



I Can Statement - Year 7

Particle Theory

Unit/Topic Overview	Pre-taught Vocabulary	
In this topic Particle theory is a key idea in science that helps us understand the structure and behaviour of matter. You will learn that all substances are made up of tiny particles that are too small to see, and that these particles are always moving. The arrangement and movement of particles explain whether a material is a solid, liquid or gas, and how it can change state when heated or cooled. Particle theory also helps us understand processes such as diffusion and pressure. By studying particles, you will be able to better explain everyday changes in materials around us.	Atom	Element
	Compound	Solid
	Liquid	Gas
	Temperature	Evaporation
	Condensation	Freezing

RAG Rating:		Start	End
1.	I can accurately draw the particle arrangement for solids (touching, regular rows), liquids (touching, random), and gases (far apart, random).		
2.	I can use the particle model to explain why solids have a fixed shape but gases can be compressed (the "gap" concept).		
3.	I can describe how particle vibration/movement increases as temperature rises.		
4.	I can correctly name and define the six changes of state: melting, freezing, evaporation, condensation, (sublimation, and deposition).		
5.	I can explain that while a substance changes state (e.g., ice to water), the number of particles—and therefore the mass—remains the same.		
6.	I can identify the "plateaus" (flat bits) on a cooling/heating graph as the points where a change of state is occurring.		
7.	I can explain how particles move from an area of high concentration to low concentration (e.g., perfume smelling across a room).		
8.	I can predict how temperature or particle mass affects the speed of diffusion.		
9.	I can explain that gas pressure is caused by particles colliding with the walls of a container.		