for 	
	communication and to	communication	
	provide evidence that the	evaluate the possible risks involving the use of	
	universe is	mobile phones	
		consider the limitations of the model that scientists	
	expanding	use to explain how the universe began and why the	
		universe continues to expand.	

Double Science AQA

YEAR TEN

	Unit title	Learning objectives	Assessment and Assignments
TERM 1	B1.1 Keeping Healthy B1.2 Nerves and Hormones	 evaluate information about the effect of food on health evaluate information about the effect of lifestyle on development of disease analyse and evaluate claims made by slimming programmes, and slimming products. relate the contribution of Semmelweiss in controlling infection to solving modern problems with the spread of infection in hospitals explain how the treatment of disease has changed as a result of increased understanding of the action of antibiotics and immunity evaluate the consequences of mutations of bacteria and viruses in relation to epidemics and pandemics evaluate the advantages and disadvantages of being vaccinated against a particular disease. evaluate the benefits of, and the problems that may 	End of Unit modules Tests. ISAs. Mock exam. GCSE exams.
		 arise from, the use of hormones to control fertility, including In Vitro Fertilisation (IVF) evaluate the use of plant hormones in horticulture as weedkillers and to encourage the rooting of plant cuttings. 	
	B1.3 The use and Abuse of drugs	 evaluate the effect of statins in cardiovascular disease evaluate different types of drugs and why some people use illegal drugs for recreation evaluate claims made about the effect of prescribed and non-prescribed drugs on health consider the possible progression from recreational drugs to hard drugs evaluate the use of drugs to enhance performance in sport and to consider the ethical implications of their use. 	
	B1.4Interdependence and Adaptation	 suggest how organisms are adapted to the conditions in which they live observe the adaptations, eg body shape, of a range of organisms from different habitats develop an understanding of the ways in which adaptations enable organisms to survive 	

	B1.5 Energy and Food	 suggest the factors for which organisms are competing in a given habitat evaluate data concerned with the effect of environmental changes on the distribution and behaviour of living organisms. interpret pyramids of biomass and construct them 	
	Chains	from appropriate information.	
	B1.6 Waste materials from plants and Animals	evaluate the necessity and effectiveness of schemes for recycling organic kitchen or garden waste.	
	B1.7 Genetic Variation and it's control	 interpret information about cloning techniques and genetic engineering techniques make informed judgements about the economic, social and ethical issues concerning cloning and genetic engineering, including genetically modified (GM) crops. 	
	B1.8 Evolution	 interpret evidence relating to evolutionary theory suggest reasons why Darwin's theory of natural selection was only gradually accepted identify the differences between Darwin's theory of evolution and conflicting theories, such as that of Lamarck suggest reasons for the different theories. 	
TERM 2	C1.1 The fundamental ideas in Chemistry	 Atoms and elements are the building blocks of chemistry Atoms contain protons, neutrons and electrons When elements react they produce compounds. 	
	C1.2 Limestone and Building Materials	 consider and evaluate the environmental, social and economic effects of exploiting limestone and producing building materials from it evaluate the developments in using limestone, cement and concrete as building materials, and their advantages and disadvantages over other materials. 	
	C1.3 Metals	 consider and evaluate the social, economic and environmental impacts of exploiting metal ores, of using metals and of recycling metals evaluate the benefits, drawbacks and risks of using metals as structural materials. 	
	C1.4 Crude oil and Fuels	 evaluate the impact on the environment of burning hydrocarbon fuels consider and evaluate the social, economic and environmental impacts of the uses of fuels evaluate developments in the production and uses of better fuels, for example ethanol and hydrogen 	

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		evaluate the benefits, drawbacks and risks of	
		using plant materials to produce fuels.	
	C1.5 Other useful	evaluate the social and economic advantages and	
	substances from crude oil	disadvantages of using products from crude oil as	
		fuels or as raw materials for plastics and other	
		chemicals	
		evaluate the social, economic and environmental	
		impacts of the uses, disposal and recycling of polymers	
		evaluate the advantages and disadvantages of	
		making ethanol from renewable and non-renewable	
		sources.	
	C1.6 Plant oils and their	evaluate the effects of using vegetable oils in foods	
	uses	and the impacts on diet and health	
		evaluate the use, benefits, drawbacks and risks of	
		emulsifiers in foods.	
	C1.7 Changes in the Earth	recognise that the Earth's crust, the atmosphere and	
	and it's Atmosphere	the oceans are the only source of minerals and other	
		resources that humans need	
		explain why Wegener's theory of crustal movement	
		(continental drift) was not generally accepted for	
		many years	
		explain why scientists cannot accurately predict	
		when earthquakes and volcanic eruptions will occur	
		explain and evaluate theories of the changes that	
		have occurred and are occurring in the Earth's	
		atmosphere	
		explain and evaluate the effects of human activities	
		on the atmosphere	
		describe why we do not know how life was first	
		formed.	
TERM 3	P1.1 The transfer of energy	compare ways in which energy is transferred in and	
	by heating processes and	out of objects by heating and ways in which the	
	the factors that affect the	rates of these transfers can be varied	
	rate at which	evaluate the design of everyday appliances that	
		transfer energy by heating, including economic	
	that energy is transferred	considerations	
		evaluate the effectiveness of different types of	
		material	
		used for insulation, including U-values and economic	
		factors including payback time	
		evaluate different materials according to their specific	
		heat capacities.	
	P1.2 Energy and Efficiency	compare the efficiency and cost effectiveness of	
		methods used to reduce 'energy consumption'	
		describe the energy transfers and the main energy	1

	 wastages that occur with a range of appliances interpret and draw a Sankey diagram. 	
P1.3 The usefulness of electrical appliances	 compare the advantages and disadvantages of using different electrical appliances for a particular application consider the implications of instances when electricity is not available. 	
P1.4 Methods we use to generate electricity	 evaluate different methods of generating electricity evaluate ways of matching supply with demand, either by increasing supply or decreasing demand compare the advantages and disadvantages of overhead power lines and underground cables. 	
P1.5 The use of waves for communication and to provide evidence that the universe is expanding	 compare the use of different types of waves for communication evaluate the possible risks involving the use of mobile phones consider the limitations of the model that scientists use to explain how the universe began and why the universe continues to expand. 	

Double Science AQA

YEAR ELEVEN

	Unit title	Learning objectives	Assessment and Assignments
TERM 1	B2.1 Cells and simple cell	relate the structure of different types of cells to	End of Unit modules Tests.
	transport	their function.	ISAs.
			Mock exam.
			GCSE exams.
	B2.2 Tissues, organs and	Know the functions of cells, tissues, organs	
	organ systems		
	B2.3 Photosynthesis	interpret data showing how factors affect the rate of photosynthesis	
		 evaluate the benefits of artificially manipulating the 	
		environment in which plants are grown.	
	B2.4 Organisms and their	suggest reasons for the distribution of living	
	environment	organisms in a particular habitat	
		evaluate methods used to collect environmental	
		data, and consider the validity of the method and the reproducibility of the data as evidence for	
		environmental change.	
	B2.5 Proteins – their	evaluate the advantages and disadvantages of using	
	functions and uses	enzymes in the home and in industry.	
	B2.6 Aerobic and	interpret the data relating to the effects of exercise	
	anaerobic respiration	on the human body	
	B2.7 Cell division and	explain why Mendel proposed the idea of separately	
	inheritance	inherited factors and why the importance of this	
		discovery was not recognised until after his death ■ interpret genetic diagrams, including family trees	
		 Interpret genetic diagrams, including family frees construct genetic diagrams of monohybrid 	
		crosses and predict the outcomes of	
		monohybrid crosses and be able to use the	
		terms homozygous, heterozygous, phenotype	
		and genotype	
		predict and /or explain the outcome of crosses	
		between individuals for each possible combination of dominant and recessive alleles of the same gene	
		make informed judgements about the social and	
		ethical issues concerning the use of stem cells from	
		embryos in medical research and treatments	
		make informed judgements about the economic,	
		social and ethical issues concerning embryo	

		screening.	
	B2.8 Speciation	suggest reasons why scientists cannot be certain about how life began on Earth.	
TERM 2	C2.1 Structure and bonding	 write formulae for ionic compounds from given symbols and ionic charges represent the electronic structure of ions represent the covalent bonds in molecules represent the bonding in metals 	
	C2.2 How structure influences the properties and uses of substances	 relate the properties of substances to their uses suggest the type of structure of a substance given its properties evaluate developments and applications of new materials, eg nanomaterials, fullerenes and shape memory materials. 	
	C2.3 Atomic structure, analysis and quantitative chemistry	evaluate sustainable development issues relating the starting materials of an industrial process to the product yield and the energy requirements of the reactions involved.	
	C2.4 Rates of reaction	 interpret graphs showing the amount of product formed (or reactant used up) with time, in terms of the rate of the reaction explain and evaluate the development, advantages and disadvantages of using catalysts in industrial processes. 	
	C2.5 Exothermic and endothermic reactions	evaluate everyday uses of exothermic and endothermic reactions.	
	C2.6 Acids, bases and salts	select an appropriate method for making a salt, given appropriate information.	
	C2.7 Electrolysis	 predict the products of electrolysing solutions of ions explain and evaluate processes that use the principles described in this unit, including the use of electroplating. 	
TERM 3	P2.1 Forces and their effects	 interpret data from tables and graphs relating to speed, velocity and acceleration evaluate the effects of alcohol and drugs on stopping distances evaluate how the shape and power of a vehicle can be altered to increase the vehicle's top speed draw and interpret velocity-time graphs for objects that reach terminal velocity, including a consideration of the forces acting on the object. 	
	P2.2 The kinetic energy of objects speeding up or slowing down	 evaluate the benefits of different types of braking system, such as regenerative braking. evaluate the benefits of air bags, crumple zones, seat belts and side impact bars in cars. 	

circuits	 apply the principles of basic electrical circuits to practical situations evaluate the use of different forms of lighting, in terms of cost and energy efficiency. 	
safely and the power of electrical appliances	 understand the principles of safe practice and recognise dangerous practice in the use of mains electricity compare the uses of fuses and circuit breakers evaluate and explain the need to use different cables for different appliances consider the factors involved when making a choice of electrical appliances. 	
P2.5 What happens when radioactive substances decay, and the uses and dangers of their emissions	 evaluate the effect of occupation and/or location on the level of background radiation and radiation dose evaluate the possible hazards associated with the use of different types of nuclear radiation evaluate measures that can be taken to reduce exposure to nuclear radiations evaluate the appropriateness of radioactive sources for particular uses, including as tracers, in terms of the type(s) of radiation emitted and their half-lives explain how results from the Rutherford and Marsden scattering experiments led to the 'plum pudding' model being replaced by the nuclear model. 	
P2.6 Nuclear fission and nuclear fusion	compare the uses of nuclear fusion and nuclear fission.	

Triple Science AQA

YEAR TEN

	Unit title	Learning objectives	Assessment and Assignments
TERM 1	B1.1 Keeping Healthy B1.2 Nerves and Hormones	 evaluate information about the effect of food on health evaluate information about the effect of lifestyle on development of disease analyse and evaluate claims made by slimming programmes, and slimming products. relate the contribution of Semmelweiss in controlling infection to solving modern problems with the spread of infection in hospitals explain how the treatment of disease has changed as a result of increased understanding of the action of antibiotics and immunity evaluate the consequences of mutations of bacteria and viruses in relation to epidemics and pandemics evaluate the advantages and disadvantages of being vaccinated against a particular disease. evaluate the benefits of, and the problems that may arise from, the use of hormones to control fertility, 	End of Unit modules Tests. ISAs. Mock exam. GCSE exams.
	B1.3 The use and Abuse of	 anse from, the use of normones to control fertility, including In Vitro Fertilisation (IVF) evaluate the use of plant hormones in horticulture as weedkillers and to encourage the rooting of plant cuttings. evaluate the effect of statins in cardiovascular 	
	drugs	 disease evaluate different types of drugs and why some people use illegal drugs for recreation evaluate claims made about the effect of prescribed and non-prescribed drugs on health consider the possible progression from recreational drugs to hard drugs evaluate the use of drugs to enhance performance in sport and to consider the ethical implications of their use. 	
	B1.4Interdependence and Adaptation	 suggest how organisms are adapted to the conditions in which they live observe the adaptations, eg body shape, of a range of organisms from different habitats develop an understanding of the ways in which adaptations enable organisms to survive 	

D4.5.5 Second Secol	 suggest the factors for which organisms are competing in a given habitat evaluate data concerned with the effect of environmental changes on the distribution and behaviour of living organisms. 	
B1.5 Energy and Food Chains	 interpret pyramids of biomass and construct them from appropriate information. 	
B1.6 Waste materials from plants and Animals	evaluate the necessity and effectiveness of schemes for recycling organic kitchen or garden waste.	
B1.7 Genetic Variation and it's control	 interpret information about cloning techniques and genetic engineering techniques make informed judgements about the economic, social and ethical issues concerning cloning and genetic 	
B1.8 Evolution	 engineering, including genetically modified (GM) crops. interpret evidence relating to evolutionary theory suggest reasons why Darwin's theory of natural selection was only gradually accepted identify the differences between Darwin's theory of evolution and conflicting theories, such as that of Lamarck suggest reasons for the different theories. 	
B2.1 Cells and simple cell transport	 relate the structure of different types of cells to their function. 	
B2.2 Tissues, organs and organ systems	Know the functions of cells, tissues, organs	
B2.3 Photosynthesis	 interpret data showing how factors affect the rate of photosynthesis evaluate the benefits of artificially manipulating the environment in which plants are grown. 	
B2.4 Organisms and their environment	 suggest reasons for the distribution of living organisms in a particular habitat evaluate methods used to collect environmental data, and consider the validity of the method and the reproducibility of the data as evidence for environmental change. 	
B2.5 Proteins – their functions and uses	evaluate the advantages and disadvantages of using enzymes in the home and in industry.	
B2.6 Aerobic and anaerobic respiration	interpret the data relating to the effects of exercise on the human body	
B2.7 Cell division and inheritance	explain why Mendel proposed the idea of separately inherited factors and why the importance of this	

		 discovery was not recognised until after his death interpret genetic diagrams, including family trees construct genetic diagrams of monohybrid crosses and predict the outcomes of monohybrid crosses and be able to use the terms homozygous, heterozygous, phenotype and genotype predict and /or explain the outcome of crosses between individuals for each possible combination of dominant and recessive alleles of the same gene 	
		 make informed judgements about the social and ethical issues concerning the use of stem cells from embryos in medical research and treatments make informed judgements about the economic, social and ethical issues concerning embryo screening. 	
	B2.8 Speciation	suggest reasons why scientists cannot be certain about how life began on Earth.	
TERM 2	C1.1 The fundamental ideas in Chemistry	 Atoms and elements are the building blocks of chemistry Atoms contain protons, neutrons and electrons When elements react they produce compounds. 	
	C1.2 Limestone and Building Materials	 consider and evaluate the environmental, social and economic effects of exploiting limestone and producing building materials from it evaluate the developments in using limestone, cement and concrete as building materials, and their advantages and disadvantages over other materials. 	
	C1.3 Metals	 consider and evaluate the social, economic and environmental impacts of exploiting metal ores, of using metals and of recycling metals evaluate the benefits, drawbacks and risks of using metals as structural materials. 	
	C1.4 Crude oil and Fuels	 evaluate the impact on the environment of burning hydrocarbon fuels consider and evaluate the social, economic and environmental impacts of the uses of fuels evaluate developments in the production and uses of better fuels, for example ethanol and hydrogen evaluate the benefits, drawbacks and risks of using plant materials to produce fuels. 	
	C1.5 Other useful substances from crude oil	 evaluate the social and economic advantages and disadvantages of using products from crude oil as fuels or as raw materials for plastics and other 	

e evaluate the social, economic and environmental impacts of the uses, elipsocial and recycling of polymers e evaluate the advantages and disadvantages of making ethanol from renewable and non-renewable sources. C1.6 Plant oils and their uses evaluate the fetcts of using vegetable oils in foods and the impacts on diet and health evaluate the uses. benefits, drawbacks and risks of emulatifies in foods. C1.7 Changes in the Earth and it's Atmosphere and it's Atmosphere explain why Wegener's theory of crustal movement (continental drift was not generally accepted for many years e explain why Selmists cannot accurately predict when earthquakes and violance eruptions will occur e explain why Selmists cannot accurately predict when earthquakes and violance eruptions will occur e explain and evaluate the effects of human activities on the atmosphere e description of one know how life was first formed. C2.1 Structure and bonding eruption of the effects of numan call or explain and evaluate the effects of numan activities on the atmosphere e description explored on a know how life was first e regresent the covalent bonds in molecules e regresent the downlow in a distalence of a substances to their user of a substances to their uses e regresent the downlow in a polications of new materials, eq nanomaterials, fullerenes and shape memory materials. C2.1 Atomic structure, andysis and quantitative chemistry e evaluate substance for head on industal product information materials, fullerenes and shape memory materials. C2.4 Rates of reaction in the rate of the reaction e rayelain and evaluate the development, advantages			
impacts of the uses, disposal and recycling of polymers evaluate the advantages and disadvantages of making entance from renewable and non-renewable sources. C1.6 Plant oils and their uses • evaluate the effects of using vegetable oils in foods and the impacts on diet and health • evaluate the use, benefits, drawbacks and risks of emulsifiers in foods. C1.7 Changes in the Earth and it's Atmosphere • recognise that the Earth • recognise that the Earth evaluate the use, benefits, drawbacks and risks of emulsifiers in foods. C1.7 Changes in the Earth and it's Atmosphere • recognise that the Earth evaluate the ore, benefits, drawbacks and risks of emulsifiers in foods. C2.1 Structure and bonding • recognise that the Earth explain and Wegener's theory of crustal movement (continental drift) was not generally accepted for many years explain thy Wegener's theory of crustal movement (continental drift) was not generally accepted for many years explain and evaluate the effects of human activities on the atmosphere explain and evaluate the effects of human activities on the atmosphere explain and evaluate the effects of human activities and uses of substances represent the covalent bonding in metals C2.1 Structure and bonding • relate the properties of substances to their uses • represent the covalent bonds in molecules • revaluate developments and applications of new materials		chemicals	
e-valuate the advantages and disadvantages of making ethanol from renewable ad non-renewable sources. C1.6 Plant oils and their uses e-valuate the effects of using vegetable oils in foods and the impacts on diet and health e-valuate the use, benefits, drawbacks and risks of emulsifiers in foods. C1.7 Changes in the Earth and it's Atmosphere recognise that the Earth's cruist, the atmosphere and the oceans are the only source of minerals and other resources that humans need e-explain why Wegener's theory of crust an movement (continental drift) was not generally accepted for when earthquakes and volcanic eruptions will occur e-explain and evaluate the effects of human activities on the atmosphere e-explain and evaluate the effects of human activities on the atmosphere e-explain and evaluate the effects of human activities on the atmosphere e-explain and evaluate the effects of human activities on the atmosphere e-explain and evaluate the origes e-explain and evaluate the origes e-explain grant e-explain and evaluate the origes e-explain grant e-explain grant e-explain and evaluate the orige or substances to rise e-explain and evaluate the development issues relating the starting materials. fullerenes and shape e-explain and evaluate the development, adv			
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		processes.	
	C2.5 Exothermic and endothermic reactions	 evaluate everyday uses of exothermic and endothermic reactions. 	
	C2.6 Acids, bases and salts	select an appropriate method for making a salt, given appropriate information.	
	C2.7 Electrolysis	 predict the products of electrolysing solutions of ions explain and evaluate processes that use the principles described in this unit, including the use of electroplating. 	
TERM 3	P1.1 The transfer of energy by heating processes and the factors that affect the rate at which that energy is transferred	 compare ways in which energy is transferred in and out of objects by heating and ways in which the rates of these transfers can be varied evaluate the design of everyday appliances that transfer energy by heating, including economic considerations evaluate the effectiveness of different types of material used for insulation, including U-values and economic factors including payback time evaluate different materials according to their specific heat capacities. 	
	P1.2 Energy and Efficiency	 compare the efficiency and cost effectiveness of methods used to reduce 'energy consumption' describe the energy transfers and the main energy wastages that occur with a range of appliances interpret and draw a Sankey diagram. 	
	P1.3 The usefulness of electrical appliances	 compare the advantages and disadvantages of using different electrical appliances for a particular application consider the implications of instances when electricity is not available. 	
	P1.4 Methods we use to generate electricity	 evaluate different methods of generating electricity evaluate ways of matching supply with demand, either by increasing supply or decreasing demand compare the advantages and disadvantages of overhead power lines and underground cables. 	
	P1.5 The use of waves for communication and to provide evidence that the universe is expanding	 compare the use of different types of waves for communication evaluate the possible risks involving the use of mobile phones consider the limitations of the model that scientists use to explain how the universe began and why the universe continues to expand. 	

Triple Science AQA

YEAR ELEVEN

	Unit title	Learning objectives	Assessment and Assignments
TERM 1	B3.1 Movement of molecules in and out of cells	 evaluate the development and use of artificial aids to breathing, including the use of artificial ventilators evaluate the claims of manufacturers about sports drinks analyse and evaluate the conditions that affect water loss in plants. 	End of Unit modules Tests. ISAs. Mock exam. GCSE exams.
	B3.2 Transport systems in plants and animals	 evaluate data on the production and use of artificial blood products evaluate the use of artificial hearts and heart valves evaluate the use of stents. 	
	B3.3 Homeostasis	 evaluate the advantages and disadvantages of treating kidney failure by dialysis or kidney transplant evaluate modern methods of treating diabetes. 	
	B3.4 Humans and their environment	 analyse and interpret scientific data concerning environmental issues evaluate methods used to collect environmental data and consider their validity and reliability as evidence for environmental change evaluate the methods being used to feed and provide water to an increasing human population, both in terms of short term and long term effects evaluate the use of biogas generators evaluate the positive and negative effects of managing food production and distribution, and be able to recognise that practical solutions for human needs may require compromise between competing priorities. 	
TERM 2	C3.1 The periodic table	 evaluate the work of Newlands and Mendeleev in terms of their contributions to the development of the modern periodic table explain why scientists regarded a periodic table of the elements first as a curiosity, then as a useful tool and finally as an important summary of the structure of atoms. 	
	C3.2 Water C3.3 Calculating and	 evaluate the use of commercial water softeners consider and evaluate the environmental, social and economic aspects of water quality and hardness consider the advantages and disadvantages of adding chlorine and fluoride to drinking water. consider the social, economic and environmental 	

	explaining energy change	consequences of using fuels	
		interpret simple energy level diagrams in terms of	
		bond breaking and bond formation (including the	
		idea of activation energy and the effect on this	
		of catalysts)	
		evaluate the use of hydrogen to power cars	
		compared to other fuels	
	C3.4 Further analysis and	interpret results of the chemical tests in this	
	-	specification	
	quantitative chemistry	 interpret and evaluate the results of analyses carried 	
		out to identify elements and compounds for	
		forensic, health or environmental purposes.	
	C3.5 The production of	 evaluate the conditions necessary in an industrial 	
		process to maximise yield and minimise	
	ammonia	environmental impact	
		describe and evaluate the effects of changing	
		the conditions of temperature and pressure on	
		a given reaction or process	
		 evaluate the conditions used in industrial processes 	
		•	
TERMAN		in terms of energy requirements.	
TERM 3	P2.1 Forces and their	interpret data from tables and graphs relating to	
	effects	speed, velocity and acceleration	
		evaluate the effects of alcohol and drugs on evaluate the effects of alcohol and drugs on	
		stopping distances	
		evaluate how the shape and power of a vehicle	
		can be altered to increase the vehicle's top speed	
		draw and interpret velocity-time graphs for objects	
		that reach terminal velocity, including a consideration	
		of the forces acting on the object.	
	P2.2 The kinetic energy of	evaluate the benefits of different types of braking	
	objects speeding up or	system, such as regenerative braking.	
	slowing down	 evaluate the benefits of air bags, crumple zones, 	
		seat belts and side impact bars in cars.	
	P2.3 Currents in electrical	apply the principles of basic electrical circuits to	
	circuits	practical situations	
		evaluate the use of different forms of lighting,	
		in terms of cost and energy efficiency.	
	P2.4 Using mains electricity	understand the principles of safe practice and	
	safely and the power of	recognise dangerous practice in the use of mains	
		electricity	
		compare the uses of fuses and circuit breakers	
		evaluate and explain the need to use different cables	
		for different appliances	
		consider the factors involved when making a choice	
		of electrical appliances.	
	safely and the power of electrical appliances	 recognise dangerous practice in the use of mains electricity compare the uses of fuses and circuit breakers evaluate and explain the need to use different cables for different appliances consider the factors involved when making a choice 	

P2.5 What happens w radioactive substance decay, and the uses a dangers of their emis P2.6 Nuclear fission a	 on the level of background radiation and radiation dose evaluate the possible hazards associated with the use of different types of nuclear radiation evaluate measures that can be taken to reduce exposure to nuclear radiations evaluate the appropriateness of radioactive sources for particular uses, including as tracers, in terms of the type(s) of radiation emitted and their half-lives explain how results from the Rutherford and Marsden scattering experiments led to the 'plum pudding' model being replaced by the nuclear model. compare the uses of nuclear fusion and 	
nuclear fusion P3.1 Medical applicat of physics	 nuclear fission. ions draw and interpret ray diagrams in order to determine the nature of the image evaluate the use of different lenses for the correction of defects of vision compare the medical use of ultrasound and X rays evaluate the advantages and disadvantages of using ultrasound, X-rays and Computerised Tomography (CT) scans. 	
P3.2 Using physics to things work	 make analyse the stability of objects by evaluating their tendency to topple recognise the factors that affect the stability of an object evaluate how the design of objects affects their stability interpret and evaluate data on objects moving in circular paths. 	
P3.3 Keeping things moving	 interpret diagrams of electromagnetic appliances in order to explain how they work compare the use of different types of transformer for a particular application. 	