

Year 7

Earth & Atmosphere
Structure Of The Earth
Rocks
The Atmosphere
Carbon Cycle

Acid & Alkali
Acid & Alkali pH
Neutralisation
Home Indicators

Particles
Solid, Liquid & Gas
Change Of State
Dissolving
Density

Working Scientifically
Working Safely
Units & Conversions
Mean & Range
Variables
Graphs



Knowledge	Attributes / Character	Skills	Experiences
<p>Working Scientifically:</p> <ul style="list-style-type: none"> Understanding scientific methods, including making observations, forming hypotheses, conducting experiments, and analysing results. Learning the importance of safety and accuracy in the laboratory. <p>Particles:</p> <ul style="list-style-type: none"> Introduction to the particle model of matter, understanding solids, liquids, and gases. Knowledge of how particles behave and interact in different states and during changes of state. <p>Acids and Alkalis:</p> <ul style="list-style-type: none"> Identifying common acids and alkalis and understanding their properties. Learning about the pH scale and how to use indicators to measure acidity and alkalinity. Understanding neutralisation reactions between acids and alkalis. <p>Earth and Atmosphere:</p> <ul style="list-style-type: none"> Knowledge of the structure of the Earth, including the crust, mantle, and core. Understanding the composition and layers of the atmosphere. Introduction to the rock cycle and types of rocks. 	<p>Confidence</p> <p>The Year 7 science curriculum helps students build confidence by engaging them in hands-on experiments and scientific inquiries. As students make observations, form hypotheses, conduct experiments, and analyse results, they gain confidence in their ability to explore and understand the world around them. Successfully navigating laboratory activities and understanding complex concepts like particle behaviour and chemical reactions reinforces their self-assurance in their scientific abilities and problem-solving skills.</p> <p>Organisation</p> <p>Learning the importance of safety and accuracy in the laboratory instils a sense of organisation in students. They must plan and execute experiments methodically, record their observations systematically, and manage their time effectively to complete tasks. Understanding scientific methods requires a structured approach, which translates to improved organisational skills that are beneficial both in and out of the science classroom.</p> <p>Resilience</p> <p>Science inherently involves trial and error, and the Year 7 curriculum teaches students to embrace failures as learning opportunities. When experiments do not go as planned or hypotheses are disproven, students learn to persist, adapt their methods, and try again. This process fosters resilience, encouraging students to develop a growth mindset where challenges are viewed as opportunities for improvement and learning.</p> <p>Empathy</p> <p>The curriculum supports the development of empathy through collaborative learning and discussions about the impact of science on the environment and society. For example, studying the Earth's structure and atmosphere, and understanding environmental issues, encourages students to think about the broader implications of scientific knowledge. Group work in experiments and sharing results require students to listen to and respect different perspectives, promoting empathy and cooperation among peers.</p>	<p>Method: Follow step-by-step instructions for experiments.</p> <p>Identify Variables: Recognise independent, dependent, and control variables.</p> <p>Scientific Equipment: Handle beakers, test tubes, Bunsen burners, and indicators/pH metres accurately.</p> <p>Draw and Label Equipment: Draw and label scientific apparatus.</p> <p>Use Scientific Vocabulary: Explain experiments and results using correct scientific terms.</p> <p>Draw and Interpret Graphs: Create and analyse line graphs, bar charts, and pie charts.</p> <p>Formulas: Apply basic maths formulas to calculate properties like density.</p> <p>Scientific Vocabulary: Describe particle models, states of matter, and properties of acids and alkalis.</p> <p>Research and Present Findings: Investigate and present information on Earth's structure and atmosphere.</p> <p>Writing: Write clear and structured scientific reports.</p> <p>Oracy: Present findings and engage in discussions confidently.</p>	<ul style="list-style-type: none"> Science club Big Bang Fair visit British Science Week Design and technology links