West Park School

Triple Physics

Mock Examination 2023

In readiness for your mock examination in Triple Physics you must **LEARN** and **REVISE** the following content and skills:

Physics: Paper 1

Energy
Energy stores and systems and changes in energy, including using equations for kinetic, gravitational potential and elastic potential energy.
Power, energy conservation, dissipation and efficiency including their equations.
Renewable and finite energy sources.
Electricity
Circuit symbols and circuit drawing.
Current, potential difference, resistance and electrical charge.
Resistors and IV graphs.
Series and parallel circuits, including resistance in series and parallel.
Mains electricity – Inc. wiring a plug and energy transfers in everyday electrical appliances.
Electrical energy transfers including all equations including $P = VI$, $P = I^2R$, $E = Pt$. and $E= QV$.
The National Grid.
Static electricity – static charge and electric fields.
Particles
Changes of state and density.
Internal energy, specific heat capacity and specific latent heat.
The particle model – particle motion in gases.
Pressure in gases including pV = constant (Boyle's Law).
Work done on a gas and pressure.
Radioactivity
The structure of an atom, mass number, atomic structure and isotopes.
The development of the model of the atom (common content with chemistry).
Radioactive decay, nuclear radiation, decay equations and half-lives.
Radioactive contamination and safety.
Hazards and uses of radioactive emissions and of background radiation.
Nuclear fission and fusion.

RPAs
RPA 1 – Investigation to determine the specific heat capacity of one or more materials.
RPA 2 – Investigating the effectiveness of different materials as thermal insulators and the factors that may affect the thermal insulation properties of the material.
RPA 3 – Investigating factors affecting the resistance on circuits including:

- the length of wire at constant temperature
- combinations of resistors in series and parallel

RPA 4 – Investigating the I – V characteristics of a resistor, filament bulb and a diode.
RPA 5 – Determining the density of regular and irregular solid objects and liquids. The volume of irregularly shaped objects to be measured by displacement of water.