

Orchard Primary School

Science Policy

Science stimulates and excites pupil's curiosity about natural phenomena and events in the world around them. It also satisfies their curiosity with knowledge. Since science links direct practical experience with ideas, it can engage learners at many levels. Scientific method is about developing and evaluating explanations through experimental evidence and modelling. Through Science, pupils understand how major scientific ideas contribute toward technological change – impacting on industry, medicine, business and improving quality of life. They learn to question and discuss science based issues that may affect their own lives, the directions of society and the future of the world.

Aims

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

As well as these, Orchard Primary School aims to:

- enable pupils to make decisions about the uses and values of scientific work and achievements
- enable pupils to develop an understanding and respect for the natural world
- enable pupils to question, hypothesize, test and discover for themselves about our world.
- develop the skills required to investigate the world around them.

Leadership and Management Roles

The Science co-ordinator is responsible for ensuring that the aims of the Science Policy are met. In addition to this, the science co-ordinator should:-

- Be enthusiastic about Science and demonstrate good practice
- Encourage and support staff in the implementation of the curriculum and school approaches to Science teaching
- Co-ordinate assessment procedures and record keeping to ensure progression and development throughout the school

- Monitor the teaching and learning of Science throughout the school
- Bid for funding to maintain resources
- Organise and review all science-based resources, ensuring they are readily available and maintained.
- Support staff by encouraging the sharing of ideas and organising in-service training as appropriate

Equal Opportunities and Inclusion

All children have equal access to the full Science programme of study that satisfies the National Curriculum 2014 requirements. It is important for all children to experience a range of scientific activities in ways that are appropriate to their needs and abilities. Special provision is made in exceptional cases.

Science in EYFS

Play underpins the delivery of all the EYFS. In playing, children behave in different ways: sometimes within their play, they may describe and discuss what they are doing and sometimes they may be more reflective and quiet as they play. Within a secure and challenging environment with effective support, children can explore, develop and experiment as they play to help them make sense of the world. The EYFS strand 'Understanding the World' leads directly to scientific elements of the curriculum and leads to more formalised Science learning in KS1 and then Ks2.

Planning

Science is taught in a cross curricular manner, where possible, and integrated into classes ongoing 'topic' work to provide more contextual and meaningful learning experiences.

- English – opportunities to write for varied purposes, with the characteristics of different kinds of writing. For example, chronological reports, recounts, and note taking
- Mathematics – developing skills in data handling, measurements and mathematical relationships
- Art – understanding of materials and their properties
- Geography – exploring physical processes
- History – researching Scientists and their discoveries
- IT – data handling and research
- PSHE – health and safety education

The areas of study are outlined by the National Curriculum and these have been divided and allocated to Year groups, with specific content to cover. These are outlined on a long term plan, allowing an overview of the progression of Science teaching throughout the school. Activities should be planned to meet the needs of all pupils. Differentiation is achieved through careful planning and organisation. Learners should be supported and challenged to progress within Science.

Orchard Primary School looks to integrate practical Science whenever possible, making learning engaging and fun. Children should be encouraged to predict, hypothesise, collect evidence, analyse and question the results they gather and evaluate what they have learnt. Pupils are encouraged to work in groups or individually where appropriate. In group work, children are given a role to fulfil, in order to give their own work a purpose and a focus. They use a variety of means for communicating and recording their work.

Assessment

Teachers will assess children's Science work in a variety of ways to ensure they gain a full understanding of what each child has learnt, and what is needed to progress their understanding. Teachers will observe, provide written and oral feedback. Teachers will use the statements on classroom monitor assessment system to support them to make an overall judgement of children's scientific ability. Progression in science is discussed in pupil progress meetings and relevant targets and actions are considered. In addition, teacher assessments are recorded as part of KS1 and KS2 SAT's data, which is reported to parents and the Local Authority.

Safe Practice

Children are encouraged to consider their own safety and the safety of others at all times. Teachers will provide a safe and secure environment for children to learn. Any experiments or trips which are considered a particular risk will need a Risk Assessment Form to be completed and to consult the Science Co-ordinator prior.

Recording in Science

The way in which Science is recorded will vary across the school depending on age and ability. Teachers should ensure that a range of appropriate methods are used. These may include:

- Written accounts including: instructions, reports and explanations
- Diagrams, drawings and pictures
- Annotated diagrams
- Spreadsheets (data collection)
- Charts, graphs and tables
- Model making

Although most Science will follow a pattern of 'Question, Prediction, Method, Results, Evaluate', it is important to remember that the most valuable time is spent engaging in practical Science which allows children to understand a concept, rather than recording it.

Equipment and resources

There is a wide range of resources available to the school which will be maintained and monitored by the Science Co-ordinator. The resources are a collective responsibility for the whole school, and pupils are encouraged to treat resources carefully and safely. Children are expected to, where appropriate, to choose their own equipment and set such equipment up for practical Science. This should be done under adult supervision with health and Safety requirements in mind. By doing so, they:

- make sensible choices about which equipment to use
- treat the equipment with care
- use the equipment with their own and other's safety in mind
- become independent learners

The school grounds and surrounding areas offer a great resource for staff and pupils.