Science Curriculum Statement

Intent

At Biddick Hall Infant and Nursery School, we follow the national curriculum for Science and we aim to ensure that all our pupils:

- develop scientific knowledge and conceptual understanding through the specific disciplines of Science
- develop understanding of the nature, processes and methods of Science through different types of Science enquiries that help them to answer scientific questions about the world around them
- are equipped with the scientific knowledge required to understand the uses and implications of Science, today and for the future.

Implementation

Science in our school is taught as a discreet lesson in Key Stage one, and in the Early Years, through the medium of play and exploration, making use of the learning environment both indoors and outdoors.

Our children learn the scientific concepts of Seasonal Changes, Everyday Materials and their uses, Plants, Animals Including Humans and Habitats. In the Early Years, children follow the EYFS and The World element of Understanding the World.

Vocabulary is at the core of all our children's learning in Science. We provide essential and challenging vocabulary to enable our children to ask questions, to explore, to explain and to deepen their understanding. During our units of work, relevant vocabulary will always be on display on our curriculum wall, and is referred to regularly. In this way, our pupils expand the vocabulary choices that are available to them when they write.

In every Science lesson, children are taught the skills of Working Scientifically: focusing on the key features of scientific enquiry, this ensures that pupils learn to use a variety of approaches to answer relevant scientific questions. Children experience observing over time; pattern seeking; identifying, classifying and grouping; comparative and fair testing (controlled investigations); and researching using secondary sources. Pupils are also supported to seek answers to questions through collecting, analysing and presenting data.

Our units of work are built upon over time to ensure children deepen their understanding. For example, Seasonal Changes is studied in Autumn and again in Summer, but this is further enhanced with work covered on deciduous and non-deciduous plants in Winter.

Animals including Humans is a 3-week unit. The children begin by naming the body parts of animals and humans, they then use this knowledge to be able to compare animals. The final week moves on and children look at identifying carnivores, omnivores and herbivores and their associated features.

In the Early Years Nursery look at pebbles, corks and other small objects and investigate floating and sinking, whereas in Reception the learning moves on with using that prior knowledge to build a simple boat that can float.

Science has clear links with Mathematics and we link this wherever possible, for example measuring the growth over time of our grass heads, and reading a scale on a thermometer in Seasonal Changes. We also link Science with Design Technology, making appealing wind socks which are then used to measure the wind in our Seasonal Changes unit.

In Year 2, the children use simple greenhouses built in Design Technology to support their work growing seeds in Science the following week. This helps children to see links in learning, and further deepens and enhances their understanding through STEM experiences.

We use simple equipment and carry out hands-on, practical activities wherever possible, for example to enhance the learning about life cycles in Year 2, we always have class stick insects that we observe over time from nymph to adult. During materials week we design and make a protective jacket for our Humpty Dumpty egg and drop him from a great height, using our previous knowledge of the properties of materials learned in year 1. We make good use of our outdoor garden and school environment to further enhance the children's understanding of the world around them. We identify different trees from the shapes of their leaves and can talk about the difference between trees and plants. We hunt for mini beasts using simple equipment to catch and observe them safely.

Children in Key Stage 1 are supported to answer scientific questions by planning simple, fun and fair tests, carrying them out safely and analysing the results. They are encouraged to talk about their predictions, their results and whether or not they have answered the scientific question.

We broaden the children's horizons and embed the learning further by providing high quality and targeted educational visits and visitors into school. We visit Salthome RSPB to support our learning on animals and habitats, and our younger children visit Blue Reef Aquarium to support learning during their Under the Sea theme. British Science Week is recognised and celebrated in school and Science is taught for 2 weeks over this period.

Online learning platforms such as Explorify and Espresso are used to support children in their learning. The children can then continue their learning journey at home on Espresso as they are equipped with home logins. We use our class and school library, which is stocked with high quality non-fiction books as secondary sources of information. These books can be chosen to take home as part of our library service. Good quality, relevant storybooks are also used and read to the children as another way of embedding the learning in class, and allowing access for all in Science.

Impact

Our approach to teaching Science at Biddick Hall Infants and Nursery School ensures that learning is purposeful, engaging and of high-quality. Our Science provision helps children to make connections between their work in the classroom and the world around them. All children have a voice and are scientists who are encouraged to feel capable of achieving through being innovative and resilient scientists who are encouraged to think critically. Our aim for science is to increase the skills needed to navigate an ever-changing world of science and technology by immersing our students with scientific enquiry skills, key scientific knowledge and

investigative skills. We aim to create a culture of high scientific aspirations, which will allow our students a platform to develop their scientific learning in further education into KS2 and beyond and to have the ability to articulate their understanding of key scientific concepts.