

Unit	Section	Content
ENERGY	6.1.1 Energy Changes in a system, and the ways energy is stored before and after such changes	<ul style="list-style-type: none"> identifying the energy changes in systems -Calculate, using equations, the amount of energy associated with a moving object, a stretched spring and an object raised above ground level. -Calculate, using an equation, the amount of energy stored in or released from a system as its temperature changes -Calculate Power -Define Power
	Required Practical 14: an investigation to determine the specific heat capacity of one or more materials.	linking the decrease of one energy store (or work done) to the increase in temperature and subsequent increase in thermal energy stored
	6.2.4 Energy Transfers	<ul style="list-style-type: none"> -Use the equation that links energy transferred, charge flow and potential difference -Use the equation that links power, current and potential difference
ELECTRICITY	Required Practical 16: construct appropriate circuits to investigate the I–V characteristics of circuit elements, inc. a filament lamp, diode and a resistor at constant temp.	<ul style="list-style-type: none"> -placing ammeter and voltmeter in the correct place in a circuit to measure the current through and potential difference across a component -Plotting graphs -Describing and explaining patterns shown in graphed data
PARTICLE MODEL	6.3.1 Changes of state and the particle model	<ul style="list-style-type: none"> -Define and calculate the density of a substance or object -recognise/draw simple diagrams to model the difference between solids, liquids and gases -explain the differences in density between the different states of matter in terms of the arrangement of atoms or molecules. -describe how, when substances change state mass is conserved. -Describe changes of state as physical changes
	6.3.3 Particle Model and pressure	<ul style="list-style-type: none"> -Describe the motion of gases -explain how the motion and the average kinetic energy of the molecules in a gas is related to both its temperature and its pressure
ATOMIC STRUCTURE AND RADIOACTIVITY	6.4.2 Atoms and nuclear radiation	<ul style="list-style-type: none"> -radioactive decay, types of nuclear radiation and their properties -definition and units of activity and count rate -nuclear equations -half lives -calculate the net decline, expressed as a ratio, in a radioactive emission after a given number of half-lives -contamination and irradiation

	6.4.1 Atoms and isotopes	<ul style="list-style-type: none">-Describe the structure of an atom.-Compare the radius of the nucleus to the radius of the atom-Describe how electrons are arranged on energy levels-Describe how electrons can move energy levels further from or towards the nucleus-define the atomic number and mass number of elements-calculate the number of protons, neutrons and electrons in atoms-state the features of protons, neutrons and electrons-describe the similarities and differences between atoms of isotopes of the same element-development of the model of the atom
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