

BIG PICTURE CURRICULUM PLANNING - KEY STAGE 3 SCIENCE

<p>The big aims of KS3</p>	<p>Our curriculum design seeks to enable students to view the pursuit of Science as meaningful and useful. Inquiry is thus grounded in the roles played by Science in daily life, society and the environment. We acknowledge that the advancement in Science has occurred due to imagination and creativity and promote independent, inquisitive young scientists with a natural curiosity of the world around them, with the belief we will inspire the next generation of inventors and explorers.</p>	
<p>Characteristic of a compelling learning experience</p>	<p>Pupils in Science will be curious, they will ask questions and have lightbulb moments when they can relate scientific knowledge and understanding to things they may encounter in everyday life. They will be excited when they carry out practical work and like to find out things out by experiments.</p> <p>The will relate their learning to different careers and want to find out more.</p>	
<p>Key knowledge</p>	<p>Our Key Stage 3 Science course enables us to create compelling and engaging lessons that promote learning for understanding through ten big ideas headings: Forces, Electromagnetism, Energy, Waves, Matter, Reactions, Earth, Organisms, Ecosystems and Genes. Each idea contains four smaller topics: the foundations for the big ideas which are delivered through multiple interactions. Allowing learning to be extended, reinforced and broadened each time the big idea is revisited. Throughout Y7-9 pupils will develop their knowledge and understanding to allow them to apply their existing knowledge to unfamiliar situations. Our KS3 curriculum will be the foundation for when they start their GCSE course.</p> <p>Forces: Speed, gravity, contact Forces, pressure Electromagnets: Voltage and resistance, current, electromagnets, magnetism Energy: energy costs, energy transfer, work, heating and cooling Waves: Sound, light, wave effects, wave properties Matter: Particle model, separating mixtures, periodic table, elements Reactions: Metals and non-metals, acids and alkalis, chemical energy, types of reaction Earth: Earth structure, universe, climate, Earth resources Organisms: Movement of substances, cells, breathing, digestion Ecosystems: Interdependence, plant, respiration, photosynthesis Genes: Variation, human reproduction, evolution, inheritance</p>	

Key skills

Working scientifically gets students working in the ways of a professional scientists and as such working scientifically skills are taught through and clearly related to substantive Science content. We allow pupils to explicitly focus on a particular skill at any one time and through clearly related Key Science Knowledge. The key skills that we promote are:

- **Analyse**, consisting of presenting data, analysing patterns, drawing conclusions and discussing limitations.
- **Communicate**, consisting of constructing explanations, communicating ideas, critiquing claims and justifying opinions.
- **Enquire**, consisting of devising questions, testing hypotheses, planning to control variables and collecting data.
- **Solve**, consisting of estimating risks, examining consequences, interrogating sources and understanding how scientific change over time.