



Intent

The intent of our science curriculum is as follows:

- Science teaching at NPPS aims to give all children a strong understanding of the world around them whilst acquiring specific skills and knowledge to help them to think scientifically. We aim for all children to gain an understanding of scientific processes and also an understanding of the uses and implications of Science, today and for the future.
- At NPPS, the progressive scientific knowledge that the children learn, is one of our main priorities. Scientific knowledge and vocabulary are planned and taught in a systematic way, giving children the opportunity to revisit and recap their previous learning before developing their knowledge further.
- Scientific enquiry skills are embedded in each topic the children study and these topics are revisited and developed throughout their time at school. Scientific knowledge and principles are introduced in Key Stage One and studied again in further detail throughout Key Stage Two. This model allows children to build upon their prior knowledge and deepen their understanding of scientific concepts as they progress through the school.
- All children are encouraged to develop and use a range of skills including observation, planning and conducting investigations as well as taking accurate measurements and presenting data in a variety of ways. They are encouraged to question the world around them and become independent learners in exploring possible answers for their scientific questions.
- Specialist vocabulary for topics is taught and built up and the children are encouraged to use this vocabulary when answering questions, writing conclusions or presenting results.
- Concepts taught are reinforced through scientific enquiry, so that pupils learn to use a variety of approaches to answer relevant scientific questions.

By the end of Key Stage 1 our children will learn to experience and observe phenomena, looking more closely at the natural and humanly constructed world around them. They will be curious and ask questions about what they notice. They will have developed their understanding of scientific ideas by using different types of scientific enquiry to answer their own questions, including observing changes over a period of time, noticing patterns, grouping and classifying things, carrying out simple comparative tests, and finding things out using secondary sources of information. They will learn to use simple scientific language to talk about what they have found out and communicate their ideas to a range of audiences in a variety of ways. Most of the learning about science will have been done through first-hand practical experiences, but there will also be some use of appropriate secondary sources, such as books, photographs and videos. Pupils will be able to read and spell scientific vocabulary at a level consistent with their increasing word-reading and spelling knowledge at key stage 1

By the end of Y4 the children will have broadened their scientific view of the world around them. This will be done through exploring, talking about, testing and developing ideas about everyday phenomena and the relationships between living things and familiar environments, and by beginning to develop their ideas about functions, relationships and interactions. They will have the opportunity to ask their own questions about what they observe and make some decisions about which types of scientific enquiry are likely to be the best ways of answering them, including observing changes over time, noticing patterns, grouping and classifying things, carrying out simple comparative and fair tests and finding things out using secondary sources of information. They will be able to draw simple conclusions and use some scientific language, first, to talk about and, later, to write about what they have found out. The children will be able to read and spell scientific vocabulary correctly and with confidence, using their growing word-reading and spelling knowledge.

By the end of Key Stage 2 our children will have developed a deeper understanding of a wide range of scientific ideas. They will do this through exploring and talking about their ideas; asking their own questions about scientific phenomena; and analysing functions, relationships and interactions more systematically. In upper key stage 2, they will encounter more abstract ideas and begin to recognise how these ideas help them to understand and predict how the world operates. They will also begin to recognise that scientific ideas change and develop over time. They



will be able to select the most appropriate ways to answer science questions using different types of scientific enquiry, including observing changes over different periods of time, noticing patterns, grouping and classifying things, carrying out comparative and fair tests and finding things out using a wide range of secondary sources of information. Pupils will draw conclusions based on their data and observations, use evidence to justify their ideas, and use their scientific knowledge and understanding to explain their findings. Children will be able to read, spell and pronounce scientific vocabulary correctly.

Implementation

Science is taught following the programmes of study in the National Curriculum. Sometimes science is taught as part of 'The Big Question' planning but where this is not possible, topics are taught as a discrete science lesson. Teachers work collaboratively to support each other when planning Science and to ensure consistency across the year group

Year Group	Units
Foundation Stage	Understanding the World objectives are planned into every topic during the Foundation Stage Year. Children get to explore the world around them daily, through both adult-led and child-initiated learning experiences.
Y1	The Seasons, Materials, Animals, Plants
Y2	Plants, Materials, Animals, Healthy Eating, Animals and their Habitats.
Y3	Animals, Rocks and Soils, Forces and Magnets, Light, Plants
Y4	Animals, Sound, Electricity, States of Matter, Living Things and their Habitats
Y5	Earth in Space, Forces, Materials, Living Things and their Habitats, Animals
Y6	Living things and their Habitats, Animals, Light, Electricity,

We are aware that children naturally enjoy the practical side of the Science curriculum. Therefore, practical, hands on and 'real' experiences are planned into the curriculum as much as possible, to help the children remember the knowledge that they are being introduced to. These can include experiments, investigations, using the outdoor areas within and near our school, school trips and visits from outside organisations.

The teaching of this subject will be adapted as required to enable children with SEND to access this area of the curriculum, in line with their individual needs and through liaison with the school SENDCo.

Impact

Teachers assess children's work in Science by making informal judgements as they observe them during lessons. On completion of a piece of work, the teacher marks the work and comments as necessary. At the end of a unit, the teacher assesses the children against the objectives for that topic using Insight. At the end of the year, the teacher makes a summary judgement about the work of each pupil in relation to the skills and knowledge they have developed in-line with the National Curriculum and these are reported to parents as part of the child's annual school report. To achieve consistency with other core subjects, children may be reported as working at greater depth although we appreciate in science the expected standard is either met or not met. Reports and Insight data are available to the child's next teacher at the end of the academic year.

Individual teachers are responsible for the standard of children's work and for the quality of their teaching in Science. Teachers use elicitation activities to enable them to assess prior knowledge and understanding and aid assessment at the end of the topic. The Science co-ordinator also completes regular book looks and planning scrutiny as well as pupil conferences, learning walks and data analysis.