

Newborough C of E Primary School

Science policy

Adopted: Summer 2022

Review: Summer 2023

Statement

We live in an increasingly scientific and technological age where children need to acquire the knowledge, skills and attitudes to prepare them for life in the 21st century. We, at Newborough C of E Primary School believe that the teaching of science develops in children an interest and curiosity about the world in which they live, and fosters in them a respect for the environment.

‘Science is an integral part of modern culture. It stretches the imagination and creativity of young people. Its challenges are quite enormous.’

Professor Malcolm Longair, University of Cambridge.

Aims

Through our teaching of science we aim to:

- Engage children and develop their love and enjoyment of the subject.
- Equip children to use themselves as starting points for learning about science, and to build on their enthusiasm and natural sense of wonder about the world.
- Develop children’s recall of scientific vocabulary with the use of ‘rocket words’ in each lesson.
- Equip children with the understanding of how our science learning fits with the wider world and STEM jobs and careers.
- Develop through practical work the skills of observation, prediction, investigation, interpretation, communication, questioning and hypothesising, and increased use of precise measurement skills and ICT.
- Encourage and enable pupils to offer their own suggestions, and to be creative in their approach to science.
- Enable children to develop their skills of co-operation through working with others.
- Teach scientific enquiry through contexts taken from the National Curriculum for science.
- Encourage children to collect relevant evidence and to question outcome.
- Encourage children to treat the living and non-living environment with respect and sensitivity.
- Stress the need for personal and group safety by the correct usage and storage of resources.
- To enable children to appreciate that we do not always know the answers and results when carrying out scientific enquiry.
- Use technology for research and logging information

Teaching and Organisation

In line with the new National Curriculum for 2014, there are 5 units studied across the year (some taught discretely and some taught alongside a class topic). We are now using the Developing Experts Science scheme so these areas have been split up so that science is taught in all 6 terms. Areas of study have been carefully matched to ability, age and whenever possible complementary subjects such as PE, PSHE and Forest school etc.

Throughout the delivery of the Science requirements there are many opportunities to both re-cap and extend the fundamental principals of Literacy and Numeracy.

Science promotes communication in a specific and precise language involving mathematical and logical thinking. Where possible, children should be allowed to develop ways of finding out for themselves and therefore given practice in problem solving.

As their knowledge and understanding increases and they become more proficient in selecting and using scientific equipment and collating and interpreting results they will become increasingly confident in their growing ability to come to conclusions based on real evidence. Science should foster a healthy curiosity in children about our universe and promote respect for the living and non-living. Children should be given opportunities to develop original ideas and a questioning attitude.

The areas for study ensure coverage of all the Knowledge, Skills and Understanding as required by the National Curriculum set out through the new National Curriculum.

In the Reception Year children will follow recommended guidance from 'Understanding of the world', People and Communication and Technology sections of the Early Learning goals, where the emphasis is on discovery through exploration.

Resources

- Resources are stored in the Science Resources cupboard.
- ICT is a constantly developing resource for Science as it gives access to the world from a laptop, tablet or chrome book. It should be used with discretion, but it is a powerful and informative tool.
- Visits and visitors can complement areas of study and help to develop scientific skills. The school has close links with the local study centre, Stibbington, and takes part in day and residential visits that sometimes include a scientific focus.
- The school is set in large school grounds including a pond/wildlife area (gated off from the playground) and has a forest school area.
- Teacher's resources can be found in the staffroom and in classroom cupboards.
- Developing experts scheme – Online resource with lesson planning, videos and expert videos so that children can see how science links to the wider world.

The Role of the Science subject leader.

- To monitor Science planning, teaching and learning through visiting lessons, book scrutiny and pupil voice interviews and questionnaires.
- To monitor the coverage of the National curriculum and ensure teachers have the relevant guidance, resources and support needed to teach science.
- To manage the Science budget, targeting new purchases and replacement needs.
- Keep up-to-date with developments and initiatives and disseminate information to colleagues as appropriate.
- Up-date and review policy and scheme as required.
- Analyse data and progress across the school.

Homework

Although Science is not a regularly set homework subject, it may occasionally feature in the tasks that children are asked to undertake, such as creative tasks. Alternatively it may be part of another subject area e.g.: to write a report (literacy focus) or produce a graph from collated data (numeracy link).

Assessment and Record Keeping.

- Observing children at work, individually, in pairs, in a group and in whole class activities.
- Questioning, talking and listening to the children.
- Considering work/materials/investigations produced by children together with discussion about this with them.
- Marking of children's work. Marking should be sensitive, encouraging and challenging (see Marking policy).
- At the start of year 1 a class book will be created instead of individual children's books.
- We use a 'cold task' at the start of the unit (Developing experts) to assess where the children are at the start of the unit and then a 'hot task' at the end of the unit so that children and teachers can see how much they have learned.
- Progress in Science will be reported annually to parents through their child's annual report.

Inclusion

In school we aim to meet the needs of all our children by differentiation in our science planning and in providing a variety of approaches and tasks appropriate to ability levels. This will enable children with learning and /or physical difficulties to take an active part in scientific learning and practical activities and investigations and to achieve the goals they have been set. Some children will require closer supervision and more adult support to allow them to progress whilst more able children will be extended through differentiated activities. By being given enhancing and enriching activities, more able children will be able to progress to a higher level of knowledge and understanding appropriate to their abilities.

Equal Opportunities

We are committed to providing all children with an equal entitlement to scientific activities and opportunities regardless of race, gender, culture or class.

Health and Safety

Where appropriate reminders will be given to children about potential hazards and care of equipment they are using.

National/British Science week

The children will be involved in extra science activities annually (March), as part of British Science week. This may include visitors and workshops. We have a close

relationship with Perkins Caterpillar in Peterborough and they annually provide STEM workshops. This 'week' may be moved to a different part of the year.

A. Houghton

May 2023