

Science

Policy

Acre Rigg Infant School

Last reviewed in	September 2024
Next review due	September 2025



Every child Every day Every way Experiencing success

Introduction

Science education helps children to understand the world around them and teaches them to respect living things and the environment in which they live. A high-quality science education should enable children to recognise the power of rational exploration and develop a sense of excitement and curiosity about natural phenomena.

Aims

At Acre Rigg Infant School we aim to:

- enable children to experience, observe and investigate scientific phenomena
- build on children's natural curiosity and encourage them to ask questions about what they notice
- develop the scientific knowledge and skills detailed in the statutory requirements of the programmes of study in the National Curriculum
- plan teaching and learning opportunities which enable children to experience different types of scientific enquiry including, observing changes over a period of time, noticing patterns, grouping and classifying things, carrying out simple comparative tests and finding things out using secondary sources of information
- develop children's scientific vocabulary and teach them how to use simple scientific language to talk about their work; articulating scientific concepts clearly and precisely
- develop children's conceptual understanding through practical experiences and spoken language
- teach children to communicate their ideas, findings and conclusions in a variety of ways

Planning

Early Years Foundation Stage

EYFS have created their own curriculum in line with the Early years guidance for Understanding of the World. This allows children the opportunity to explore, discover, problem solve, predict and evaluate are planned through children's interests and topics. There is a large focus on using the outdoors to ensure the children have a hands on, practical and investigative approach to help them develop their understanding of our world.

Key Stage 1

Planning in Key Stage 1 is based on the Science National Curriculum Programmes of Study. Half termly topics have been formulated to ensure that statutory content is covered. The subject leader has compiled a scheme of work which details suggested activities for teachers to deliver which cover both scientific knowledge and the skills associated with scientific enquiry.

Lessons

Early Years Foundation Stage

Science and Understanding the World is taught through topics in the EYFS. Children's interests are followed, and enhancements as well as adult led activities are carefully planned to provide the children with a wide range of scientific opportunities. Each Classroom has an investigation area, this enables children to have the opportunity to experience science in a variety of ways during continuous provision Children have daily access to the outdoors, therefore enhancing the range of scientific opportunities available to the children.

Key Stage 1

Discrete science lessons in Key Stage 1 will usually take place weekly and consist of a mix of whole class and group activities. Whole class activities are considered to be more appropriate when introducing topics or teaching children scientific knowledge. Wherever possible however, it is recommended that scientific enquiry should be carried out in small groups to maximise opportunities for all children to participate. Each classroom has an investigation area which teachers enhance with topic specific resources, to enable children to follow lines of enquiry and learn independently. Opportunities for children to learn outdoors are also planned in our outdoor classroom, school grounds and school planting beds at the local allotments. Educational visits also provide children with additional learning experiences beyond the school setting. Additional activities, including Science Week, Science Club and the Peterlee Partnership Science Day and Inter-School Competition also enrich our science curriculum.

Recording of work

Early Years Foundation Stage

Much of the children's scientific ability and understanding of the world is through discussion and practical exploration. Photographs, post it notes and learning stories are used to document learning and experiences when appropriate in children's work book or floor book.

Key Stage 1

We recognise that recording in science will take on differing forms depending upon the age and ability of the child and nature of the activity. Methods of recording will include verbal, pictorial, diagrammatic, graphical, written or photographic evidence. Children may also be asked to record their work with the use of ICT if appropriate. Although there is no stated set amount for the work recorded in books, teachers are required to plan opportunities for children to record a range of their scientific experiences across all scientific domains throughout the year to evidence curriculum coverage and show pupil progress.

Homework

Early Years Foundation Stage

Homework relating to a particular topic is sent home when appropriate, and is usually of a very practical nature. Reception teachers produce a half termly newsletter detailing the topic focus for the children and suggesting possible activities parents can do with their children at home to support their wider learning.

Key Stage 1

Teachers produce a half termly newsletter detailing the topic focus for the class and possible activities parents can do with their children at home to support their wider learning.

Teachers also send home 'knowledge organisers' for parents/carers and children to share, which details the knowledge we want children to know and remember at the end of a specific topic.

If appropriate, weekly homework may also have a specific science focus.

Cross Curricular Links

Science makes a significant contribution to other areas of the curriculum.

Literacy

Science actively promotes speaking and listening particularly through questioning, discussion and recounting observations. Writing skills are developed through writing instructions, reports and recording information. We also promote the use of non-fiction books and some of the texts that the children study in Literacy sessions are of a scientific nature.

Numeracy

Through investigative activities, children will learn to estimate and predict, to handle data and to plot bar charts and pictographs. They will use numbers in many of their answers and conclusions and they will be taught and supported to use weights and measures when following lines of enquiry.

ICT

We aim to develop pupils' use of information and communication technology (ICT) in their science studies. We give pupils opportunities to use ICT to record their work and to store results for future retrieval. We give them the chance to obtain information using the Internet and other databases. Pupils are encouraged to use interactive software to model and simulate scientific processes.

Physical Education

Pupils are taught that the heart acts as a pump to circulate the blood through vessels around the body, including through the lungs. They also learn that humans have skeletons and muscles to support and protect their bodies and to help them move. Pupils gain an understanding of the effect of exercise and rest on pulse rate, as well as the importance of exercise and a balanced diet for good health.

PSHE and citizenship

Pupils learn about themselves and the variation amongst individuals, therefore promoting respect for other people. They address the issues surrounding health and hygiene and begin to learn about reproduction. In science, opportunities are taken to discuss aspects of environmental awareness with the aim of developing responsible attitudes to waste disposal, resource depletion and wildlife conservation. Children also have the chance to investigate living things and, when doing so, a respect for them is always taught.

Acre Rigg Infant School has achieved the Level 1 UNCRC **Rights Respecting** School Award. We teach children about their rights and model rights and respect in all relationships in school. With regard to the subject of Science, children are taught about the importance of healthy life style choices in relation to diet, exercise and hygiene and the issues related to care of all living things and the planet on which we live. This knowledge is referred to during rights respecting discussions in relation to Articles 24 and 29 specifically. Reference is made to specific Rights related activities on medium term topic plans.

Assessment

Early Years Foundation Stage - Reception

Teacher assessment is based very much on observation, questioning, discussion and planned opportunities. Assessments are completed on the tracking sheets on a termly basis.

Key Stage 1

The science scheme of work has assessment opportunities linked to each activity to support ongoing teacher assessment. Teachers use evidence based on observation, participation, questioning, discussion and written outcomes at the end of each topic unit to make assessment judgements. These termly judgements are recorded on the school's assessment system and used to evidence end of year and key stage assessment judgements.

End of Key Stage 1 Assessment

At the end of Key Stage 1, teachers use the Interim Teacher Assessment Framework to judge whether a child is 'working at national standard' in Science. To demonstrate that a child has met the standard, teachers will have evidence that the pupil demonstrates consistent attainment of all of the statements within the standard.

Roles and Responsibilities

Science Subject Leader

- keep abreast of new developments in the teaching and learning of science through appropriate in-service training, attending County and Peterlee Partnership network meetings and self-study
- prioritise improvements for the teaching and learning of science across the school and contribute to the school improvement plan
- audit, organise and deliver in service training for staff in science
- audit, purchase and organise resources to support curriculum delivery

- lead by example and provide 'expertise' to assist staff in the delivery of the curriculum
- provide support for NQTs and teaching students
- monitor the teaching and learning of science across the school in conjunction with the Head Teacher
- support staff with assessment procedures
- evaluate the policy and scheme of work for science
- liaise with the Foundation Stage Coordinator and Reception Lead Practitioner to ensure curriculum progression between the Early Years Foundation Stage and Key Stage 1.
- liaise with the Governor for Science
- keep a subject leaders file which is informative and relevant

Science Governor

- liaise with the Science Subject Leader
- visit planned science events in and/or join science lessons in school and report back to the Governing Body
- monitor standards across the school in science and report back to the Governing Body
- attend any County training for governors on science

Headteacher

- lead, manage and monitor teaching and learning in science across the school
- ensure priorities relating to the effective teaching and learning of science are detailed in the school improvement plan