

Science Policy



Intent

At Delph Side Community Primary School, we aim to provide creative high-quality Science lessons to inspire and motivate our children to prepare them for their next stage of life.

Our Science curriculum provides children with opportunities to develop their scientific skills, knowledge and understanding to allow them to work as scientists. Our curriculum aims to allow children to make sufficient progress in all areas of science, including biology, chemistry and physics. Throughout all of this, science is to be made real through all key stages. We want our young scientists to enjoy science through fun and engaging lessons that bring science into the real world. We want children to embrace challenges and be curious – to ask questions and actively seek answers through a range of scientific enquiry. Through this, we believe that our children will evolve into scientists with the knowledge, understanding and skills for science beyond Delph Side.

Throughout KS1, our aim is to provide children with opportunities to experience and observe phenomena, looking closely at the natural and human-constructed world around them. We encourage our learners to be curious, to ask questions and to use a range of scientific enquiry to help them answer these questions. This includes observing changes over time, noticing patterns, grouping and classifying, carrying out simple comparative tests and finding things out using secondary sources of information. Through KS1, they begin to use simple scientific language to talk about and communicate their ideas in a variety of different ways. Most science learning is done through first-hand, tangible experiences to immerse and expose our learners to real life science.

Throughout LKS2, our aim is to provide children with opportunities to broaden and enhance their scientific view of the world around them. They develop their scientific skills further by exploring, talking about and developing ideas about everyday phenomena. They begin to explore the relationships between living things and familiar environments. They are to use observations to ask questions and to make decisions about which types of scientific enquiry are likely to be the best ways of answering them. In LKS2, children will observe changes over time, notice patterns, group and classify, carry out simple comparative and fair tests and find out things using secondary sources of information. They will begin to draw simple conclusions and use some scientific language to talk and write about what they have learnt.

Throughout UKS2, our aim is to provide children with opportunities and experiences that will develop a deeper understanding of a wide range of scientific skills. They will achieve this by exploring and talking about their ideas and asking their own questions about scientific phenomena. Science in UKS2 includes opportunities for children to explore abstract ideas and begin to recognise that scientific ideas change and develop over time. Questions should be answered using the most appropriate form of scientific enquiry using a vast range of key scientific vocabulary. Science is explored by children observing changes over time, noticing patterns, grouping and classifying, carrying out comparative and fair tests and finding things about using a wide range of secondary sources of information. Our learners will begin to draw conclusions based on their data and observations, they will use evidence to justify their ideas and they will use their scientific knowledge and understanding to explain their findings.

Implementation

At Delph Side, we are following the White Rose Science scheme of work. White Rose Science provides teachers with plans, PowerPoints and ideas that they can use to support their planning of science. All children in KS1 and KS2 have their own White Rose Science books that they use to record their learning.

White Rose Science is split into units which have been carefully arranged to ensure progression across year groups and key stages.

At the end of each science unit, children complete a science assessment which assesses them on the knowledge and skills that they have developed during that unit. Teachers use the data from these assessments to plan opportunities to address misconceptions.

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Each science lessons starts with a 'flashback four' which includes four questions based on pupils' prior learning. There will be a question from the lesson before, the previous unit, a previous unit from the current year group and from a previous year. This way, pupils are constantly building up their long-term scientific knowledge.

Key facts are added to a 'science jar' in classes each week. Every week, teachers pull a fact out of the science jar and pupils are challenge to explain the scientific idea. This way, pupils are developing their long-term scientific knowledge.

Working Scientifically opportunities are planned into all science units.

Pupils are actively encouraged to ask their own questions about scientific phenomena.

Enrichment opportunities enhance the learning experience.

Impact

Our Science Curriculum has been well-structured and sequenced to demonstrate progression of skills, knowledge and understanding through year groups and key stages.

We measure the impact of our curriculum through the following methods:

- End of unit science assessments.
- Pupil discussions about their learning; which includes discussion of their thoughts, ideas, processing and evaluations of work (PAQ).
- Learning Walks
- Book Monitoring
- Staff Attitudinal Questionnaires.

Aims

- Pupils to enjoy and show interest in science through lessons that engage and motivate.
- Pupils to embrace challenges by using scientific enquiry to find answers to their own and others' questions.
- Pupils to evolve by making progress in science with key skills and their knowledge and understanding.
- Pupils to be able to articulate their learning using scientific vocabulary.
- Pupils to develop positive attitudes which encourage collaborative learning and perseverance.
- Pupils to develop an understanding of how science influences and affects our everyday lives.

National Curriculum Coverage

Our science curriculum map indicates where and when science topics are taught across key stages. Our science curriculum includes all areas of the Science National Curriculum with opportunities for pupils to work scientifically. Learning builds upon prior knowledge to ensure sequenced learning that results in pupils being confident primary scientists at the end of key stage 2. Our coverage is indicated through the White Rose Science scheme of work.

Teaching and Learning Style

Our science lessons have an emphasis on real life, practical learning. Our aim is to provide our learners with a vast array of opportunities to work as scientists through a range of scientific enquiry. We ensure that our learners have opportunities to be curious scientists by asking and searching for answers to their own questions.

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Special Educational Needs

The study of science is planned and differentiated to provide pupils with a suitable range of activities and support appropriate to their abilities and needs. Curriculum planning ensures that all pupils have an equal opportunity to take part in every aspect of the science curriculum. In the planning and organisation of enrichment activities, specific needs of individuals are taken into consideration to ensure that all pupils benefit from science enrichment. Our SEND policy provides more specific information on how we ensure that this is the case.

Parental Involvement

Parents are kept up to date with their child's learning of science through regular updates on Seesaw, the school website and on social media websites such as Facebook and Twitter.

Health and Safety

It is the responsibility of the class teacher to ensure that risks are assessed prior to, and during, science lessons. Prior to a science lesson, the class teacher is to inform any additional support staff of any potential risks or hazards to be aware of. Pupils are to be made aware of potential risks and hazards.

Resources

The monitoring of science resources is the responsibility of the science leader. An audit of science resources is to be done on a yearly basis by the science leader. Class teachers are to make the science subject leader aware of resources that may be damaged or additional resources that may be needed.

Role of the Science Leader

- To undertake monitoring of standards in science and use this to inform the science action plan.
- To identify key groups to support specific children through extra-curricular activities.
- Provide leadership in science to secure high quality teaching and learning.
- Play a key role in motivating, supporting and modelling good practice for all staff, including the organisation and presentation of school INSET.
- To take a lead in policy development and review.
- To liaise with outside agencies and attend subject specific courses.
- To report to the head teacher and governing body on science achievement and provision.
- To plan and organise the allocation and purchase of resources in accordance with the available budget.