

Castlefields Primary School Science Statement

Intent

The 2014 National Curriculum for Science aims to ensure that all children:

- Develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics
- Develop an 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 skills required to understand the uses and implications of science, today and for the future. We understand that it is important for lessons to have a skills-based focus, and that the knowledge can be taught through this

At Castlefields Primary School, we understand that children have a natural inquisitiveness. We shape our Science Curriculum to ensure it is fully inclusive to every child regardless of their learning needs. Science fosters this curiosity of the universe, an understanding of the world around us and a respect for both living and non-living things. We believe that a broad and balanced science curriculum must comprise of several aspects; knowledge, conceptual understanding, skills and a positive attitude towards the subject. The programmes of study in the National Curriculum science document promote a deep understanding of knowledge and concepts that are built upon through Primary School. Our 'Working Scientifically' skills document shows clear, consistent and measurable progress through every year group, so that pupils can correctly conduct experiments, safely use a range of equipment, record their results and confidently answer questions about them in an increasingly complex way. Vocabulary related to both individual scientific concepts and working scientifically is built upon each year through engagement with working wall displays, year group appropriate glossaries and targeted vocabulary lessons.

Implementation

Fundamental to the implementation of our science curriculum is an insistence of high standards of learning, supported by enthusiastic and highly skilled staff, whose own subject knowledge is monitored by the science leader. Our whole school approach to science involves the following:

- **Early Year Foundation Stage** science is linked to the Specific Area of 'Understanding the world'- specifically 'The world'. Our Woodland School area plays a large role in this, allowing pupils the opportunity to observe animals and plants and understand the differences between living things.
- **Key stage 1** science is organised around topics specific to each year group, owing to the nature of the curriculum and developmental stage of the pupils. Pupils present their work in science books, letting pupils make links between lessons without needing to look back more than one page in their books. Pupils also have the opportunity to try out basic aspects of science not specifically mentioned in the curriculum document, allowing them to 'experience and observe phenomena, looking more closely at the natural and humanly constructed world around them.' This is planned in conjunction with other teachers to ensure coverage is not repeated further on in school, or to the detriment of the science learning specified within the curriculum that year.
- **Lower Key Stage 2** science is organised into a two-year rolling programme, linked to the particular topic being studied. Pupils in both Year 3 and Year 4 study the same scientific concept (from the Year 3 and 4 curriculum document) at the same time, allowing for the sharing of resources, joint trips/ visitors and giving the opportunity for collaborative planning to ensure that scientific enquiries are conducted and recorded at different levels, clearly showing progression between year groups. Science learning is arranged into topic books, so pupils can make cross curricular links and ensuring that science is treated with the same care, attention and with the same presentational quality as literacy and other foundation subjects.
- **Upper Key Stage 2** science is likewise based on a two-year rolling programme, linked to the current topic and presented in cross-curricular topic books. This similarly allows the advantages for planning and resourcing.
- **Scientific enquiry skills ('Working Scientifically')** are embedded across all years of the curriculum. Clear, consistent and measurable progress in these skills can be seen in books, on working walls and within the Castlefields 'Working Scientifically' document.

Impact

The successful approach at Castlefields results in a high quality, challenging and engaging science curriculum, that provides children with the foundations for understanding the world. Through trips, outside visitors and hands on learning, pupils understand the real-world context for science and the applications of accurate scientific investigation skills. Children understand the contribution that scientists have made through the ages, drawing on cross-curricular skills to appreciate the contributions made by those before them. Children at Castlefields overwhelmingly enjoy science and this results in motivated learners. Monitoring the impact of our science curriculum is organised in the following way;

- Through learning walks conducted by both the science leader and headteacher, with feedback given to members of staff.
- Analysis of Key Stage 1 and Key Stage 2 SATS data by the science leader, in conjunction with other relevant members of staff.
- iTrack data for science knowledge.
- Book trawls targeted specifically at identifying progress in the 'working scientifically' skills.
- Pupil questionnaires, looking at what pupils learning attitudes are towards science.