



Science Policy

Rationale

This policy explains our approach to the teaching of Science and the contribution it has to our curriculum at Phoenix. This policy will assist teachers in their planning and delivery of Science topics.

Intent

The aims of this policy are:

- To provide a curriculum to meet all the needs of the children.
- To give our children an understanding of Scientific processes.
- To help our children acquire practical scientific skills.
- To develop the skills of investigation - including observing, measuring, predicting, hypothesizing, experimenting, communicating, interpreting, explaining and evaluating.
- To develop the use of scientific language, recording and techniques.
- To contribute to the development of the pupils' key skills in literacy, numeracy and in the use of information and communication technology.

Implementation

Science is a core subject within the National Curriculum.

In England, it has four attainment targets and a statement of breadth of study. These are:

Sc1 Scientific enquiry;

Sc2 Life and living processes;

Sc3 Materials and their properties;

Sc4 Physical processes.

In the Foundation Stage, children have access to Science as a part of relevant objectives set out in the area of Understanding the World of the 'Development Matters' document. In Key Stage 1, the National Curriculum program of study inform planning. Science is largely taught thematically through a variety of topics. This allows the children to begin to use and apply

scientific skills and knowledge in real contexts. A long-term planning cycle is organized in which units of Science are identified. Medium term planning develops each unit more fully, taking account of progression and continuity and detailing what pupils in each year group will be taught. These plans are also used as the basis for each class teacher to personalize the learning for their class by adding detail or changing activities to meet the needs of their children. Planning is used to:

- Set clear, achievable goals. Each lesson starts with a look at the sticky knowledge mat. For children and teachers to revisit prior learning and check retention. Also, for any prior knowledge and to record any questions, or misconceptions that children may have.
- Allow children to be given opportunities to work in a variety of ways when appropriate i.e. as individuals, with a partner in groups or as a whole class.
- Ensure that there is continuity within each year group.
- Ensure progression, continuity and subject coverage throughout the school.
- Provide success criteria for assessment and evaluation of teaching and learning.
- Where possible provide real experiences through which pupils can learn based on the topic of the half term.

Impact

The impact and measure of this is to ensure children not only acquire the appropriate age-related knowledge linked to the science curriculum, but also skills which equip them to progress from their starting points, and within their everyday lives.

Curriculum Coverage

Year 1

Plants:

- identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.
- identify and describe the basic structure of a variety of common flowering plants, including trees

Animals including Humans:

- identify and name a variety of common animals including, fish, amphibians, reptiles, birds and mammals
- identify and name a variety of common animals that are carnivores, herbivores and omnivores
- describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets)
- identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.

Everyday Materials

- distinguish between an object and the material from which it is made
- identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock
- describe the simple physical properties of a variety of everyday materials
- compare and group together a variety of everyday materials on the basis of their simple physical properties

Seasonal Changes

- observe changes across the 4 seasons
- observe and describe weather associated with the seasons and how day length varies.

Year 2

Living things and their Habitats:

- explore and compare the differences between things that are living, dead, and things that have never been alive
- identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other
- identify and name a variety of plants and animals in their habitats, including microhabitats
- describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.

Plants:

- observe and describe how seeds and bulbs grow into mature plants
- find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.

Animals including Humans:

- notice that animals, including humans, have offspring which grow into adults
- find out about and describe the basic needs of animals, including humans, for survival (water, food and air)
- Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.

Uses of Everyday Materials:

- identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for different uses
- Compare how things move on different surfaces.
- find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching

Learning Environment

At Phoenix, we use the display boards in each classroom to enhance children's learning in the subjects we are teaching that particular term. The displays offer a combination of children's work to display their knowledge, and information to support and extend their learning. Each class also has a Themed Learning floor book where further evidence of teaching and learning is. We also use the school website under the curriculum heading Science to share our learning. For parents to use and see at home we use the online learning apps Seesaw and Tapestry.

In the Foundation Stage, we offer children ongoing access to scientific resources through 'investigation stations' which are planned for weekly in accordance to the learning objectives from the Early Years Foundation Stage Profile. Foundation also use floor books to record teaching and learning.

At Phoenix, we are fortunate to have a garden, allowing children to see the seasonal changes throughout the year. The garden is used more often in the

spring and summer terms to support the subject areas such as Plants or Habitats in KS1.

Teaching and Learning

We use a variety of teaching and learning styles in Science lessons. Our principal aim is to develop children's knowledge, skills and understanding whilst also developing skills of scientific enquiry. Wherever possible, we involve the pupils in "real" scientific activities. This may include a variety of teaching and learning opportunities, such as: whole-class teaching, enquiry-based research, asking and answering science questions, reports, data such as graphs and pictogram, photographs, drama, discussions, collecting and presenting data, problem solving and researching scientific problems or current issues.

Recording work

In addition to written work in the children's books, photos are taken regularly to demonstrate practical elements of Science lessons. These are used for evidence within floor books, the school website and Seesaw / Tapestry app. The floor books will include a combination of photos, post it notes capturing the children's thoughts and ideas, written work and drawings and diagrams of the scientific activities they complete in class.

Monitoring and Evaluation

It is the responsibility of the Science co-ordinator to monitor the standards of children's work and the quality of teaching and learning in Science. The Science co-ordinator is also responsible for informing staff about current developments within the subject and ensuring staff are confident in putting these into practice. The teaching, learning and progress in Science is monitored and evaluated through:

- Observations / lesson drop in sessions
- Work Scrutiny in Theme Learning books and floor books
- Displays
- Teacher assessments.
- Website monitoring

Resources

Science resources are kept within the classrooms for each year group. We are fortunate enough to have access to the education library service where we can gather additional material linked to the topic which is being taught. Early Years have their own resources which are stored within the Early Years setting. The Science coordinator orders Science equipment in consultation with the staff during the Summer two term ready for the next academic year.

DATE: September 2023

PERSON RESPONSIBLE: Miss Gossington

REVIEW DATE: September 2024