Zetland Primary School

1859

Curriculum Policy

Science

IRONSTONE ACADEMY TRUST

Purpose of Study

'A high-quality science education provides the foundations for understanding the world through the specific disciplines of biology, chemistry and physics...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.'
(Primary National Curriculum September 2014)

Vision for the Subject

At Zetland Primary School, we believe that the best science teaching fosters and develops pupils' curiosity in the subject whilst also helping them to fulfil their potential. For our pupils to achieve well in science, they need to acquire the necessary scientific knowledge and also be able to enjoy the experience of engaging and purposeful scientific enquiry in order to help them to answer scientific questions about the world around them.

Aims

Through high-quality science teaching, we aim to help our pupils understand how major scientific ideas have played a vital role in society. Moreover, we aim to prepare our pupils for life in an increasingly scientific and technological world.

Curriculum Design and Organisation

- Science in the Early Years Foundation Stage is planned using the Early Years Curriculum 'Understanding of the World'.
- Key Stage 1 and 2 teachers plan science lessons using the new National Curriculum, following the Matters, Skills and Processes.
- All science lessons have focussed learning objectives, clear differentiation and success criteria to ensure that pupils make at least good progress.
- 'Working scientifically' is embedded throughout the areas of learning in Key Stage 1 and 2; this focuses on the key aspects of scientific enquiry, which enable pupils to investigate and answer scientific questions.
- At Zetland, teaching groups are organised into year groups in KS1 (Year 1 and Year 2) and mixed year groups in KS2.

Early Years Foundation Stage

During the Foundation Stage, children begin to explore the world around them, with specific science work being covered through the Early Learning Goal 'Understanding of the World'.
Throughout the science teaching in EYFS, it is hoped that the children will develop a sense of 'awe and wonder' about the world around them.

Key Stage One

As a result of working in teams, Science MSPs are organised into 6 learning themes across each teaching phase to be delivered over a two-year rolling programme (3 per year).
As follows:

Year 1/ 2	Cycle A	Humans Seasonal Change Plants
	Cycle B	Materials Animals Living Things and their Habitats

Key Stage Two

The curriculum in Key Stage Two is arranged as follows:

Year3/4	Cycle A	Rocks & Sand Humans States of Matter
	Cycle B	Electricity & Light Forces & Magnets Plants/ Animals/ Living Things and Habitats
Year 5/6	Cycle A	Evolution Humans Electricity & Forces
	Cycle B	Earth & Space/ Light Living Things and Habitats Properties/ Changes of Materials.

For a more detailed understanding of how the Matters, Skills and Processes are covered, please refer to the Whole School Curriculum Overview Grids.

Key Teaching Principles

At Zetland, teachers plan and deliver high-quality and engaging science lessons incorporating a range of teaching and learning styles. We will provide opportunities for pupils to:

- Learn about science, where possible, through first-hand practical experiences;
- Develop their research skills through the appropriate use of secondary sources;
- Work collaboratively in pairs, groups and/or individually;
- Plan and carry out investigations with an increasing systematic approach as they progress through the school.
- Develop their questioning, predicting, observing, measuring and interpreting skills;
- Record their work in a variety of ways e.g. writing, diagrams, graphs, tables, photographs;
- Read and spell scientific vocabulary appropriate for their age.
- Be motivated and inspired by engaging and interactive science displays, which include key vocabulary and relevant questions.
- Learn about science using the outdoor learning environment.

Assessment and Moderation

- Achievements are recorded using a wide variety of methods providing all children with an opportunity to demonstrate their knowledge and understanding.
- In Nursery and Reception all work is directly linked to the EYFS curriculum. Attainment grids are used to record assessments in Nursery and Reception.
- All work in KS1 and KS2 is directly linked to the new National Curriculum against the MSP's and attainment is recorded on attainment grids to enable pupils' work to be measured against age expected outcomes.
- The subject leader is currently working with a science consultant, and other science leaders from the MAT to create a consistent approach to assessment across the schools. An assessment tracking system is currently being trialled.

Supporting Specific Learning Needs

All children are encouraged and supported to develop their full potential in Science. Some children may require extra support in the classroom and opportunities for consolidation and reinforcement. Activities are differentiated to meet the needs of all pupils.

Targeted Interventions

Children are supported wherever necessary throughout their Science lessons. Less able children are able to participate and demonstrate their science abilities without being limited by other achievements i.e. writing ability. Children who are scientifically gifted are targeted with more demanding questions and given next steps that encourage them to enquire in a deeper way.

Curriculum Links

Across EYFS and both Key Stages, Science is linked to other curriculum subjects through our whole school creative curriculum approach. Teachers plan links to English, Mathematics, Computing, Art and Design, wherever possible.

Wider Opportunities for Learning

Every child should experience at least one Science based out of school visit or visitor/ workshop in school per year. Visitors with expertise in scientific areas who are able to provide enriching experiences are welcome in school, including our current school governors. In addition, there is a Science Club, which has an increasing number of Science learning visits e.g. Big Bang Fair in Birmingham.

Use of ICT to support learning

Teachers plan to use ICT wherever necessary and beneficial to the curriculum.

Resources

- The subject leader is available for support where needed.
- Resources for each unit are stored in appropriate year groups or in the cupboard beside the computer suite.
- Useful websites are incorporated into lessons through the use of the Interactive Whiteboard.
- The subject leader must be informed of any changes regarding science resources i.e. missing or broken resources and/or when new or replacement resources are required.

Leadership and Management

Role of the Subject Leader

- Take the lead in policy development and implementation of the Scheme of Work.
- Support colleagues in planning and implementation.
- Monitor resources.
- Take responsibility for purchase and organisation of central Science resources.
- Monitor teaching and learning of science throughout school.
- Liaise with other school science leaders and organise/ participate in group science meeting and activities for children (Science Club).

Role of the Teacher

- Follow whole school policies and plan Science lessons appropriately.
- Ensure Science lessons have focussed learning objectives, clear differentiation and success criteria to ensure that pupils make at least good progress.
- Clear assessment of children in their class. Complete the termly assessment tracker.

Role of the Headteacher

- Meet with Science leader to discuss any possible activities, events, visits etc.
- Support Science leader with ensuring science is being taught effectively across school.

Monitoring and Evaluation of the Subject

Planning and workbook scrutiny will be carried out regularly by the Science subject leader and feedback is given to teachers at an appropriate time.

Parental Engagement

Pupil progress will be reported to parents through parental consultations and end of year reports. Also, photographs and information will be shared with parents through the school website. Some parents will be invited into school to share their child's achievements i.e. Science Club.

Equal Opportunities

All children have equal access to the Science curriculum and its associated practical activities. Class teachers and TAs are responsible for ensuring that all children, irrespective of gender, learning ability, physical disability, ethnicity or 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. Gender and cultural differences will be reflected positively in the teaching materials used.

Health and Safety

Policy amended:
April 2018 – D Hornsey