Science Policy

Duke Street Primary School

Science Policy

Introduction

This policy outlines the teaching, organisation and management of science taught and learnt at Duke Street Primary School. The school's policy for science is based on the 2014 Curriculum for Key Stages 1 and 2. The policy has been drawn up to reflect the whole school approach to science and has been discussed with staff. The implementation of this policy is the responsibility of teaching staff.

Science teaches an understanding of natural phenomena. It aims to stimulate a child's curiosity in finding out why things happen in the way they do. It teaches methods of enquiry and investigation to stimulate creative thought. Children learn to ask scientific questions and begin to appreciate the way science will affect their future on a personal, national, and global level.

The aims of science are to enable children to:

 Ask and answer scientific questions;

 Plan and carry out scientific investigations, using equipment, including computers, correctly;

 Know and understand the life processes of living things;

 Know and understand the physical processes of materials, electricity, light, sound and natural forces;

 Know about the nature of the solar system, including the earth;

 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. Sometimes we do this through whole-class teaching, while at other times we engage the children in an enquiry-based research activity. We encourage the children to ask, as well as answer, scientific questions. They have the opportunity to use a variety of data, such as statistics, graphs, pictures, and photographs. They also use ICT in science lessons where appropriate. Wherever possible, we involve the pupils in 'real' scientific activities, for example, researching a local environmental problem or carrying out a practical experiment and analyzing and presenting results.

We recognise that there are children of widely different scientific abilities in all classes 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. We achieve this in a variety of ways by:

 Setting common tasks which are open-ended and can have a variety of responses;

 Setting tasks of increasing difficulty (we do not expect all children to complete all tasks);
 Grouping children by ability in the room and setting different tasks for each ability group;
 Providing resources of different complexity, matched to the ability of the child;
 Using classroom assistants to support the work of individual children or groups of children.

Science Curriculum Planning

The school follows the programme of study outlined in the Curriculum 2014 whilst using Chris Quigley Essentials to draw objectives, ideas and inspiration from. We carry out our curriculum planning in science in three phases (long-term, medium-term and short-term). The long-term plan maps the scientific topics studied in each term during the key stage. The science subject leader works this out in conjunction with teaching colleagues in each year group. In some cases we combine the scientific study with work in other subject areas, especially at Key Stage 1; at other times the children study science as a discrete subject.

Our medium-term plans give details of each unit of work for each term; these are completed on a two-year rotation cycle. In this way we ensure complete coverage of the Curriculum 2014 without repetition.

The class teacher is responsible for writing the short-term plans. These plans list the specific learning objectives, activities and outcomes for each lesson.

We have planned the topics in science so that they build upon prior learning. We ensure that there are opportunities for children of all abilities to develop their skills and knowledge in each unit and we also build progression into the science scheme of work, so that the children are increasingly challenged as they move up through the school.

Early Years Foundation Stage

We teach scientific skills in the reception class as in integral part of the topic work covered during the year. We relate the scientific aspects of the children's work to the objectives set out in the Early Years Outcomes. Science makes a significant contribution to achieving the Early Years Outcomes and understanding of the world, e.g. through investigating what floats and what sinks when placed in water.

The contribution of science to other subjects

English

 Reading texts of a scientific nature
 Discussing what they have learnt
 Recounting their observations of scientific experiments
 Writing reports and recording information

Mathematics

 using weights and measures and applying number
 estimating and predicting in investigations
 Recording, presenting and interpreting data

Information and communication technology (ICT)
 Finding, selecting, and analysing information
 Recording, presenting and interpreting data
 Reviewing, modifying and evaluating their work
 Taking measurements

Personal, social and health education (PSHE) and citizenship
 Raising matters of citizenship and social welfare.
 Taking part in debates and discussions.
 Organising campaigns on matters of concern to them
 Promoting the concept of positive citizenship.
 Understanding their bodies and how to keep them healthy

Teaching children with special educational needs and gifted and talented pupils
We teach science to all children, whatever their ability. Science forms part of the school's curriculum policy to provide a broad and balanced education to all children. We provide learning opportunities matched to the needs of children with learning difficulties and we take into account the targets set for individual children in their Support Plans
Appropriate extension activities and challenges will be provided for those children who are considered to be gifted in this area of the curriculum.

Assessment and recording
We assess children's work in science by making informal judgments as we observe them during each science lesson. At the end of a unit of work, the teacher makes a summary judgment about the work of each pupil in relation to the expectations stated in the medium term planning. We use this to inform future planning and we pass this information on to the next teacher at the end of the year. Teachers use the judgments made at the end of each unit to make an assessment of the children's work in science at the end of Key Stage 1. As members of the CHIP cluster, teachers will also take part in an annual cross school moderation to help maintain assessment consistency.

Resources
We constantly review that there are sufficient resources for all science teaching units in the school. We keep these resources in a central store. The library contains a supply of topic books to support children's individual research, whilst the ICT suite enables children to carry out research online.

Monitoring and review
Monitoring of the standards of children's work and of the quality of teaching in science is the responsibility of the science subject leader. The work of the science subject leader also involves supporting colleagues in the teaching of science, being informed about current developments in the subject, and providing a strategic lead and direction for the subject in the school.

Signed:

Date