

Science long-term overview

Physics Biology Chemistry

	Autumn		Spring		Summer	
Year 3	 Skeletal and Muscular Systems This project teaches children about the importance of nutrition for humans and other animals. They learn about the role of a skeleton and muscles and identify animals with different types of skeleton.		 Rocks, Relics and Rumbles In this project, pupils will investigate different types of rock to learn about their uses and properties. They will also investigate soil and fossils, including learning about the work of Mary Anning.	 Forces and Magnets This project teaches children about contact and non-contact forces, including friction and magnetism. They investigate frictional and magnetic forces, and identify parts of a magnet and magnetic materials.	 Plant Nutrition and Reproduction This project teaches children about the requirements of plants for growth and survival. They describe the parts of flowering plants and relate structure to function, including the roots and stem for transporting water, leaves for making food and the flower for reproduction.	 Light and Shadows This project teaches children about light and dark. They investigate the phenomena of reflections and shadows, looking for patterns in collected data. The risks associated with the Sun are also explored.
Year 4	 Digestive System This project teaches children about the human digestive system. They explore the main parts, starting with the mouth and teeth, identifying teeth types and their functions. They link this learning to animals' diets and construct food chains to show the flow of energy. Take accurate measurements in standard units, using a range of equipment.	 Sound This project teaches children about sound and how sounds are made and travel as vibrations through a medium to the ear. They learn about pitch and volume and find out how both can be changed.	 Misty Mountains, Winding River This project teaches children about the stages of the water cycle. They will also learn about habitats and how human and natural influences can have an impact on the environment.	 States of Matter This project teaches children about solids, liquids and gases and their characteristic properties. They observe how materials change state as they are heated and cooled, and learn key terminology associated with these processes.	 Grouping and Classifying This project teaches children about grouping living things, known as classification. They study the animal and plant kingdoms and use and create classification keys to identify living things.	 Electrical Circuits and Conductors This project teaches children about electrical appliances and safety. They construct simple series circuits and name their parts and functions, including switches, wires and cells. They investigate electrical conductors and insulators and identify common features of conductors. It also teaches children about programmable devices. They combine their learning to design and make a nightlight.
Year 5	 Earth and Space This project teaches children about our Solar System and its spherical bodies. They describe the movements of Earth and other planets relative to the Sun, the Moon relative to Earth and the Earth's rotation to explain day and night.		 Sow, Grow and Farm This project teaches children about food webs and animal life cycles, including how living things are dependent on one another within a habitat. They will investigate the different ways that plants reproduce and will dissect flowering plants to identify the different structures.	 Human Reproduction and Ageing This project teaches children about animal life cycles, including the human life cycle. They explore human growth and development to old age, including the changes experienced during puberty and human reproduction.	 Forces and Mechanisms This project teaches children about the forces of gravity, air resistance, water resistance and friction, with children exploring their effects. They learn about mechanisms, their uses and how they allow a smaller effort to have a greater effect	 Properties and Changes of Materials This project teaches children about the wider properties of materials and their uses. They learn about mixtures and how they can be separated using sieving, filtration and evaporation. They study reversible and irreversible changes, and use common indicators to identify irreversible changes.
Year 6	 Circulatory System This project teaches children about the transport role of the human circulatory system, its main parts and their primary functions. They learn about healthy lifestyle choices and the effects of harmful substances on the body.		 Frozen Kingdoms This project teaches children about classifying animals, animal adaptations and evolution, and polar exploration and discovery.	 Electrical Circuits and Components This project teaches children about electrical circuits, their components and how they function. They recognise how the voltage of cells affects the output of a circuit and record circuits using standard symbols. It also teaches children about programmable devices, sensors and monitoring. They combine their learning to design and make programmable home devices.	 Light Theory This project teaches children about the way that light behaves, travelling in straight lines from a source or reflector, into the eye. They explore how we see light and colours, and phenomena associated with light, including shadows, reflections and refraction.	 Evolution and Inheritance This project teaches children how living things on Earth have changed over time and how fossils provide evidence for this. They learn how characteristics are passed from parents to their offspring and how variation in offspring can affect their survival, with changes (adaptations) possibly leading to the evolution of a species.