CP12 Particle Model

CP12a Particles and density

Step	Learning outcome	Had a look	Nearly there	Nailed it!
6th	Describe the arrangements of particles in solids, liquids and gases.	☐	☐	☐
7th	Use the particle model to explain the different properties of solids, liquids and gases.	☐	☐	☐
5th	Recall the formula relating density, mass and volume.	☐	☐	☐
7th	Use the formula relating density, mass and volume.	☐	☐	☐
7th	Use the particle model to explain why solids, liquids and gases have different densities.	☐	☐	☐
4th	Describe what happens to the mass of a substance when it changes state.	☐	☐	☐

CP12b Energy and changes of state

Step	Learning outcome	Had a look	Nearly there	Nailed it!
6th	Explain how heating affects the particles in a substance or object, including changes of state.	☐	☐	☐
6th	Describe how the temperature of an object changes with time while being heated or cooled to make it change state.	☐	☐	☐
6th	Define the term specific heat capacity.	☐	☐	☐
6th	Define the term specific latent heat.	☐	☐	☐
8th	Explain the difference between specific heat capacity and specific latent heat.	☐	☐	☐
6th	Explain ways of reducing unwanted energy transfer through thermal insulation.	☐	☐	☐

CP12c Energy calculations

Step	Learning outcome	Had a look	Nearly there	Nailed it!
8th	Use the formula relating change in thermal energy, mass, temperature change and specific heat capacity.	☐	☐	☐
8th	Use the formula relating thermal energy, mass and specific latent heat.	☐	☐	☐
6th	Recall that the value of specific latent heat for a substance is different for melting/solidifying and for evaporating/condensing.	☐	☐	☐

CP12d Gas temperature and pressure

Step	Learning outcome	Had a look	Nearly there	Nailed it!
6th	Explain how the movement of particles causes gas pressure.	☐	☐	☐
6th	Explain how changing the temperature of a gas affects the speed of its particles.	☐	☐	☐
6th	Explain how temperature affects the pressure of a fixed mass of gas at constant volume.	☐	☐	☐
6th	Explain the significance of absolute zero.	☐	☐	☐
6th	Convert temperatures between the Kelvin and Celsius temperature scales.	☐	☐	☐

CP13 Forces and Matter (Paper 6)

CP13a Bending and stretching

Step	Learning outcome	Had a look	Nearly there	Nailed it!
4th	Explain that more than one force is needed to distort an object.	☐	☐	☐
4th	Describe the difference between elastic and inelastic distortion.	☐	☐	☐
4th	Describe the relationship between force and extension for a spring.	☐	☐	☐
4th	Describe the relationship between force and extension for a rubber band.	☐	☐	☐
6th	Compare the force–extension relationship for different objects.	☐	☐	☐

CP13b Extension and energy transfers

Step	Learning outcome	Had a look	Nearly there	Nailed it!
5th	Recall the equation that links force, extension and the spring constant.	☐	☐	☐
7th	Use the formula relating force, extension and spring constant.	☐	☐	☐
5th	Recall that work has to be done to stretch a spring.	☐	☐	☐
7th	Use the formula relating the energy transferred to the extension of a spring.	☐	☐	☐