

Cottesbrooke Infant and Nursery School Science Policy
SCIENCE POLICY STATEMENT
December 2015

RATIONALE

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 it is vital to the world's future prosperity, and all pupils should be taught essential aspects of the knowledge, methods and 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.

(National Curriculum 2014)

Science plays a crucial role in our understanding of the world around us. Our science teaching helps us to prepare children for life, through experiences and exploration of the world in which they live. Children discover, explain and develop skills of enquiry through working scientifically.

AIMS

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

(National Curriculum 2014)

At Cottesbrooke Infant School, we aim that all pupils:

- have the opportunity to achieve their full potential in their knowledge, skills and understanding, through their scientific experiences
- develop the ability to work independently and co-operatively in scientific activities

- be curious about things they observe and experience, through sensory exploration of the world around them
- use their experiences to develop their understanding of key scientific ideas and make links between different phenomena
- develop the skills of predicting, asking questions, making inferences, concluding and evaluating, based on evidence
- develop a respect for living things and the environment, and for their own health and safety

OUR SCHOOL CURRICULUM & PLANNING

Our school curriculum is developed from the National Curriculum 2014 programmes of study for Key Stage 1 and the EYFS Framework in the Foundation Stage.

Children in the Foundation Stage work towards achieving the Early Learning Goals in 'understanding the world'. Teachers plan specific topics and build upon and develop children's own interests and curiosity about the world they live in.

In Years 1 and 2, teachers plan lessons that are based around the units outlined in the National Curriculum for Key Stage 1. These have been developed into half-termly units. Opportunities for working scientifically are identified and planned for. Flexible medium term plans are provided to support teachers with their short term planning.

DELIVERING THE CURRICULUM

In the Foundation Stage, science (which is embedded in the learning area 'understanding the world') is delivered through a range of child-initiated and adult-initiated activities in the indoor and outdoor learning environment. It is taught alongside other areas of learning. Science in Key Stage 1 is taught through a weekly science lesson, which may relate to a theme or topic. A range of teaching strategies and methods are used.

CONTINUITY & PROGRESSION

The teaching in Key Stage 1 builds upon the Early Learning Goals achieved at the end of the Foundation Stage. Our units of work for Year 1 and Year 2 follow the progressive sequence of key scientific teaching and learning that is outlined in the National Curriculum. Therefore, taught skills, knowledge and understanding are built upon, unit on unit, year on year. Investigative skills that develop children's ability to work scientifically are fostered throughout all scientific learning.

KEY SKILLS

Language & Literacy:

Language and literacy is a crucial part of our teaching and learning in science, in the following ways:

- spoken language: give pupils opportunities to articulate scientific concepts, enable pupils to make their thinking clear to themselves and others, enable teachers to remedy pupils' misconceptions through discussion, enable pupils to communicate their ideas to a range of audiences
- reading and writing: read information within secondary sources, label diagrams, write instructions, write descriptions, write evaluations, write explanations, read and spell scientific vocabulary consistent with their word-reading and spelling knowledge
- vocabulary development: develop use of accurate scientific vocabulary in reading, writing and spoken language

Numeracy & Mathematics:

Our pupils apply numeracy and mathematics knowledge and skills in science, in the following ways:

- apply arithmetic fluently to problems
- understand and use measures
- estimate and sense check their work
- collect, present and analyse data

EQUAL OPPORTUNITIES / SPECIAL EDUCATIONAL NEEDS

At Cottesbrooke Infant School, we ensure that all pupils have access to a broad and balanced curriculum, regardless of age, gender, race and ability.

All children will participate in science activities. Tasks will be differentiated to provide appropriate challenges to specific individuals and groups (*see Special Needs policy, Inclusion policy, Racial Equality policy and Equal Opportunities policy*).

HEALTH & SAFETY

Activities are planned with regard to our Health and Safety policy. Risk assessments are taken as appropriate.

When working with tools, equipment and materials in practical activities and in different environments, pupils should be taught:

- about hazards, risks and risk control

- to recognise hazards, assess consequent risks and take steps to control risks to themselves and others
- to use information to assess the immediate and cumulative risks
- to manage their environment to ensure the health and safety of themselves and others
- to explain the steps they take to control risks

ASSESSMENT, RECORDING & REPORTING

(See Assessment and Marking policies.)

Teacher assessments are carried out as part of every classroom activity and it is a continuous process, supported through the school's marking policy and assessment policy. These assessments inform planning and close gaps in learning.

Learning journals and Tapestry map progress against Early Learning Outcomes for pupils in Foundation Stage. Foundation Stage results are recorded on Target Tracker half termly.

In Key Stage 1, teachers continuously assess pupils against statements (evidenced through pupil work) on Target Tracker and record an assessment for science attainment, each half term.

Progress in science is reported to parents at parents' evenings and in an end of year report.

MONITORING & EVALUATING

Teaching and learning is monitored through lesson observations, learning walks and work scrutiny. These are led by the Senior Management Team and/or the Subject Leader.

Feedback is given to individual teachers, and patterns may be used to inform the school improvement plan or develop any action points for the Subject Leader.

Assessments are monitored by the Senior Management Team and/or the Subject Leader. Again, patterns identified from the assessment data may inform the school improvement plan or Subject Leader's actions (subject maintenance plan).