Year 7 | Atoms, elements, compounds and The Particle model | 14 Lessons

Aims: This unit of work is designed build on students' prior knowledge of the states of matter. Is also covers many topics that can be seen as fundamental to the study of Chemistry

Links to KS4:

Chapter 1 Chemistry – Elements and compounds
Chapter 2 Chemistry – Three states of matter
Chapter 6 Chemistry – Formula mass
Chapter 3 Physics – Particle model of matter

Key Skills	Literacy Links:	Numeracy Links:
• To develop an understanding of particle theory and how it relates to the properties and behaviour of matter. • To be able to explain concepts such as density, the process of diffusion and pressure in gases in terms of the arrangement and behaviour of particles. • To develop an understanding of the use of chemical formulae for describing materials.	**Key Words:** **Solid, liquid, gas, diffusion, pressure, density, Brownian motion** Be able to read and use these keywords within Scientific situations both verbally and written.	Use the formula for pressure in calculations. Convert units , e.g. cm to m, for use in calculations

Assessment	Cross-Curricular Links
• *Pink sheet teacher assessed activity – States of Matter.* • *50 mark test which will focus on the following key areas: Chemical symbols and formulae, Differences between atoms elements and compounds, The Particle model, States of matter, Diffusion and pressure, Physical and chemical changes,*	• History – Brownian motion.
	SMSC opportunities and British values

Opportunities for further learning

Homework for year 8 is set on a weekly basis. Below are a range of different activities which could be used throughout the unit.

Option 1: Students could research situations where diffusion is involved.
Option 2: Students could research substances that are difficult to categorise as solids, liquids or gases.
Option 3: Carry out calculations involving pressure.
Option 4: Students research the use of different elements, mixtures and compounds in everyday life.
Option 5: Students could produce a comic strip that describes the development of a theory (Brownian motion).
Option 6: Practice naming compounds given their formulae.
Option 7: Practice writing word equations when given a description of a chemical reaction.
Option 8: Practice naming compounds formed from the reaction between two elements.