

Styal Science Intent



Intent

At Styal Primary School, we want to immerse our children in a broad science curriculum (including the EYFS Early Learning Goal- Knowledge and Understanding of the World) giving our children a secure understanding of the world surrounding them whilst undertaking investigations and asking questions in such a way that they are curious to find out why things happen in the way they do.

We are lucky to have diverse environments on our doorstep so that we can fulfil many of the requirements set out in the National curriculum. We have access to our own Forest School and the rich natural, yet industrial back drop of Quarry Bank Mill to the contrasting environment of Manchester Airport. We prepare our children for life in an increasingly scientific and technological world whilst fostering concern about, and actively caring for our local, national and global environment.

Implementation

Whole School Science Overview (Cycle A and B)

Cycle A

Term	Reception	Year 1/2	Year 3/4	Year 5/6
Autumn	Similarities and differences of living things.	Animals Identifying Animals (Reptiles, Fish, mammals etc)	Electricity <i>Faraday</i> Sound <i>Helen Keller</i>	Forces Great British Scientists <i>Galileo</i> <i>Sir Isaac Newton</i>
Spring	Features of the immediate environment. Making observations and explaining why things occur.	Materials <i>John McAdam</i>	Animals (Inc Humans) Vertebrates and Invertebrates Teeth	Living Things and their Habitats Classification (Living Things) <i>Carl Linnaeus</i> <i>Marie Curie</i>
Summer	Similarities and differences. Making observations and explaining why things occur.	Living Things (Food Chains)	Living Things Classification Earth, Sun and Moon	Earth Sun and Moon Animals Inc Humans The Human Body

Cycle B

Term	Reception	Year 1/2	Year 3/4	Year 5/6
Autumn	Similarities and differences. Observe changes in the seasons	Animals (inc Humans) Growth, human body Evolution and Inheritance <i>Alexander Fleming</i> <i>Louis Pasteur</i> Seasons	Properties of materials (man-made and natural) Rocks and Soils Fossils <i>Mary Anning</i>	Separating Materials Reversible and Irreversible Changes
Spring	Making observations and explaining why things occur. Changes	Plants	Forces and Magnets Light and Shadows <i>Thomas Edison</i>	Light and Sound Electricity
Summer	Features of the immediate environment. Similarities and differences.	Living Things Habitats	Plants <i>David Bellamy</i> Changing States	Evolution and inheritance <i>Charles Darwin*</i> Living Things Lifecycles

The Primary Curriculum objectives have been carefully divided up into KS1 and KS2 over a 2 Year Cycle so that each strand of science- Biology, Chemistry and Physics are covered during their time with us. Children in EYFS work towards the Early Years Outcomes under the strand 'Understanding the World.'

The teachers use a progression of skills grid to plan their units and series of lessons. In addition, teachers have access to the PLAN resources from the Association Science Education (ASE) which support teachers with prior knowledge and skills and highlight any possible misconceptions.

Using the local environment children will learn through varied and first-hand experiences of the world around them and become responsible citizens. In tandem with projects such as STEM, The Great Science Share, Science Weeks and Aspirations Week at Styal, children explore the possibilities for careers in science and engage in community links. Through teaching, we model how to ask and answer scientific questions, use appropriate scientific language and teach how to appreciate the way science will affect their future on a personal, national, and global level. As they move through the school, they learn about significant scientists (shown above in the overview in green) and their discoveries and impact these have or have had on societies. Children have Knowledge Organisers that are used to share key knowledge for the unit of sequential learning and embed key scientific vocabulary.

Children will carry out investigations during each unit of work using hypotheses to develop planning and investigational skills through relevant practical tasks, including observing, measuring, predicting, hypothesising, experimenting, communicating, interpreting, explaining and evaluating fair testing, controls, variables and be able to draw conclusions.

Impact

Written work in science books together with photographic evidence, learning walls and 'Evidence Me' (in EYFS) will show the learning that takes place at Styal. During teaching sessions, children will be able to recall key knowledge, use the correct vocabulary and refer to learning walls and learn how to use and handle scientific equipment safely and appropriately. End of unit assessments will demonstrate the knowledge and understanding children have gained against the learning outcomes set out in each unit.

Subject lead monitoring such as Pupil Voice and book looks aim to measure the impact of our curriculum and evaluate and adapt teaching and learning for all our learners.

At Styal, we want our children to be curious learners through exploration and investigation, ask and answer questions and be passionate about the world around them so that they will be independently driven to find out more about it.