



Science Policy Academic Year 2024 - 2027

Intent

Our science curriculum is designed with the intent that each child at Stepping Stones will become competent scientific thinkers and investigators who will encounter awe and wonder through first-hand scientific investigative experiences and approaches, which activate learning for all children. With great emphasis on providing children with a high-quality science education that offers the foundations for understanding the world through the specific disciplines of biology, chemistry and physics, our curriculum design for Science across primary school promotes specific competences including knowledge, enquiry and the working scientifically based skills. Creative pathways to learning are planned for so that children can make links to prior learning and develop depth in key skills within Science that are rich, stimulating, challenging and real life with the aim of enabling children to master learning with skills, knowledge and experiences that will remain with them for the rest of their lives. We should all champion primary science and our intent is to make sure that every child has a positive experience of science throughout their primary school education.

Aim(s):

The aims of science at Stepping Stones are:

- To encourage pupils to ask and answer scientific questions.
- To plan and carry out scientific investigations, using equipment, including technology, correctly.
- To provide opportunities to experience scientific concepts first hand using practical work.
- To develop their understanding of and interests in the world around them, including a respect for the local environment.
- To develop a safe and structured approach towards practical work.
- Predict an outcome, evaluate evidence and present their conclusions clearly and accurately.

Teaching and Learning Style

We use a variety of teaching and learning styles in science lessons. Our principal aim is to develop children's knowledge, skills, and understanding. We encourage the children to develop these areas through practical approaches, where children are able to carry out investigations and support in discussing through the key concepts throughout this subject. These activities are planned through either a whole class approach or in smaller groups. We recognise that in all classes children have a wide range of scientific abilities, and we ensure that we provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child.

Implementation

The schools Medium term planning and coverage of key scientific skills will be used by teachers to plan, this will drive the journey of Science for every year group, building on from prior learning and develop progressively key skills and developing depth. Provide opportunities for children to develop the process skills associated with science education as well as develop a greater knowledge and understanding of life processes and living things, materials and their properties and physical processes as described in the National Curriculum for science. Promoting enjoyment and enthusiasm for learning through real, first –hand and rich science experiences, so that all children explore, question, predict, plan, carry out and make observations and conclusions about their scientific tests. Allowing children to discuss and present their work using scientific language, observations, diagrams, jottings and charts. To foster positive attitudes such as curiosity, perseverance, willingness to use and appraise evidence, willingness to tolerate uncertainty, critical reflection and enthusiasm. Developing an understanding of the importance of Science in everyday life.

Assessment

Assessment is inextricably linked to planning and all assessments in science are used to inform future planning in order to impact on future teaching and learning. In science elicitation activities are carried out prior to, during and after teaching in a variety of ways to inform planning or how far ideas have progressed after a period of teaching. Formative assessment is continually on going in the form of marking pupils work and making notes on learning logs. The learning logs will show achievements of individual pupils linked to learning objectives and success criteria from each lesson within each scientific topic carried out within the academic year.

Working Scientifically

‘Working scientifically’ encompasses the understanding of the nature, processes and methods of science for each year group. It should not be taught as a separate strand. There are 5 areas of scientific enquiry:

- observation over time
- research
- pattern seeking
- identifying, classifying and grouping
- fair and comparative testing

Where possible, lessons should start with children’s questions and should be child-led. Pupils should discuss how to investigate these questions and seek to answer them through observation, collecting, analysing and presenting data. The observation can be done very simply or in a more complex way.

‘Scientific’ language

Children will be introduced to precise scientific language. Children will be encouraged to respond using the language they have learned with teachers acting as role models in the learning process. This integrated approach is a strong model for teaching and learning, giving children opportunities to use and develop their language for communicating in real-life contexts. Children will be asked to explain their reasoning in their own words too.

Early Years Foundation Stage

The Early Years Foundation Stage curriculum is followed to ensure continuity & progression from Nursery, moving on to Reception Class & then through to the Science National Curriculum in KS1 & KS2. Science is covered through the Prime areas of Communication and Language and the Specific areas of Mathematics, Literacy and Knowledge

and understanding of the world. Pupil provision is related to attainment, not age. Children learn through play, speaking and listening activities, teacher modelling, group work and self-direction. Children will experience some aspects of a formal Science lesson alongside continuous provision.

Curriculum Organisation

The amount of time spent on the Science Curriculum should ensure the coverage and development of age-related skills. This in general will be up to one and a half hours every week.

Inclusion

All children have equal access to the science curriculum and its associated practical activities. The Class Teachers and TAs at Stepping Stones are responsible for ensuring that all children, irrespective of gender, learning ability, physical disability, ethnicity and social circumstances, have access to the whole curriculum and make the greatest possible progress. Where appropriate, work will be adapted to meet pupils' needs and, if appropriate, extra support given.

Health and safety

When working with science equipment and materials during practical activities teachers should ensure that children understand the hazards and learn how to control them, ensuring the safety of themselves and others.

Role of Subject Leader

The Science Subject Leader is responsible for:

- Coordinating all aspects of Science provision for learners throughout the school
- Developing the Science Policy, in consultation with teachers, the Head teacher and the Governing Body (The Committee)
- Modelling good practice in the teaching of Science
- Advising and supporting teachers and support staff in relation to Science, including contributing to in-service training
- Monitoring Science, in conjunction with the Head teacher, through discussion with staff, by checking the Medium Term Planning of individual teachers to ensure coverage and progression; by monitoring the learning environment, through interviews with children, through observations of teaching and learning and through analysis of learners' work
- Purchase and organisation of Science resources
- Keeping up-to-date with developments in Science teaching and learning, and disseminating information to colleagues as appropriate

Monitoring and Review

The Science Subject Leader will carry out monitoring in the following ways:

- Learning Walks
- Pupil and Staff interviews
- Book audits
- Audit of resources
- Collating data re: pupil attainment across the whole school and feeding back to staff in order to inform next steps for teaching and learning; in order to ensure appropriate pupil progress within Science.

