

Triple PHYSICS Checklist – Paper 1

Green – topics assessed
Black – may appear as low mark question or via ‘linked questions’
Red – topics NOT assessed

Topic 1 - Energy				
4.1.1 – Energy Changes in a system	Energy Stores and systems			
	Changes in Energy			
	Energy Changes in systems			
	Power			
	Required practical activity 1: Investigating Heat Capacity			
	Required practical activity 2: Thermal insulators			
4.1.2 – Conservation and dissipation	Energy Transfers in a system			
	Efficiency			
4.1.3 National and Global Energy resources	Energy Resources			
	Wind, Solar and Geothermal			
	Hydroelectricity, Waves and Tides			
	Trends in Energy uses			
Topic 2 - Electricity				
4.2.1 Current, Potential Difference and resistance	Standard circuit diagram symbols			
	Electrical charge and current			
	Current, resistance and potential difference			
	Resistors			
	Required practical activity 3 : Resistance of a wire + resistors			
	Required practical activity 4: I-V graphs			
4.2.2 Series and Parallel Circuits	Series Circuits			
	Parallel circuits			
	Adding resistors			
4.2.3 Domestic Uses and Safety	AC/DC and potential difference			
	Mains Electricity			
	Plugs and safety			
4.2.4 Energy Transfers	Power			

	Energy Transfer in everyday appliances			
	National Grid			
4.2.5 Static Electricity	Static Charge			
	Electric Fields			
Topic 3 – Particle Model				
4.3.1 Particle Model of matter	Density			
	Change of state			
	Required practical activity 5: Density of solids and liquids			
4.3.2 Internal Energy and transfers	Internal energy			
	Temperature change in a system			
	Specific latent heat			
4.3.3 Particle model and pressure	Particle motion in gases			
	Pressure in gases			
Topic 4 – Atomic Structure				
4.4.1 Atoms and isotopes	Structure of an atom			
	Mass number, atomic number and isotopes			
	Development of the atom			
4.4.2 Atoms and nuclear radiation	Radioactive decay			
	Nuclear equations			
	Half-lives			
	Radioactive Contamination			
4.4.3 Hazards and uses of radiation	Background radiation			
	Half-lives of isotopes			
	Uses of radiation			
4.4.4 Nuclear Power	Fission			
	Fusion			

Triple PHYSICS Checklist – Paper 2

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Topic 5 - Forces				
4.5.1 Forces and their interactions	Scalar and Vectors			
	Contact and non contact			
	Gravity			
	Resultant Forces			
4.5.2 Work done and energy transfer	Work done			
4.5.3 Forces and Elasticity	Hooke's Law			
	Required practical activity 6: Hooke's Law and extension			
4.5.4 Moments	Moments			
	Levers			
	Gears			
4.5.5 Pressure in fluids	Pressure in fluid 1			
	Pressure in fluid 2			
	Atmospheric Pressure			
4.5.6 Forces and motion	Describing motion along a line			
	Distance and displacement			
	Speed			
	Velocity			
	Distance time graphs			
	Acceleration			
	Newton's First Law			
	Newton's second Law			
	Newton's third Law			
	Forces and braking			
	Stopping distance			
	Reaction time			
	Braking distance			
	Required practical activity 7: Force and acceleration			

4.5.7 Momentum (Higher)	Momentum in moving			
	Conservation of momentum			
	Changes in momentum			
Topic 6 - Waves				
4.6.1 Waves in air, fluids and solids	Transverse and Longitudinal Waves			
	Properties of waves			
	Reflection			
	Sound Waves			
	Seismic Waves			
	Required practical activity 8: Ripple tank and waves on a string			
	Required practical activity 9: Reflection and refraction			
4.6.2 Electromagnetic Waves	Types of EM Waves			
	Properties of EM Waves			
	Uses of EM Waves			
	Refraction			
	Lenses			
	Visible light			
4.6.3 Black body radiation	Black body radiation			
	Emission and Absorption			
	Required practical activity 21: Emission and absorption of a surface			
Topic 7- Magnetism and Electromagnetism				
4.7.1 Permanent and induced magnets	Poles of a magnet			
	Magnetic Fields			
4.7.2 Motor Effect	Electromagnets and solenoids			
	Flemings left hand rule (Higher only)			
	Electric Motors (Higher only)			

4.7.3 Induced Potential and transformers	Induced potential			
	Generator Effect			
	Microphones			
	Transformers			
Topic 8 - Space				
4.8 Space Physics	Solar System			
	Life Cycle of a star			
	Orbital Motion			
	Red Shift			