

Subject Policy

Science

INTENT: At Debden Church of England Primary Academy, all of our curriculum disciplines are used to underpin our school vision, which is to ensure that the children in our care:

- Progress exceptionally well academically, across a broad and knowledge-rich curriculum;
- Develop into confident compassionate, well-rounded individuals, in a safe, caring, Christian environment;
- Become equipped with the learning skills needed to deal with future challenges;
- Create happy, positive memories of their childhood.

Our science curriculum has been carefully constructed through close consideration of both the expectations of the National Curriculum and the vision and contextual requirements of our school and its children. Through our science curriculum, we aim for children to:

- Develop ideas and understanding about the biological and physical aspects of the world;
- Develop understanding of the nature, processes and methods of science;
- Foster positive attitudes toward science, and examine and appreciate how science affects their lives and the environment.
- Be equipped with the curiosity, critical thinking and innovation skills required to face the scientific problems of the 21st Century.

Our science curriculum has been tailored to our school's individual context. For example, scientific units of study have been thoughtfully mapped out to allow for enhanced progression within mixed year-group classes. We also make use of the local environment to enhance study – for example using the school's grounds/ local forests for 'classifying animals' and exploring local buildings and their school for uses of 'everyday materials.'

We strive for children to take a 'hands-on', exploratory approach to science, to gain valuable skills in hypothesising, testing, and evaluating enquiries, and to develop their curiosity and enthusiasm for scientific discovery.

A number of units run throughout most of the age-spectrum of our curriculum, for example 'living things and their habitats', 'animals including humans' and 'materials', and our knowledge organisers help us to ensure that there is clear and logical progression between year groups in these areas. Furthermore, as a part of our 'language-rich' curriculum approach, we have mapped out the key vocabulary within each unit, to ensure that children develop broad scientific language throughout their time at Debden.

IMPLEMENTATION:

Science is taught continuously throughout the year, with units aligned as closely as possible with other subject disciplines. We believe that this allows for greater depth of study, and increased opportunities to build schemata.

As a base for teachers planning, the Hamilton and Association for Science Education schemes of work and lesson plans are used to underpin unit structure, curriculum structure, however staff have the flexibility to adjust these schemes in order to best meet the interests and needs of their class.

Knowledge organisers are provided to children and their families at the start of each science unit, outlining the key

knowledge that the children will be learning about throughout their study. This allows families to support children's learning from home throughout units.

Children are empowered in their learning through having a voice in the direction that their scientific study takes – knowledge harvests take place at the beginning of units, and children consider the questions that they would like to find answers to throughout the topic.

Across all units of study, children develop their scientific skillset against the 'Working Scientifically' criteria; in all units, an emphasis is placed on the teaching of scientific skills such as predicting, estimating, measuring, fair testing, hypothesising, and drawing conclusions.

IMPACT:

Outcomes in science books demonstrate the children's acquisition of identified key knowledge. Children review the agreed successes at the end of every session and are actively encouraged to identify their own target areas, with support from their teachers. Some form of independent, extended piece of work is completed by children at the end of each unit (ordinarily an extended piece of writing, a presentation, or a test) in order for children to demonstrate their understanding of the knowledge covered. Children also record what they have learned comparative to their starting points at the end of every topic. The Headteacher meets with selected groups of children from each class to ascertain the science knowledge that they have developed over the course of the term.