Our school nurtures curiosity and creativity through an inspiring, broad and engaging curriculum, where learning is at the heart of all that we do. Children at Reedley learn to become resilient and self-assured in a safe environment where challenge is key. Team Reedley are encouraged to thrive and achieve as individuals, preparing them for their role as caring and active citizens in modern Britain.

Reedley School
Curricular Policy for Science

Contents

How Pupils Learn Science?

At Reedley, we believe that Science is a body of knowledge built up through experimental testing of ideas. Science is also a practical way of finding reliable answers to questions we may ask about the world around us. Science in our school is about developing children's ideas and ways of working that enable them to make sense of the world in which they live through investigation, as well as using and applying process skills.

We believe that a broad and balanced science education is the entitlement of all children, regardless of ethnic origin, gender, class, aptitude or disability. Our aims in teaching science include the following:

- A collaborative learning approach.
- An opportunity for children to work independently and in different groupings.
- A creative way of recording, not just written methods.
- Planned assessment.
- Adaptation of work with a good match to challenge children of all abilities.
- Foster an attitude of enjoyment and encouragement.
- Clear planning with opportunities for children to develop their scientific knowledge, skills and concepts.
- Appropriate use of support staff..
- A range of questioning styles
- Clear and shared learning objectives with criteria for success.

Planning the Science Curriculum

Science is planned using the Reedley Science knowledge, skills and concept map which is linked to the National Curriculum. Science objectives are linked to themes which are taught across the year, building on prior knowledge obtained during 'cold task(s)' to ensure progression. Planning is then completed using the 'Teaching Backwards' document. Each topic will be taught using up to five key questions.

Teachers use a variety of planning tools including Lancashire theme planning, the 'Inspiring Science' Lancashire support disc which has detailed suggestions in a variety of creative contexts and includes a range of teaching strategies. Websites like ASE, PSTT, Explorify, Ogden Trust, Royal Society of Chemistry and STEM all have great resources and tips.

Teachers use the post-it system to aid investigation planning and delivery.

Classroom Organisation, Time Allocation and Teaching Styles

Classroom organisation

Children may be taught as a whole class, groups or individuals.

Progression and differentiation

Activities are planned and adapted to allow children to develop and progress according to their ability.

Time Allocation

The amount of time devoted to science is:

1.5 hours per week at key Stage 1

2 hours per week at key Stage 2 or the equivalent over the academic year.

Teaching styles

The science curriculum is delivered through cross-curricular topics in line with the school's scheme of work. Individual class teachers teach science. A variety of teaching methods are employed (including problem solving and open ended investigation) as appropriate and science regularly involves the children in practical work through small group or whole class activities.

Resources

Equipment and consumable resources

It is expected that Science equipment will be checked by the class teacher before each topic is begun and anything needed is reported to the Subject Leader and this will be ordered if it falls within budget constraints. The school has a range of ICT resources like data loggers.

The school is continually building up a collection of materials and objects of scientific interest e.g. gears, cogs, springs, stones, shells, wood etc.

Written resources

Books on science topics are available in the library and through the school library service.

Storage and organisation

Science equipment is stored in boxes labelled with each topic area. The boxes are stored in a resource cupboard which staff have access to at all times.

Educational Visits and Visitors in school

These include opportunities to study: the local environment (both urban and rural), animal and plant life in different habitats and local industry and business. Visits are directly linked to on-going work in the classroom.

Equal Opportunities

We aim to provide for all children so that they achieve as highly as they can in Science based on their individual starting points. We will identify which pupils or groups of pupils are underachieving and take steps to improve their attainment. Gifted children will be identified and suitable learning provided.

Reedley has universal ambitions for every child, whatever their background or circumstances. Children learn and thrive when they are healthy, safe and engaged. In order to engage all children cultural diversity, home languages, gender and religious beliefs are all celebrated. Our curriculum includes a wide range of texts and other resources which represent the diversity and backgrounds of all our children.

Developing Spiritual, Moral, Social and Cultural Education within Science

Science stimulates and excites pupils' curiosity about phenomena and events in the world around them. It also satisfies this curiosity with knowledge. Because science links direct practical experience with ideas, it can engage learners at many levels. Scientific method is

about developing and evaluating explanations through experimental evidence and modelling. This spurs critical and creative thought.

Through science, pupils understand how major scientific ideas contribute to technological change – impacting on industry, business and medicine and improving quality of life. Pupils recognise the cultural significance of science and trace its worldwide development. They learn to question and discuss science-based issues that may affect their own lives, the direction of society and the future of the world.

Health and Safety

All staff teaching science are conversant with the health and Safety policy and ASE publication Be Safe (4rd Edition). Teachers using older materials should be aware that standards have changed over time. Likewise those accessing materials via the internet should be aware that what is considered safe practice varies between countries and counties.

Health and Safety hazards are:

- Heat sources – candles, matches stored in science resource area
- Knives

Ways in which these hazards are controlled are:

- Teacher monitoring use
- Children given clear guidance on use

Assessment and Record Keeping

Science assessment is carried out by the class teacher three times a year. Children are assessed using Insight.

We will judge the success of our science teaching by:

- The motivation and interest displayed by our pupils.
- The development, over time, of pupils' understanding of scientific knowledge, skills, concepts and processes..
- Pupils' ability to apply their understanding in a variety of new situations.
- Careful monitoring of pupil progress and science teaching.

Monitoring arrangements

Monitoring will be carried out twice yearly by the Subject Leader. Each class will provide the following for scrutiny: planning, Insight, a range of pupils' books, photographs and pupils for interview.

Review

This policy will be reviewed each year. The next review will be September 2025.