

Fairhouse Primary School



Science Policy

Updated: Autumn 2017

To be reviewed: Autumn 2019

Purpose of study

A high-quality science education provides the foundations for understanding the world through the specific disciplines of biology, chemistry and physics. Science has changed our lives and is vital to the world's future prosperity, and all pupils should be taught essential aspects of the knowledge, methods, processes and uses of science. Through building up a body of key foundational knowledge and concepts, pupils should be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. They should be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes.

The aims of Science are

The national curriculum for Science aims to ensure that all pupils:

- develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics
- 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

Teaching and learning

Our principal aim is to teach Science in a way that allows children to explore, ask why and challenge facts in a safe and stimulating environment. Science is therefore taught with flexibility, allowing the children to lead and think independently. We aim for 50% of our science lessons to include practical work and investigations with the remainder of the time being used to apply the knowledge to real life scenarios and include cross curricular tasks in English and Mathematics.

Curriculum

Our Science curriculum is set out for each year covering the statutory requirements of:

- Plants
- Animals, including humans
- Rocks
- Light
- Forces and magnets
- Living things and their habitats
- States of matter

- Sound
- Electricity
- Properties and changes of materials
- Earth and Space
- Evolution and inheritance

At Fairhouse Primary School, we believe all children are entitled to a broad and balanced science education in an ever increasing scientific and technological world. We encourage the children to explore, use scientific vocabulary and develop the key skills for conducting a scientific investigation – predicting, hypothesising, experimenting and recording and measuring results. We encourage the children to make links between science and other areas of the curriculum when deciding how to record and present results.

Spoken language

The national curriculum for science reflects the importance of spoken language in pupils' development across the whole curriculum – cognitively, socially and linguistically. The quality and variety of language that pupils hear and speak are key factors in developing their scientific vocabulary and articulating scientific concepts clearly and precisely. They must be assisted in making their thinking clear, both to themselves and others, and teachers should ensure that pupils build secure foundations by using discussion to probe and remedy their misconceptions.

Planning and organisation

We carry out the curriculum planning in Science in three phases (long-term, medium-term and short-term). Our Fairhouse Science Scheme details what we teach in the long-term and identifies the key objectives in science that we teach to each year.

Our medium-term plans give details of the main teaching objectives for each term. These plans define what we teach and ensure an appropriate balance and distribution of work across each term.

Class teachers complete a weekly (short-term) plan for the teaching of Science. This lists the specific learning objectives for each lesson and gives details of how the lessons are to be taught.

All forms of planning are regularly reviewed by the Science subject leader and Senior Leadership Team.

Contribution of Science to the teaching in other curriculum areas:

The skills that children develop in Science are linked to, and applied in, every subject of our curriculum. The children's skills in science and speaking and listening enable them to communicate and express themselves in all areas of their works in school.

Teaching Science to children with special educational needs:

At Fairhouse Primary School, we teach Science to all children, whatever their ability. Science forms part of the school curriculum policy to provide a broad and balanced education to all children. Through our Science teaching, we provide learning opportunities that enable all pupils to make progress. We do this by setting suitable learning challenges and responding to each child's different needs. Assessment against the National Curriculum allows us to consider each child's attainment and progress against expected levels.

When progress falls significantly outside the expected range, the child may have special educational needs. Our assessment process looks at a range of factors – classroom organisation, teaching materials, teaching style and differentiation – so that we can take some additional or different actions to enable the child to learn more effectively. This ensures that our teaching is matched to the child's needs.

Assessment and recording:

We use the Rising Stars Progress Tracker to assess how our pupils are progressing in the science curriculum. Each topic is assessed in the following way:

- The children are given a Diagnostic assessment at the beginning of each topic. This allows the teacher to see what the children already know, and develop lesson plans accordingly. It also acts as a baseline for progress to be monitored against.
- Half-way through the topic, children are given a Mid-topic assessment. This allows progress to be monitored and allows any misconceptions to be addressed by the class teacher.
- At the end of each topic, the children are given an End of Topic assessment which shows the overall progress made throughout the topic of learning.

At the end of each academic year, children are given a test which collaborates all topics taught that year. During investigations, formative assessments are also made by the class teacher.

Monitoring and review:

Monitoring of the standards of the children's work and of the quality of teaching in science is the responsibility of the Science subject leader and senior leadership team. The work of the subject leader also involves supporting colleagues in the teaching of science, being informed about current developments in the subject, and providing a strategic lead and direction for the subject in the school. Progress meetings are held with the class teacher and the subject leader / senior leadership team to set targets, discuss strategies and evaluate progress against these targets.