Science Curriculum Overview

Science Intent

At Strike Lane Primary School we promote the teaching and learning of Science in order to provide the foundations for understanding the world around us. We will strive to create opportunities for children to gain an understanding of how science has changed our lives, and the uses and implications of science in the future. Further to this, children will be encouraged to identify the vast array of scientific possibilities within a range of careers and job opportunities.

We aim to develop a child's excitement and curiosity about natural phenomena, asking questions about what they observe and drawing relevant conclusions as to what they have witnessed. Learning is designed to inspire the children to raise their own questions such as "Why...?", "How...?" and "What happens if…?" We will provide opportunities for children to work scientifically, both collaboratively and independently, exploring different ways to answer their questions and challenging them to think about how science can be used to explain what is happening.

It is our intention to ensure that children develop scientific knowledge and conceptual understanding through the teaching of physics, biology and chemistry. Particular emphasis will be placed on the teaching of the scientific vocabulary needed to be able to explain and reason within a scientific context with the children being encouraged to spell as well as read it.

Cross curricular links will promote the application of a child's mathematical knowledge and help with "sticky learning". The use of ICT will be used regularly in science lessons for example using quizzes to gauge prior learning; data handling apps to help record data and plot graphs; and presentation apps such as keynote to present information discovered through research on a topic. Relevant links to history and changing ideas and discoveries in science will also be drawn.

As part of our cross curricular approach, some of our cross-curricular themes will have a strong science focus and will be taught in blocks of work across the year. As well as this, science teaching will be ongoing throughout the year with science lessons being taught on a weekly basis alongside the overall cross-curricular theme. "Working scientifically" will be embedded within the content of each science topic to enable children to develop and make progress with those skills.

At the start of a topic, the teacher will assess prior learning using a range of different techniques. This will help to gauge where the starting point for the learning needs to be. It will also identify any misconceptions that need to be addressed. The plan for the topic will show progression in knowledge and working scientifically skills. Lessons will be practical allowing first-hand observation wherever possible. Activities that record the child's learning will be open-ended and include a range of different methods to allow children to demonstrate their own scientific understanding regardless of their reading and writing ability. Regular assessment will take place though out the topic through discussion, quizzes, questioning and written work, and at the end of the topic the teacher will complete an assessment sheet highlighting the objectives each child has achieved.

We will instill in our children a passion for discovery and learning through a range of challenging and motivating activities designed to extend pupils' learning which will develop life-long skills.

Science Curriculum Overview Map

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
EYFS	**Habitats;** Exploring the environment Autumn – Exploring our environment. Observations of seasonal change Habitats – wildlife animals	**Materials;** clothing for the winter Seasons Winter / Ice melting Investigate changes in matter – baking/frozen/melting. Exploring day/night	**Growth and Change** Contrasting environments – animal habitats, Exploring contrasting environment Exploring shadows/rainbows – weather forecasting	**Growth and Change** Seasonal changes – Spring Observing change and growth of both humans and the natural world Comparison of habitats	**Life Cycles** Immediate Environment : Observations and drawings of plants and trees around the school Planting and Growing Exploring maps of familiar environments	**Local Environments** Comparisons to beginning of the year Seasons and weather – Summer cycle Life cycles – caterpillars, tadpoles, Maps of familiar environments
Year 1	**Animals Including Humans**		**Plants**		**Materials and Properties**	
	Seasonal Changes		Seasonal Changes		Seasonal Changes	
Year 2	**Living things and their habitats** **Animals** ~~inc humans~~ *(Animal survival and growth)*		**Uses of Everyday Materials**	*Health* **Animals including Humans** *(Humans, grow and stay healthy)*	**Plants** *(Growing plants)*	
	Observe plants and animals in their local environment					
Year 3	**Animals including Humans** – Movement and Skeleton	**Animals including Humans** – Nutrition and Diet	**Rocks and Fossils**	**Forces and Magnets**	**Light** – Shadows and Reflections	**Plants**

Year 4	**Electricity**	**Sound**	**Animals including Humans** - Teeth and the Digestive System	**States of Matter**		**Living things and their habitats**	
Year 5	**Living Things and their habitats** (life cycles and reproduction in animals)	**Forces** (gravity, Friction and air resistance and mechanisms)	**Earth and Space**	(Material properties) **Properties and Changes of Materials** (Thermal insulation and testing material properties)	(Material Changes) **Properties and Changes of Materials** (Reversible Changes)	(Material Changes) **Properties and Changes of Materials** (Irreversible Changes)	**Living things and their habitats** (life cycles, reproduction in plants)
	Animals (including humans) (Y5 human life cycles) teach through PSHE lessons plus ideas incorporated into "Living things and their habitats"						
Year 6	**Evolution and Inheritance**	**Electricity**	**Light**	**Animals Including Humans**	**Living Things and Their Habitats**		