

ADVENTURES

Our Intent at Gulval School in Science

Ambitious



We want to foster a love of science in all children. We want there to be no limits to their ambition so that they grow up wanting to be astronauts, forensic scientists, toxicologists or microbiologists. We want our children to remember their science lessons in our school, to cherish these memories and embrace the scientific opportunities they are presented with.

Engaging



We want these stimulating and challenging experiences to help every child secure and extend their scientific knowledge and vocabulary, as well as promote a love and thirst for learning. Our coherently planned and sequenced curriculum has been carefully designed and developed with the need of every child at the heart of all we do.

Teamwork



We believe that children learn best by doing and seeing, therefore we provide children with a range of opportunities to actively carry out different types of scientific enquiry. We believe that working collaboratively to hypothesise, problem solve and find the reasons 'why' all help to strengthen the learning experience.

Relevant



We want all children to develop a deep understanding of the world around them and acquire the specific skills and knowledge to help them to think scientifically; to gain an understanding of scientific processes and an understanding of the uses and implications of science - today and for the future. We want to build 'Science capital'.

Skills



We ensure scientific enquiry skills are embedded in each topic the children study and these are revisited and developed throughout their time in school. We build scientific vocabulary and always encourage children to remember skills taught previously and apply these to new topics and investigations, building on previous experiences.

Implementing our Adventurous Science Curriculum

The curriculum for Science is designed to provide a broad and balanced education that meets the needs of all pupils and promotes a love for learning. It helps pupils gain the specific scientific skills, knowledge and understanding from the start to the end of their educational journey; supporting them to make progress from their individual starting points.



Our whole school approach to the teaching and learning of science involves:

- Within planned units of work all classes will engage students providing learning stimuli that is purposeful and playful. This may include trips beyond the school (Secondary School visits to science departments, trips to local museums or professionals,) or by inviting external experts into school. (Planetarium, Health professionals, nature experts)
- Planning will involve problem solving opportunities that allow children to apply their knowledge in real-life contexts to explore answers for themselves. Children are encouraged to ask their own questions and will be provided opportunities to use their own scientific skills and research to discover the answers.
- Scientific knowledge, skills and curiosity are celebrated across the school through interactive displays, activities and social media including the use of technology.
- Teachers use TAPS (Teacher Assessment in Primary Science) at the end of every unit of work to assess pupils understanding.
- As the children's knowledge and understanding increases, and they become more proficient in selecting, using scientific equipment, collating and interpreting results, they become increasingly confident in their growing ability to come to conclusions based on real evidence.



In the EYFS, Science learning involves guiding children to make sense of their physical world and their community through opportunities to explore, observe and find out about people, places, technology and the environment. Children's WOW responses to tasks will be recorded via tapestry and are shared in their Science Floor Book.

The focus of science teaching in key stage 1 is to enable pupils to experience and observe phenomena, looking more closely at the natural and humanly constructed world around them. They should be encouraged to be curious and ask questions about what they notice. They will be supported to understand scientific ideas by using different types of scientific enquiry.

Scientific language will be promoted through adult modelling, spelling and display to support children so that they can communicate their ideas to a range of audiences in a variety of ways. 'Working scientifically' will be embedded within each science lesson. Children will be supported in developing their understanding using symbols and signs to identify the relevant types of enquiry.





In KS2, children will progress to exploring, talking about, testing and developing ideas about everyday phenomena and the relationships between living things and familiar environments, and by beginning to develop their ideas about functions, relationships and interactions. They should ask their own questions about what they observe and make some decisions about which types of scientific enquiry are likely to be the best ways of answering them. They should draw simple conclusions and use some scientific language, first, to talk about and, later, to write about what they have found out. 'Working scientifically' will be embedded within projects and children will continue to be supported in developing their understanding of the different aspects of scientific enquiry using symbols and signs.

At upper key stage 2, they should encounter more abstract ideas and begin to recognise how these ideas help them to understand and predict how the world operates. They should also begin to recognise that scientific ideas change and develop over time. They should select the most appropriate ways to answer science questions using different types of scientific enquiry, including observing changes over different periods of time, noticing patterns, grouping and classifying things, carrying out comparative and fair tests and finding things out using a wide range of secondary sources of information.

The Impact of Learning in Science

At Gulval School the impact of our curricular offer results in a fun, engaging, high-quality science education, that provides children with the foundations and knowledge for understanding the world. Children will make progress in their scientific knowledge and the ability to investigate the universe around them using a range of scientific skills. Our engagement with the local environment and community will ensure that children learn through a variety of experiences of the world around them. Frequent, continuous and progressive learning outside the classroom is embedded throughout the science curriculum. The impact of these opportunities upon learning will be recorded, reported and celebrated through social media, school newsletters and assemblies.

This quality of science provision is measured and is monitored by the subject leader for science and reported to the Head Teacher and Governing Body. Monitoring of the quality of Science Teaching takes place through books scrutiny sessions, observations, pupil conferencing and moderation sessions. Reporting on the impact of Science will be completed in a half-termly cycle via the Head Teacher to the Governing Body.

