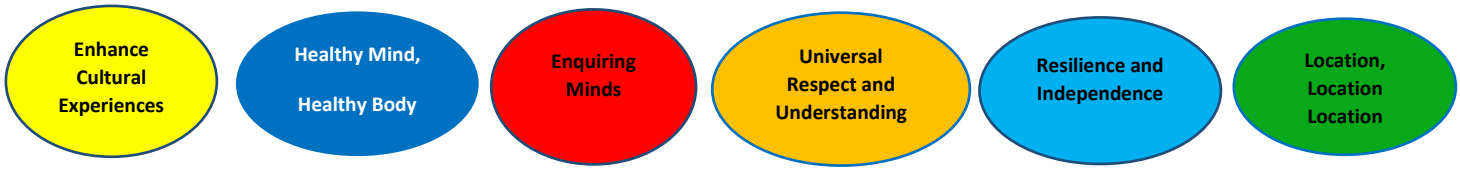
Science Curriculum Policy



Curriculum Statement

Science teaching at Richard Durning's Primary School aims to give all children a strong understanding of the world around them whilst acquiring specific skills and knowledge to help them to think scientifically, to gain an understanding of scientific processes and also an understanding of the uses and implications of Science, today and for the future. Science teachers at Richard Durning's aim to give all pupils essential aspects of the knowledge, methods, processes and uses of science. The children are taught to understand how science can be used to explain what is occurring, predict how things will behave and analyse causes.

Intent

At Richard Durning's Primary School we aim to:

- Encourage the children to develop their scientific skills, knowledge and understanding of the world through the specific disciplines of biology, chemistry and physics.
- The scientific enquiry skills are embedded in each topic the children study and these topics are revisited and developed throughout their time at school. Topics, such as Plants, are taught in Key Stage One and studied again in further detail throughout Key Stage Two. This model allows children to build upon their prior knowledge and increases their enthusiasm for the topics whilst embedding this procedural knowledge into the long-term memory.
- All children are encouraged to develop and use a range of skills including observations, planning and investigations, as well as being encouraged to question the world around them and become independent learners in exploring possible answers for their scientific based questions.
- Specialist vocabulary for topics is taught and built up, and effective questioning to communicate ideas is encouraged. Concepts taught should be reinforced by focusing on the key features of scientific enquiry, so that pupils learn to use a variety of approaches to answer relevant scientific questions.

Implementation

In ensuring high standards of teaching and learning in science, we implement a curriculum that is progressive throughout the whole school. Science is taught as a discreet subject on a two year rolling programme. This ensures progression between year groups and guarantees topics are covered. Teachers plan to suit their children's interests, the school's curriculum drivers and current events.

We ensure that all children are provided with rich learning experiences that aim to:

- To develop a deeper understanding of a wide range of scientific ideas including more abstract ideas
- To provide opportunities for children to develop their own ideas and their understanding of the world around them
- To have opportunities to compare and contrast and classify a variety of living and non-living aspect of the word around them
- To allow the children to develop their ability to ask their own relevant questions about scientific phenomena
- To plan so that the children can effectively research and summarise their findings from a wide variety of resources recognising that scientific ideas change and develop over time
- To provide opportunities to communicate and represent science in the real world through drama and design and dance
- To ensure that children have activities in which they can interact effectively as part of a group to understand scientific phenomena
- To ensure children plan and test ideas using different types of scientific enquiry and to justify their decisions for testing in a certain way
- To provide plenty of opportunities for the children to be able to confidently and precisely use equipment and measures to accurately gather data and to make their own decisions about the data to collect
- To plan to repeat fundamental skills to ensure that they are embedded in long term memory with reference to a Spaced Retrieval document
- To ensure that relevant scientific vocabulary is always on display, referred to and discussed so that it is embedded in each child's long term memory. To use the Knowledge journals to create schema for new vocabulary and ideas.
- To provide opportunities for trips and visiting experts who will enhance the learning experience of our children
- To offer the opportunity to be part of the Mad Science after school club
- To ensure that the use of computing in investigating and recording occurs regularly

- To ensure that children are able to make decisions to be able to communicate their findings through talk, in written forms or in other ways such as technology
- To ensure through careful planning that children consider the results of an investigation by being able to write a conclusion
- To have annual exciting science weeks based on the children's interests and current scientific ideas.

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.

We measure the impact of Science through:

- Assessments through pre topic activities compared with a post topic activity, e.g. vocabulary sheets or annotated diagrams.
- Focussed assessment lessons closely linked to the milestones for each year group. Teachers moderate termly on standards achieved against the planned outcomes;
- Talking to our children about their learning to establish their understanding and enthusiasm.
- Peer to peer assessments
- Continuous verbal feedback with the children throughout the lessons and activities
- As a result of these, teaching and planning is modified accordingly to ensure that children make their best progress and attainment.

Additional Information

Resources

Science resources are organised into topic boxes containing relevant equipment in order to deliver the science curriculum.

- The electricity and forces resources are stored in the school cellar.
- The remaining resources are stored on the shelves outside the staffroom.
- Data loggers are available and are stored with the computing equipment outside the staffroom.
- A thermometer is mounted on the outside wall to monitor the temperature around the school.
- The bug hotel is located on the school field and the children are involved in maintaining this.

- Vegetable patches and flower beds are located around school to support the plant topic

Equality

All children have a right to access the curriculum. Teachers modify and plan their lessons for each child's needs.

EYFS

We teach Science in the EYFS class as part of the Understanding of the World learning which is covered throughout the year. Science makes a significant contribution to the ELG objectives of developing our children's knowledge and understanding the world.

Health and Safety

All relevant risk assessments to be completed in good time, prior to any trips, using Evolve.
Teachers to conduct health and safety checks before taking children onto school grounds and when using equipment.

Updated July 2023