Science

Coverage

How do you know the National Curriculum is covered?

By using a rigorous matrix approach, the objectives of the National Curriculum are cross-referenced to the 'Learning Means the World' Curriculum and identified gaps are taught through NC specific science units.

We believe that learning in science develops through the experience and development of scientific concepts in incremental steps in each phase. For this reason, we have made the following changes to the Programme of Study within the Science National Curriculum, in line with statutory requirements*, to support children's learning. Exploratory units of Light, Electricity, Sound and Forces have been included in Key Stage 1 to ensure that children gain initial experience of a range of 'Physical' science before Key Stage 2, as outlined below.

Forces – Land Ahoy!

Physical movement is a natural process and pupils develop basic locomotion and manipulative skills from an early age. By building understanding of the basic concept of push and pull as part of this suite of movements, pupils can better access the concepts of magnetism in LKS2 and the principles of levers and pulleys in UKS2. Comparing how things move, such as different animals, links biology to this strand and also enables pupils to develop comparisons

Light – Light Up the World

Having already learnt about sight as one of the five senses in Early Years, pupils learn about day and night, with reference to the sun as a light source which enables us to see. On a practical level, they are also taught that we need to protect our eyes from it, as it is so strong. This naturally leads to a recognition that we need light to see things and that dark is the absence of light. The concept of shadow is also introduced at a basic level before it is re-visited and built on in LKS2.

Science

Sound – Land Ahoy!

Having already learnt about hearing as one of the five senses in Early Years, pupils explore sound sources and the relationship between the volume and distance. Also, as pupils learn about sound in music, and the element of dynamics (loud and quiet), this complements their understanding.

Electricity – Zero to Hero

As part of their everyday experience, pupils are continually interacting with common appliances that run on electricity, both mains and battery. Because of this, there are safety issues that need to be addressed at an early age which we believe is best done in the context of science. Pupils use switches every day and by introducing them to the basic exploration of electrical circuits, this not only develops pupils' confidence in safe handling but helps them connect their actions to consequences e.g. energy conservation. This learning is then re-visited and built on in LKS2 and UKS2.

In addition, environmental change is first taught in KS1 and not LKS2, linked to Living Things and Their Habitats:-

Living Things and Their Habitats - Going Wild

Pupils learn about how changes in environment can result in animal species becoming endangered, when they begin to look at biodiversity.

Similarly, teaching about Evolution and Inheritance begins in LKS2 not UKS2, as it connects well with learning in history about prehistoric man and contextual evidence.

The overall changes to the science curriculum structure enable children to build on their learning through a spiral model, encouraging the development of concepts as they visit each area of science over time.

Science

*"The programmes of study for science are set out year-by-year for key stages 1 and 2. Schools are, however, only required to teach the relevant programme of study by the end of the key stage. Within each key stage, schools therefore have the flexibility to introduce content earlier or later than set out in the programme of study. In addition, schools can introduce key stage content during an earlier key stage if appropriate. All schools are also required to set out their school curriculum for science on a year-by-year basis and make this information available online."

National Curriculum in England: Science Programme of Study

Dimensions CURRICULUM