Co-teaching GCSE Physics and GCSE Combined Science: Trilogy

This high level co-teaching guide will help you plan your route through the course. You'll be able to see what common themes and topics span across both GCSE Physics (8463) and GCSE Combined Science: Trilogy (8464).

Once the specifications are accredited we'll be able to publish the extra content for each topic to support your more detailed lesson planning.

4.1 Energy

4.1.1 Energy changes in a system, and the ways energy is stored before and after such changes

Subject content ref	Both specifications	GCSE Physics (8463) only
4.1.1.1	Energy stores and systems	
4.1.1.2	Changes in energy	
4.1.1.3	Energy changes in systems	
4.1.1.4	Work	
4.1.1.5	Power	

4.1.2 Conservation and dissipation of energy

Subject content ref	Both specifications	GCSE Physics (8463) only
4.1.2.1	Energy transfers in a system	
4.1.2.2	Efficiency	

4.1.3 National and global energy resources

Subject content ref	Both specifications	GCSE Physics (8463) only
4.1.3	National and global energy resources	

4.2 Electricity

4.2.1 Current, potential difference and resistance

Subject content ref	Both specifications	GCSE Physics (8463) only
4.2.1.1	Standard circuit diagram symbols	
4.2.1.2	Electrical charge and current	
4.2.1.3	Current, resistance and potential difference	
4.2.1.4	Resistors	

4.2.2 Series and parallel circuits

Subject content ref	Both specifications	GCSE Physics (8463) only
4.2.2	Series and parallel circuits	

4.2.3 Domestic uses and safety

Subject content ref	Both specifications	GCSE Physics (8463) only
4.2.3.1	Direct and alternating potential difference	
4.2.3.2	Mains electricity	

4.2.4 Energy transfers

Subject content ref	Both specifications	GCSE Physics (8463) only
4.2.4.2	Energy transfers in everyday appliances	
4.2.4.3	The National Grid	
4.1.1.3	Energy changes in systems	

4.2.5 Static electricity

Subject content ref	Both specifications	GCSE Physics (8463) only
4.2.5.1		Static charge

4.2.5.2		Electric fields

4.3 Particle model of matter

4.3.1 Changes of state and the particle model

Subject content ref	Both specifications	GCSE Physics (8463) only
4.3.1.1	Density of materials	
4.3.1.2	Changes of state	

4.3.2 Internal energy and energy transfers

Subject content ref	Both specifications	GCSE Physics (8463) only
4.3.2.1	Internal energy	
4.3.2.2	Temperature changes in a system and specific heat capacity	
4.3.2.3	Changes of heat and specific latent heat	

4.3.3 Particle model and pressure

Subject content ref	Both specifications	GCSE Physics (8463) only
4.3.3.1	Particle motion in gases	
4.3.3.2		Pressure in gases
4.3.3.3		Increasing the pressure of a gas (HT only)

4.4 Atomic structure

4.4.1 Atoms and isotopes

Subject content ref	Both specifications	GCSE Physics (8463) only
4.4.1.1	The structure of an atom	

4.4.1.2	Mass number, atomic number and isotopes	
4.4.1.3	The development of the model of the atom	

4.4.2 Atoms and nuclear radiation

Subject content ref	Both specifications	GCSE Physics (8463) only
4.4.2.1	Radioactive decay and nuclear radiation	
4.4.2.2	Nuclear equations	
4.4.2.3	Half-lives and the random nature of radioactive decay	
4.4.2.4	Radioactive contamination	

4.4.3 Hazards and uses of radioactive emissions and of background

Subject content ref	Both specifications	GCSE Physics (8463) only
4.4.3.1		Background radiation
4.4.3.2		Different half-lives of radioactive isotopes
4.4.3.3		Uses of nuclear radiation

4.4.4 Nuclear fission and fusion

Subject content ref	Both specifications	GCSE Physics (8463) only
4.4.4.1		Nuclear fission
4.4.4.2		Nuclear fusion

4.5 Forces

4.5.1 Forces and their interactions

Subject content ref	Both specifications	GCSE Physics (8463) only
4.5.1.1	Scalar and vector quantities	
4.5.1.2	Contact and non-contact forces	
4.5.1.3	Gravity	
4.5.1.4	Resultant forces	

4.5.2 Work done and energy transfer

Subject content ref	Both specifications	GCSE Physics (8463) only
4.5.2	Work done and energy transfer	

4.5.3 Forces and elasticity

Subject content ref	Both specifications	GCSE Physics (8463) only
4.5.3	Forces and elasticity	

4.5.4 Moments, levers and gears

Subject content ref	Both specifications	GCSE Physics (8463) only
4.5.4		Moments, levers and gears

4.5.5 Pressure and pressure differences in fluids

Subject content ref	Both specifications	GCSE Physics (8463) only
4.5.5.1	Pressure in a fluid	
4.5.5.1.1	Pressure in a fluid 1	
4.5.5.1.2	Pressure in a fluid 2 (HT only)	
4.5.5.2	Atmospheric pressure	

4.5.6 Forces and motion

Subject content ref	Both specifications	GCSE Physics (8463) only
4.5.6.1	Describing motion along a line	
4.5.6.1.1	Distance and displacement	
4.5.6.1.2	Speed	
4.5.6.1.3	Velocity	
4.5.6.1.4	The distance-time relationship	
4.5.6.1.5	Acceleration	
4.5.6.2	Forces, accelerations and Newton's Laws of motion	
4.5.6.2.1	Newton's First Law	
4.5.6.2.2	Newton's Second Law	
4.5.6.2.3	Newton's Third Law	
4.5.6.3	Forces and braking	
4.5.6.3.1	Stopping distance	
4.5.6.3.2	Reaction time	
4.5.6.3.3	Factors affecting braking distance 1	
4.5.6.3.4	Factors affecting braking distance 2	

4.5.7 Momentum (HT only)

Subject content ref	Both specifications	GCSE Physics (8463) only
4.5.7.1	Momentum is a property of moving objects	
4.5.7.2	Conservation of momentum	
4.5.7.3		Changes in momentum

4.6 Waves

4.6.1 Waves in air, fluids and solids

Subject content ref	Both specifications	GCSE Physics (8463) only
4.6.1.1	Transverse and longitudinal waves	
4.6.1.2	Properties of waves	
4.6.1.3		Reflection of waves
4.6.1.4		Sound waves (HT only)
4.6.1.5		Waves for detection and exploration (HT only)

4.6.2 Electromagnetic waves

Subject content ref	Both specifications	GCSE Physics (8463) only
4.6.2.1	Types of electromagnetic waves	
4.6.2.2	Properties of electromagnetic waves 1	
4.6.2.3	Properties of electromagnetic waves 2	
4.6.2.4	Uses and applications of electromagnetic waves	
4.6.2.5		Lenses
4.6.2.6		Visible light

4.6.3 Black body radiation

Subject content ref	Both specifications	GCSE Physics (8463) only
4.6.3.1		Emission and absorption of infrared radiation
4.6.3.2		Perfect black bodies and radiation

4.7 Magnetism and electromagnetism

4.7.1 Permanent and induced magnetism, magnetic forces and fields

Subject content ref	Both specifications	GCSE Physics (8463) only
4.7.1.1	Poles of a magnet	
4.7.1.2	Magnetic fields	
4.7.1.1	Poles of a magnet	

4.7.2 The motor effect

Subject content ref	Both specifications	GCSE Physics (8463) only
4.7.2.1	Electromagnetism	
4.7.2.2	Fleming's left-hand rule (HT only)	
4.7.2.3	Electric motors (HT only)	
4.7.2.4		Loudspeakers (HT only)

4.7.3 Induced potential, transformers and the National Grid

Subject content ref	Both specifications	GCSE Physics (8463) only
4.7.3.1		Induced potential (HT only)
4.7.3.2		Uses of the generator effect (HT only)
4.7.3.3		Microphones (HT only)

4.7.3.4		Transformers (HT only)

4.8 Space physics

4.8.1 Solar system; stability of orbital motions; satellites

Subject content ref	Both specifications	GCSE Physics (8463) only
4.8.1.1		Our solar system
4.8.1.2		The life cycle of a star
4.8.1.3		Orbital motion, natural and artificial satellites

4.8.2 Red-shift

Subject content ref	Both specifications	GCSE Physics (8463) only
4.8.2		Red-shift