



Science Curriculum



Intent:

At Copnor Primary School, we aim to provide an engaging and practical learning environment, which is full of **creativity** and is progressive across all year groups. Our Science curriculum aims to build the foundations for understanding the world through the disciplines of biology, chemistry and physics through inspiring lessons.

Children will develop a love for **lifelong learning** through their interactive science lessons and through this development, they will have an awareness of the career opportunities that science may lead to (including STEM). This awareness of opportunities should lead to all pupils, who wish to follow a STEM career path, to aspire to follow their dreams, as 60% of new jobs created in the future will feature a STEM element. Children will be introduced to a diverse range of key figures/scientists from the different areas of STEM, learning about how they have impacted the world as well as their route into their career field.

All pupils are taught essential aspects of the knowledge, methods, processes and uses of science in everyday life and in the wider world. Through building up a body of key knowledge, language and concepts, pupils are encouraged to explore the scientific big ideas, question scientific theories and investigate based on their own enquiries. This develops a sense of excitement and curiosity about natural phenomena and allows them to explore their own ideas.

Implementation:

At Copnor Primary School our Science curriculum is based on a highly effective programme of study which supports teaching, enables the children to build on prior learning and embeds scientific vocabulary to articulate their understanding.

At least one Science unit in each year group is taught through a thematic approach. The working scientifically requirements are incorporated into each topic so that, in addition to the core knowledge and vocabulary, children are using a range of enquiries, developing skills of asking questions, observation, investigation and fair testing, predictions, collecting data and evaluation. Children will develop these skills

through of scientific enquiry types: observations over time, fair-testing, research, pattern-seeking and identifying, grouping and classifying. Our Science curriculum promotes children to work **collaboratively** to **solve problems** and build a **resilience** to find answers.

The school is located near Queen Elizabeth Country Park, utilising the natural environment and **community** around us, which will allow the children to appreciate and care for their surroundings. Children will also have the opportunity to develop a deep understanding of the topic and enhance their experience within the Science curriculum with the use of, videos, practical activities, outdoor learning (Nature Nook), artwork, drama, trips, primary and secondary resources and visits.

Year Group	Topic	Skills from Working Scientifically
EYFS	Into the Woods: Seasons	Understand and discuss changes in the natural world around me, including the seasons and changing states of matter.
1	All Creatures Great and Small: Animals, including Humans	Identify and classify animals based on their observable features.
	Plants	Make close observations to identify and classify plants based on their features.
	Everyday Materials	Identify and classify materials based on observing physical characteristics.
	Seasonal Changes	Use senses to make observations, gathering and recording data to help in answering questions.
2	Into the Woods: Living Things and their Habitats	Identify, classify and group using scientific criteria.
	It Starts with a Seed: Plants	Perform simple tests and start to consider if a test is fair. Make accurate measurements of length.
	Animals, including Humans	Record my data using pictures, texts and labelled diagrams.
	Uses of Everyday Materials	Use senses to make accurate observations.
3	Plants	Set up simple practical enquiries (fair tests); gather and record findings using scientific language, bar charts and tables.
	Animals, including Humans	Identify differences, similarities or changes related to simple scientific ideas and processes.
	Earth Shattering Disasters: Rocks	Set up simple practical enquiries and comparative and fair tests; gather data in a variety of ways.
	Light	Report on findings from enquiries, presenting results and drawing simple conclusions; make accurate measurements using standard units and range of equipment.
	Forces and Magnets	Set up simple practical enquiries (fair tests); use straightforward, scientific evidence to answer questions or to support my findings.
4	Living Things and their Habitats	Make systematic and careful observations.

	Animals, including Humans	Record findings using relevant scientific language, drawings, labelled diagrams, bar charts and tables.
	States of Matter	Choose suitable equipment to measure data for experiments involving length, mass, time and temperature and use thermometers and data loggers.
	Sound	Look for patterns in data and try to explain them, for examples differences, similarities or changes related to simple scientific ideas of processes.
	Electricity	Carry out practical enquiries, comparative and fair tests, and explain why it was fair.
5	Living Things and their Habitats	Record data and results using scientific diagrams and labels, classification keys and models.
	Animals, including Humans	Report findings from enquiries, including oral and written explanations of results and conclusions.
	Properties and Change of Materials	Plan enquiries, including recognising and controlling variables where necessary. Use my data to interpret patterns.
	Earth and Space	Report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in written form, displays and other presentations.
	Forces	Consider how changing one variable can alter another and can use –er words to describe this (e.g. the heavier the load, the longer the spring).
6	Living Things and their Habitats	Use simple models to describe scientific ideas, identifying scientific evidence that has been used to support or refute ideas or arguments.
	Animals, including Humans	Record data and results of increasing complexity using scientific diagrams and labels, classification keys and models. Report findings from enquiries, including oral and written explanations of results, explanations involving causal relationships, and conclusions.
	Evolution and Inheritance	Draw conclusions that are consistent with the evidence and relate these to scientific knowledge.
	Electricity	Plan enquiries, deciding on the most appropriate approach, and describing how to vary one factor while keeping the others the same. Select apparatus and plan to use them effectively and safely.
	Light	Make a series of observations, comparisons or measurements with increasing accuracy and precision, taking repeat readings where appropriate, and can record these systematically.

Impact:

When pupils leave Copnor Primary School, they will have engaged in practical and theoretical based scientific enquiry due to the rich, broad and balanced Science curriculum that is progressive across the school. Their learning in Science will have provided them with wider knowledge, **independence** and understanding of the world around us. The children will have an increased awareness of how Science has and continues to change the world we live in. Through studies of famous scientists from a diverse range of backgrounds and role-models in the community (at least two per year group), the children understand how different scientists' impact on our current knowledge of scientific theories and ground-breaking discoveries.

“Don't let anyone rob you of your imagination, your creativity, or your curiosity.”

Mae Jemison, physicist and astronaut