

## What are the aims and intentions of this curriculum?

The aim of our Key Stage 3 Science Curriculum is to focus on delivering a curriculum that offers all students the opportunity to discover science through hands on investigation, discussions, enquiring skills, developing debating skills and promoting self-sufficient learners. To develop independent learners and extend the students' repertoire of skills through practical experience that prepares them for life beyond school.

Term	Topics	Knowledge and key terms	Skills developed	Assessment
Autumn 1	Introduction to science.	To understand the different types of <b>health and safety measures</b> we need to adhere to before an investigation. <ul style="list-style-type: none"> <li>To learn the scientific key words used in an investigation.</li> </ul>	Developing scientific questions and planning of investigations. Identify the names and functions of the different types of equipment used in an investigation.	Formative assessment: Quizzes, class discussions, projects. Summative assessment: end of topic test. Practical test.
	Organisms 1 (Movement and cells)	To acquire the knowledge and key scientific terms in the following sub topics of the unit: <ul style="list-style-type: none"> <li>The different levels of organization, The skeletal system, Different types of joints, Functions of the muscles, Identifying the different types of unicellular organisms, Movement of substances in and out of cells as well as observing different cell structures under a microscope.</li> </ul>	Describe how scientists develop an idea into a question that can be investigated Identify independent, dependent, and control variables Suggest ways to investigate different types of enquiry question	
	Matter (Particle model)	To acquire the knowledge and key scientific terms in the following sub topics of the unit: <ul style="list-style-type: none"> <li>Melting and freezing point, Boiling, more changes in state, Diffusion, Gas pressure, Inside particles,</li> </ul>		
Autumn 2	Matter (Separating mixtures)	To acquire the knowledge and key scientific terms in the following sub topics of the unit: <ul style="list-style-type: none"> <li>Pure substances and mixtures, Solutions, Solubility, Filtration, Evaporation and distillation and Chromatography.</li> </ul>	Describe how to write a plan for an investigation Describe how to produce accurate and precise data, and reduce experimental error. Describe a risk assessment	Formative assessment: Quizzes, class discussions, projects. Summative assessment: end of

	Forces 1 (Speed and gravity)	To acquire the knowledge and key scientific terms in the following sub topics of the unit: <ul style="list-style-type: none"> <li>• Introduction to forces, Speed, Distance time graphs, Gravity and Balance and unbalanced forces.</li> </ul>		topic test. Practical test.
	Ecosystems (Interdependence)	To acquire the knowledge and key scientific terms in the following sub topics of the unit. Food chains and food webs, Disruption to food chains and food webs, Ecosystems, Competition, <b>Project: Beat the flood</b> To build a model of a flood proof home family home for a family in Bangladesh.		Project - one per term
Spring 1	Ecosystems (Plant reproduction)	To acquire the knowledge and key scientific terms in the following sub topics of the unit. <ul style="list-style-type: none"> <li>• Flowers and pollination, Fertilisation and germination, Seed dispersal.</li> </ul>	Describe how to make and record observations and measurements Calculate a mean from three repeat measurements Present data appropriately as tables and graphs	Formative assessment: Quizzes, class discussions, projects. Summative assessment: end of topic test. Practical test.
	Reactions (Acids and alkalis, Metals and non-metals)	To acquire the knowledge and key scientific terms in the following sub topics of the unit: Chemical reactions, Acids and alkalis, Indicators and PH, acid strength, Neutralisation, Making salts, More about elements, Chemical reactions of metals and non-metals, Metals and acids, Metals and oxygen, Metals and water and metal displacement reaction.		
Spring 2	Electromagnets 1 (Potential difference, resistance and current)	To acquire the knowledge and key scientific terms in the following sub topics of the unit: <ul style="list-style-type: none"> <li>• Series and parallel circuits, Current, Charging up, Potential difference, Resistance</li> </ul>	Find a pattern in data using a graph or chart, and draw a line of best fit on a line graph Interpret data to draw conclusions using scientific explanations.	Formative assessment: Quizzes, class discussions, projects. Summative assessment: end of topic test. Practical test.
	Genes 1 (Variation and human reproduction)	To acquire the knowledge and key scientific terms in the following sub topics of the unit.		

		<ul style="list-style-type: none"> <li>Variation, Continuous and discontinuous variation, Adapting to change, Adolescence, Reproductive systems, Fertilisation and implantation, development of a foetus, The menstrual cycle</li> </ul> <p><b>Project: Coordination and control</b> Your project is to make a presentation that will be presented to a group of year 7s. You must explain to them how hormones and the menstrual cycle works, the artificial control of fertility and IVF.</p>		Project - one per term
<b>Summer 1</b>	<p>Earth (Earth structure and universe)</p> <p>Energy (energy costs and energy transfer)</p>	<p>To acquire the knowledge and key scientific terms in the following sub topics of the unit.</p> <ul style="list-style-type: none"> <li>The structure of the Earth, Sedimentary Rocks, Igneous and Metamorphic rocks, The rock Cycle, Ceramics, The night Sky, The Solar System, The Earth, the Moon and changing ideas,</li> </ul> <p>To acquire the knowledge and key scientific terms in the following sub topics of the unit.</p> <ul style="list-style-type: none"> <li>Food and fuels, energy resources, energy, power, energy dissipation</li> </ul>	<p>Describe the stages in evaluating the data Suggest ways of improving a practical investigation.</p>	<p>Formative assessment: Quizzes, class discussions, projects. Summative assessment: end of topic test. Practical test.</p>
<b>Summer 2</b>	Waves (Sound and light)	<p>To acquire the knowledge and key scientific terms in the following sub topics of the unit.</p> <ul style="list-style-type: none"> <li>Sound waves and speed. Loudness and amplitude, Frequency and pitch, The ear and hearing, Light, Reflection, Refraction, the eye and vision, Colour.</li> </ul> <p><b>Project: Alien project</b></p> <ol style="list-style-type: none"> <li>A full description of the new planet.</li> <li>A detailed description of the aliens that live on the</li> </ol>	<p>Describe the stages in evaluating the data Suggest ways of improving a practical investigation.</p>	<p>Formative assessment: Quizzes, class discussions, projects. Summative assessment End of Year exam</p>



	<p>planet.</p> <ol style="list-style-type: none"><li data-bbox="591 92 943 135">3. A model or your Alien.</li><li data-bbox="591 140 1303 220">4. A report about how the aliens have adapted to live on the new planet.</li></ol>		<p>Project - one per term</p>
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