

TOPIC	Student Checklist	R	A	G
6.3.1 Changes of state and the particle model	Calculate the density of a material by recalling and applying the equation: $[\rho = m/V]$			
	Recognise/draw simple diagrams to model the difference between solids, liquids and gases			
	Use the particle model to explain the properties of different states of matter and differences in the density of materials			
	Required practical 17: use appropriate apparatus to make and record the measurements needed to determine the densities of regular and irregular solid objects and liquids			
	Recall and describe the names of the processes by which substances change state			
	Use the particle model to explain why a change of state is reversible and affects the properties of a substance, but not its mass			
6.3.2 Internal energy and energy transfers	State that the internal energy of a system is stored in the atoms and molecules that make up the system			
	Explain that internal energy is the total kinetic energy and potential energy of all the particles in a system			
	Calculate the change in thermal energy by applying but not recalling the equation $[\Delta E = m c \Delta \theta]$			
	Calculate the specific latent heat of fusion/vaporisation by applying, but not recalling, the equation: $[E = mL]$			
	Interpret and draw heating and cooling graphs that include changes of state			
	Distinguish between specific heat capacity and specific latent heat			
6.3.3 Particle model and pressure	Explain why the molecules of a gas are in constant random motion and that the higher the temperature of a gas, the greater the particles' average kinetic energy			
	Explain, with reference to the particle model, the effect of changing the temperature of a gas held at constant volume on its pressure			
	Calculate the change in the pressure of a gas or the volume of a gas (a fixed mass held at constant temperature) when either the pressure or volume is increased or decreased			