SCIENCE

Intent

To develop, regardless of gender, ability or background, children with knowledge and understanding of advances in science, famous scientists, important discoveries and scientific vocabulary, so that children are excited by science.

Our learning programmes have full coverage of the National Curriculum and also cover scientific questions around sustainability and the planet, and help children develop an empathy for the local and wider environment.

Implementation

EYFS

In the Early Years Foundation Stage Science is incorporated into the area of learning entitled 'Understanding the World'. Within this area, the strand 'The World' is developed by encouraging and supporting children to notice, explore and talk about growth, change and features of the natural environment, e.g. weather, materials, seasons, animals (including life cycles) and our body. The children will make observations of the natural world and begin to understand processes and changes e.g. states of matter. As with all areas of the EYFS children's development is assessed through a balance of child initiated observations and teacher led activities.

Year 1 – 6

Our Science curriculum is delivered through weekly lessons following White Rose Education. We use practical science activities to promote a deep understanding of scientific knowledge. Our teaching inputs are enriched with scientific language and knowledge, this allows children to explore their thoughts and communicate knowledge through a variety of methods. Each lesson begins with overlearning to recap previously learnt knowledge and skills and allow children to make connections between new and previously learnt knowledge.

Each term the children focus on a different topic, in-line with the National Curriculum. We teach a specific two year cycle to ensure we cover all objectives and expectations for each key stage within the mixed year groups. We provide age appropriate differentiated work to incorporate progressive knowledge and working scientifically skills. Each year the children will cover six different, overarching topics, each topic is dedicated to one of the scientific areas and provides a meaningful outcome. Children are regularly exposed to working scientifically skills and gain skills such as fair testing, problem solving and analysing secondary sources.

Through experiment, practice and discussion, children gain core knowledge around:

Scientific vocabulary

'Working scientifically' skills including systematic and careful observations and following practical scientific methods

The gathering and interpretation of straightforward scientific evidence

The use of everyday materials and scientific equipment to solve science problems

Articulating scientific concepts and using five types of science enquiries

We believe that children should be taught science in a way that helps nurture an understanding of the value of scientific skills. We think science learning should be engaging and inspiring.

Impact:

Teachers use formative assessment throughout each lesson to address any common misconceptions. Teachers also use lesson outcomes and objectives to check children's understanding of each lesson. Summative assessment is recorded formally at the end of each term. Working scientifically skills are progressive throughout school as children build skills to conduct scientific investigations, they are also able to record data and communicate results effectively.

Throughout their time at Handforth Grange, children will become more confident scientists applying their knowledge through experiments and investigations. Children will be able to talk eagerly about their science lessons and scientific experiences.