

YEAR 13

	Specific latent heat			
Angular velocity and the radian	The kinetic theory of gases	Quarks		
Centripetal acceleration	Gas laws	Beta decay		
Exploring centripetal forces	Root mean square speed	Radioactivity		
Oscillations and simple harmonic motion	Understanding magnetic fields	Nuclear decay equations		
Capacitors	Charged particles in magnetic fields	Half life and activity		
Capacitors in circuits	Electromagnetic induction	Radioactive decay calculations		
Energy stored by capacitors	Faraday's laws and Lenz's law	Modelling radioactive decay		
Discharging capacitors	The Boltzmann constant	Radioactive dating		
Analysing simple harmonic motion	Transformers	Einstein mass-energy equation		
Simple harmonic motion and energy	Gravitational fields	Binding energy		
Damping and driving	Newton's law of gravitation	Nuclear fission		
Resonance	Gravitational field strength for a point mass	Nuclear fusion		
Charging capacitors	Kepler's law	X-rays		
Uses of capacitors	Satellites	Interaction with X-rays		
Electric fields	Gravitational potential	CAT scans		
Coulomb's Law	Gravitational potential energy	The gamma camera		
Temperature	Alpha particle scattering experiment	PET scans		
Solids, liquids and gases	The nucleus	Ultrasound		
Internal energy	Antiparticles, hadrons and leptons	Acoustic impedance		
Specific heat capacity		Doppler imaging		
		Objects in the universe		
		Life cycle of stars		
		The Hertzsprung Russell diagram		
		Energy levels in atoms		
		Spectra		
		Analysing starlight		
		Stellar luminosity		
		Astronomical distances		
		The Doppler effect		
		Hubble's law		
		The Big Bang theory		
		Evolution of the universe		