

# Year 7 Chemistry | Term 3

## What are atoms?

**Topic Overview:** Particles: In this unit, students will explore the big question 'What are all things made of?'. They will explore the particle model and apply knowledge of it to various concepts including density and the movement of particles via diffusion. To better interact with these concepts, students will investigate various factors that affect particle behaviour including temperature and pressure.

	Lesson Exploration	Knowledge & Skills Exploration	NC Link	Key Words
Week 1: Lesson 1	Why is it difficult to lift Thor's hammer?	Students will experience calculating the density of a range of objects, using the equation $\text{density} = \text{mass} / \text{volume}$ .	KN1: the properties of the different states of matter in terms of the particle model SK17: use and derive simple equations and carry out appropriate calculations	Density Mass Volume Irregular Displacement Atom Electron Proton Neutron Periodic Table Group Period Element Metal Non-metal
Week 2: Lesson 1	How do we find the density of an object?	Students will experience finding the density of an object by measuring its mass and volume using the displacement of water from a eureka can.	KN1: the properties of the different states of matter in terms of the particle model SK8: make and record observations and measurements using a range of methods for different investigations; and evaluate the reliability of methods and suggest possible improvements	
Week 3: Lesson 1	What are atoms and elements?	Students will experience activities which build my understanding of particles to include the structure of atoms.	KN 1: Simple atomic model	

<b>Week 4: Lesson 1</b>	<b>How do we use the periodic table to organise elements?</b>	Students will experience using the periodic table to learn about the similarities and differences between elements.	KN 2: differences between atoms, elements and compounds	
<b>Week 5: Lesson 1</b>	<b>How do metals and non-metals behave?</b>	Students will experience investigating the properties of different metals and non-metals so that I can use properties to classify materials as metallic or non-metallic.	KN 2: differences between atoms, elements and compounds	
<b>Week 6: Lesson 1</b>	<b>Try Now</b>	Students will experience a range of activities which will help me close the gaps in my knowledge of this topic.		

<b>Literacy Links</b>	<b>Numeracy Links</b>
Paul Parsons – Science in 100 Key Breakthroughs Paul Parsons – Science 1001: Absolutely Everything that Matters in Science Young Scientist Journal - <a href="http://www.butrousfoundation.com/ysjournal">www.butrousfoundation.com/ysjournal</a> School Science - <a href="http://www.schoolscience.co.uk">www.schoolscience.co.uk</a> BBC Bitesize - <a href="http://www.bbc.co.uk/bitesize/ks3/science/">www.bbc.co.uk/bitesize/ks3/science/</a>	use and derive simple equations and carry out appropriate calculations