

Year 7 Atoms, elements, compounds and The Particle model

14 Lessons

Stage	Description
Emerging	Identify examples of solids, liquids and gases. Recall the three states of matter. State what is meant by: diffusion. State what is meant by gas pressure Name some everyday materials. Explain the difference between an atom and a molecule. Identify the products and reactants using a word equation.
Developing	Identify a solid, liquid or gas from the arrangement of particles. Draw the arrangement of particles in a solid, liquid and gas Recall some effects of diffusion. Recall some effects of gas pressure. Use the particle model of matter to explain the compressibility, ability to flow, ability to change shape Recall some examples of chemical and physical change. Name the compound formed by a reaction between two elements. Explain why a compound has different properties from its elements. Model simple reactions using word equations. Use gas test results to identify hydrogen, carbon dioxide, chlorine and oxygen.
Secure	Describe the three states of matter in terms of shape, volume and compressibility. Identify materials that are difficult to identify as solids, liquids or gases. Describe how particles move in a solid, liquid or gas and how this changes with temperature. Use the kinetic theory to describe the cause of gas pressure. Describe how the pressure of gases in containers can be changed. Interpret diagrams to identify mixtures of elements and pure elements. Explain how chemical changes (reactions) are different from physical changes. Apply the knowledge of naming of compounds to less familiar situations (e.g. nitrides and carbonates). Model more complex reactions using word equations.
Excellence	Explain how Brownian motion supports the kinetic theory. Use the kinetic theory to explain why diffusion is faster in some materials than in others. Use chemical formulae to compare compounds with similar names (e.g. sulfates and sulfides). Suggest word equations that might apply in novel or unfamiliar situations.