Richmond Avenue Primary and Nursery School
Subject Rationale

Science

Ethos

Our aim is to create a rich learning environment, enabling every pupil to fulfil his or her potential. We are committed to the highest possible educational standards, with a matching concern for the personal growth and development of each pupil.

Intent

At Richmond Avenue Primary and Nursery School, we believe all children can develop a strong understanding of the world around them and it is our intention to recognise the importance of science in every aspect of daily life. We give the teaching and learning of science the prominence it requires. The scientific area of learning is concerned with increasing pupils' knowledge and understanding of our world, and with developing skills associated with science as a process of enquiry. It will develop the natural curiosity of the child, encourage respect for living organisms and the physical environment and provide opportunities for critical evaluation of evidence. We intend to build a science curriculum which develops learning and results in the acquisition of knowledge and enables children to become enquiry-based learners. It is important that they are able to see the relevance of science in their own lives, and imagine future science-related careers based upon it.

Implementation

The science curriculum at Richmond is designed to maximise the potential for all learners to succeed through a skills based curriculum. Our science curriculum offers a broad range of experiences designed to provide pupils with a progression of scientific understanding, skills and knowledge. New skills and concepts are carefully sequenced to build on pupils' prior knowledge with pupils who grasp the skills and concepts rapidly being challenged to go broader and deeper with their learning, with those who are slower to grasp learning points supported in lessons. Importance is placed on practical experiences, allowing all children to develop their knowledge and understanding using firsthand experiences. Wherever practical, science is taught through experimentation and practical investigation and specific theme weeks act as a hook to foster interest across the spectrum.

Early Years

Science is taught through skillful adult intervention in continuous provision ('In The Moment Planning'). This is supported by a carefully designed learning environment. Pupils learn through activities that encourage pupils to explore, problem solve, observe, predict, think, make decisions and talk about the world around them. Pupils are encouraged to ask questions about why things happen and how things work, this will help them communicate, plan, investigate, record and evaluate findings.

Key Stage One

The transition from Early Years is deliberately managed so that pupils continue to build on prior skills and knowledge of the world around them. The topic based progressions begins with a 'mind map' at the start of each topic, allowing teachers to see what the pupils already know, address any misconceptions, identify children that may need extra support, as well as those that will need

supporting to develop a deeper and broader understanding of the science topic in focus. Both key stages follow the National Curriculum schemes of work for science. The science curriculum is planned so that children are given the opportunity to develop an awareness of those things which happen around them in the everyday world and to make sense of the events and objects with which they come into daily contact. As their scientific knowledge increases, children will be shaping and refining their ideas by looking for patterns and developing a practical understanding of fair testing in order to explore these ideas.

Key Stage Two

Pupils continue to build on prior knowledge in order to refine their knowledge and skills. Children's starting points are identified at the beginning of each science topic to show evidence learning and aid assessment by the end of taught lessons. At the end of units, children's skills and knowledge is checked in line with the key skills and knowledge identified at the start of the topic. Pupils will be familiar with, and use, technical terminology accurately and precisely. They build up an extended specialist vocabulary and teachers ensure that this is developed within each lesson. Key vocabulary is displayed throughout each topic and referred to during lessons, with children expected to use and understand this vocabulary.

Impact

Pupils in all key stages engage enthusiastically with science and leave the school with a secure understanding science. Pupil voice surveys show that pupils enjoy their learning in science and are keen, motivated learners. They enjoy the more practical aspects of the subject and are keen to develop this element, along with their understanding when they transfer to secondary school and beyond.