

KS3 Unit Overview – Big Picture

Subject/Year group/Unit Title	Big picture questions	Pupils will focus particularly on the following statements from the programme of study:
<p style="text-align: center;">Chemistry Year 7D Particles</p> <p>Lesson 1: Comparing properties of SLG Lesson 2: Density Lesson 3: Particle diagrams Lesson 4: Pressure Lesson 5: Diffusion investigation Lesson 6: Diffusion explanations Lesson 7: Investigating changes of state Lesson 8: Sublimations and determination of state of matter Lesson 9: Looking at heating and cooling curves Lesson 10: Physical changes Lesson 11: Badger Assessment Lesson Lesson 12: EOU Assessment</p>	<p>How can observations of SLG be explained by the movement and arrangement of the particles? How can observations at changes of state be explained by the particles losing or gaining energy How can observations of gas pressure and diffusion be explained by the behaviour of particles</p>	<ul style="list-style-type: none"> • conservation of material and of mass, and reversibility, in melting, freezing, evaporation, sublimation, condensation, dissolving • similarities and differences, including density differences, between solids, liquids and gases • diffusion in liquids and gases driven by differences in concentration • the difference between chemical and physical changes • atoms and molecules as particles. • the properties of the different states of matter (solid, liquid and gas) in terms of the particle model, including gas pressure • changes of state in terms of the particle model.
<p>Assessment tasks</p>	<p>As FCJ educators, we will focus on the FCJ values by:</p>	<p>We will ensure students skills in reading, writing, communication and mathematics are enhanced by:</p>
<ul style="list-style-type: none"> • Homework • Formative Badger Assessment • Summative end of unit test 	<p>Excellence – set highest possible standards for all learners Companionship – teamwork when completing practical investigations, respect during class discussions</p>	<p>Mathematics – lots of numeracy is using equations. Graph skills. Writing – write-up of practical investigations. Possible project work on renewable energy sources.</p>

	<p>Dignity – class discussions and Q&A, ensuring everyone is listened to and their views heard</p> <p>Justice -</p> <p>Hope – highlight progress in science and innovation to inspire learners</p> <p>Gentleness – classroom management in a firm but fair and gentle manner</p>	<p>Reading – comprehension activities. Reading from books etc.</p> <p>Communication – Q&A, possible presentations on renewable energy.</p>
We are supporting progression from KS2 in this unit by:	We are supporting progression to KS4 in this unit by:	Misconceptions and how they will be addressed
<p>In KS2 pupils compare and group materials together, according to whether they are solids, liquids or gases, observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C), demonstrate that dissolving, mixing and changes of state are reversible changes, explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda</p>	<ul style="list-style-type: none"> • Looking at energy changes in changes of state • Using correct terminology to describe the arrangement of particles and to describe phenomena 	<ul style="list-style-type: none"> • Particles in solids liquids and gases are different sizes • Spaces between particles are filled with air • When a substance melts the particles melt • Particles are the same size as cells