

Summer 2022 Triple Physics Higher

| Paper 1 | | | |
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| | | | Revision Pages |
| Topic 1 Energy | Major Focus 4.1.1 Energy changes in a system, and the ways energy is stored before and after such changes | 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 Power | 11-14 Page 23 Q1-12 |
| | Major Focus 4.1.2 Conservation and dissipation of energy | 4.1.2.1 Energy Transfers in a system 4.1.2.2 Efficiency | 16 – 17 Page 23 Q 13-18 |
| | Minor Focus | 4.1.3 National and global energy resources | 18-22 Page 23 Q19-26 |
| Topic 2 Electricity | Major Focus 4.2.4 Energy transfers | 4.2.4.1 Power 4.2.4.2 Energy transfers in everyday appliances 4.2.4.3 The National Grid | 32-24 Page 37 Q21-24 |
| | Minor Focus | 4.2.5 Static Electricity 4.2.5.1 Static Charge 4.2.5.2 Electric Fields | 35-36 Page 37 Q25-28 |
| Topic 3 Particle Model of Matter | Major Focus 4.3.1 Changes of state and the particle model | 4.3.1.1 Density of materials 4.3.1.2 Changes of state | 38-39 Page 42 Q1-6 |
| | Major Focus 4.3.2 Internal energy and energy transfers | 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 state and specific latent heat | 39-40 Page 42 Q7-15 |
| Topic 4 Atomic Structure | Minor Focus | 4.4.2.1 Radioactive decay and nuclear radiation 4.4.2.2 Nuclear equations | 44-47 Page 50 Q6-19 |

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| | | 4.4.2.3 Half-lives and the random nature of radioactive decay 4.4.2.4 Radioactive contamination | |
| Paper 1 Required Practical's | Major Focus Required practical activity 2: investigate the effectiveness of different materials as thermal insulators and the factors that may affect the thermal insulation properties of a material. | | Page 16 |
| | Major Focus Required practical activity 5: use appropriate apparatus to make and record the measurements needed to determine the densities of regular and irregular solid objects and liquids. Volume should be determined from the dimensions of regularly shaped objects, and by a displacement technique for irregularly shaped objects. Dimensions to be measured using appropriate apparatus such as a ruler, micrometer or Vernier callipers. | | Page 38 |
| Paper 2 | | | |
| | | | Revision Pages |
| Topic 5 Forces | Major Focus 4.5.1 Forces and their interactions | 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 | 51-54 Page 72 Q1-6 |
| | Major Focus 4.5.2 Work done and energy transfer | | 53 |
| | Major Focus 4.5.3 Forces and elasticity | | 55-56 Page 72 Q7-13 |
| | Major Focus 4.5.5 Pressure and pressure differences in fluids | 4.5.5.1 Pressure in a fluid 4.5.5.2 Atmospheric pressure | 58-59 Page 72 Q14-17 |
| | Major Focus 4.5.6.1 Describing motion along a line | 4.5.6.1.1 Distance and displacement 4.5.6.1.2 Speed 4.5.6.1.4 Velocity 4.5.6.1.4 The distance-time relationship 4.5.6.1.5 Acceleration | 60-63 Page 72 Q18-24 |

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| | Major Focus 4.5.7 Momentum | 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 | 70-71 Page 72 |
| | Minor Focus | 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 4.5.6.3.1 Stopping Distance 4.5.6.3.2 Reaction Time 4.5.6.3.3 & 4.5.6.3.4 Factors affecting braking distance | 64-65, 67-69 Page 72 Q25-31 |
| Topic 6 Waves | Major Focus 4.6.1 Waves in air, fluids and solids | 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 4.6.1.5 Waves for detection and exploration | 73-77, 89-90 |
| Topic 7 Magnetism and Electromagnetism | Minor Focus | 4.7.2.1 Electromagnetism 4.7.2.2 Fleming's left-hand rule 4.7.2.3 Electric motors 4.7.2.4 Loudspeakers 4.7.3.1 Induced potential 4.7.3.2 Uses of the generator effect 4.7.3.3 Microphones 4.7.3.4 Transformers | 92-98 Page 99 Q1-31 |
| Topic 8 Space Physics | Major Focus 4.8.1 Solar system; stability of orbital motions; satellites | 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 | 100-101 Page 103 Q1-17 |
| | Major Focus 4.8.2 Red-shift | | 102 Page 103 Q18-23 |
| Paper 2 Required Practical's | Major Focus Required practical activity 9: investigate the reflection of light by different types of surface and the refraction of light by different substances. | | 77 |