



AQA Certificate in Science: Double Award

Comparison of content with separate science certificates

This document is a comparison of the subject content in the AQA Level 1/2 Certificates in Biology, Chemistry and Physics and the subject content in the AQA Level 1/2 Certificate in Science: Double Award.

This document is not intended to replace the relevant specifications which will remain the definitive source of information for those qualifications.

| Changes to previous published versions are marked with a side bar.

Physics

Topic	Content common to AQA Certificate in Physics and AQA Certificate in Science: Double Award		Content in AQA Certificate in Physics only
	Section in Physics	Section in Double Award	
Forces and their effects	1.1 Motion 1.2 Resultant forces 1.3 Momentum 1.4 Forces and braking 1.5 Forces and terminal velocity 1.6 Forces and elasticity 1.7 Forces and energy	P1.1 Motion P1.2 Resultant forces P1.3 Momentum P1.4 Forces and braking P1.5 Forces and terminal velocity P1.6 Forces and elasticity P1.7 Forces and energy	1.8 Centre of mass 1.9 Moments 1.10 Circular motion 1.11 Hydraulics
Waves	2.1 General properties of waves 2.2 The electromagnetic spectrum 2.3 Sound and ultrasound 2.4 Reflection 2.7 Red-shift	P2.1 General properties of waves P2.2 The electromagnetic spectrum spectrum P2.3 Sound P2.4 Reflection P2.5 Red-shift	Ultrasound 2.5 Refraction and total internal reflection 2.6 Lenses and the eye

Topic	Content common to AQA Certificate in Physics and AQA Certificate in Science: Double Award		Content in AQA Certificate in Physics only
	Section in Physics	Section in Double Award	
Heating processes	3.1 Kinetic theory 3.2 Energy transfer by heating 3.3 Infrared radiation 3.4 Energy transfers and efficiency 3.5 Heating and insulating buildings	P3.1 Kinetic theory P3.2 Energy transfer by heating P3.3 Infrared radiation P3.4 Energy transfers and efficiency P3.5 Heating and insulating buildings	
Electricity	4.1 Electrical circuits 4.2 Household electricity 4.3 Transferring electrical energy 4.4 The National Grid	P4.1 Electrical circuits P4.2 Household electricity P4.3 Transferring electrical energy P4.4 The National Grid	
Motors, generators and transformers			5.1 The motor effect 5.2 The generator effect 5.3 Transformers
Nuclear physics	6.1 Atomic structure 6.2 Atoms and radiation 6.3 Nuclear fission 6.4 Nuclear fusion	P5.1 Atomic structure P5.2 Atoms and radiation P5.3 Nuclear fission P5.4 Nuclear fusion	

Chemistry

Topic	Content common to AQA Certificate in Chemistry and AQA Certificate in Science: Double Award		Content in AQA Certificate in Chemistry only
	Section in Chemistry	Section in Double Award	
The fundamental ideas in chemistry	1.1 Solids, liquids and gases 1.2 Atoms 1.3 Chemical reactions and related calculations 4.1 The periodic table	C1.1 Solids, liquids and gases C1.2 Atoms C1.3 Chemical reactions and related calculations C1.4 The periodic table	Percentage of mass by atomic mass Empirical formulae Not always possible to calculate amount of product in reaction Yield and calculating percentage yield 4.2 Trends within the periodic table
Bonding and structure	2.1 Bonding 2.2 Structure and how it influences the properties and uses of substances	C2.1 Bonding C2.2 Structure and how it influences the properties and uses of substances	Nanoscience – nanoparticles and applications
Air and water	3.1 Air and oxygen 3.2 Water 3.3 Rusting	C3.1 Air and oxygen C3.2 Water C3.3 Rusting	

Topic	Content common to AQA Certificate in Chemistry and AQA Certificate in Science: Double Award		Content in AQA Certificate in Chemistry only
	Section in Chemistry	Section in Double Award	
Acids, bases and salts	5.1 Acids, bases and salts 5.2 Making salts 5.3 Metal carbonates	C4.1 Acids, bases and salts C4.2 Making salts C4.3 Metal carbonates	Acids react with bases to form salts in neutralisation reactions
Metals	6.1 The reactivity series 6.2 Extracting metals 6.3 Structure and bonding in metals and alloys 6.4 Properties and uses of metals	C5.1 The reactivity series C5.2 Extracting metals C5.3 Structure and bonding in metals and alloys C5.4 Properties and uses of metals	Extracting copper by smelting Purifying copper by electrolysis Environmental impacts of traditional mining and extraction methods
Rates of reaction	7 Rates of reaction	C6 Rates of reaction	
Crude oil and fuels	8.1 Crude oil 8.2 Hydrocarbons 8.3 Fuels	C7.1 Crude oil C7.2 Hydrocarbons C7.3 Fuels	

Topic	Content common to AQA Certificate in Chemistry and AQA Certificate in Science: Double Award		Content in AQA Certificate in Chemistry only
	Section in Chemistry	Section in Double Award	
Other useful substances from crude oil	9.1 Obtaining useful substances from crude oil 9.2 Polymers	C8.1 Obtaining useful substances from crude oil C8.2 Polymers	Ethanol production by reacting ethene with steam in presence of a catalyst
Alcohols, carboxylic acids and esters			10.1 Alcohols 10.2 Carboxylic acids 10.3 Esters
Energy changes in chemical reactions	11.1 Exothermic and endothermic reactions	C9 Exothermic and endothermic reactions	11.2 Calculating and explaining energy changes
The production of ammonia			12 The production of ammonia
Electrolysis	13 Electrolysis	C10 Electrolysis	
Analysis	14.1 Analysing substances 14.2 Analysis of mixtures	C11.1 Analysing substances (inc. definition of a mixture, separating substances in mixtures by physical methods, paper chromatography from 14.2)	

Biology

Topic	Content common to AQA Certificate in Biology and AQA Certificate in Science: Double Award		Content in AQA Certificate in Biology only
	Section in Biology	Section in Double Award	
Cell activity	1.1 Cell structure 1.2 The movement of substances into and out of cells 1.3 Cell division	B1.1 Cell structure B1.2 The movement of substances into and out of cells B1.3 Cell division	Tumours
Tissues, organs and organ systems	2.1 Organisation 2.2 Animal tissues, organs and systems 2.3 Plant tissues, organs and systems	B2.1 Organisation B2.2 Animal tissues, organs and systems B2.3 Plant tissues, organs and systems	
Carbohydrates, lipids, proteins and enzymes	3.1 Carbohydrates, lipids and proteins 3.2 Enzymes	B3.1 Carbohydrates, lipids and proteins B3.2 Enzymes	
Human biology	4.1 Breathing 4.2 Respiration 4.4 Digestion 4.6 Homeostasis	B4.1 Breathing B4.1 Respiration B4.3 Digestion B4.4 Homeostasis (inc. reflex actions)	4.3 Circulation 4.5 The nervous system (inc. reflex actions) Control of water and ion content of the body

Topic	Content common to AQA Certificate in Biology and AQA Certificate in Science: Double Award		Content in AQA Certificate in Biology only
	Section in Biology	Section in Double Award	
Defending ourselves against infectious disease	5 Defending ourselves against infectious disease	B5 Defending ourselves against infectious disease	
Plants as organisms	6.1 Photosynthesis 6.3 Plant responses	B6.1 Photosynthesis B6.2 Plant responses	6.2 Exchange and transport 6.4 Sexual reproduction in plants
Variation and inheritance	7.1 Genetic variation 7.2 Genetic disorders 7.3 Genetic manipulation	B7.1 Genetic variation B7.2 Genetic disorders B7.3 Genetic manipulation	Embryos can be screened for alleles that cause disorders Concerns about embryo screening
Adaptation and interdependence	8.1 Adaptation 8.2 Environmental change and distribution of organisms	B8.1 Adaptation B8.2 Environmental change and distribution of organisms	Parasites 8.3 Humans and their effects on the environment
Evolution	9.1 Natural selection 9.2 Speciation	B9.1 Natural selection B9.2 Speciation	

Topic	Content common to AQA Certificate in Biology and AQA Certificate in Science: Double Award		Content in AQA Certificate in Biology only
	Section in Biology	Section in Double Award	
Energy and biomass in food chains	10 Energy and biomass in food chains	B10 Energy and biomass in food chains	Improving the efficiency of food production by reducing the number of stages in a food chain Improving the efficiency of food production by restricting energy losses Fish stocks
Decay and the carbon cycle	11 Decay and the carbon cycle	B11 Decay and the carbon cycle	