

I am a Scientist

Intent: At Frome Vale Academy it is our intention that children will see themselves as scientists. The school environment reflects the importance we place on Science and the status the subject has in our school. Children will understand that curiosity, wonder, logical thinking and systematic enquiry are all part of being a scientist. Children will develop an understanding of the natural and physical world based on their observations and these will be confirmed or challenged through practical enquiry, research and discussion. At Frome Vale Academy we aim to prepare our children for the wider world by giving them the skills to acquire new information that may challenge existing hypotheses through questioning, data collection, classification and analysis and practical investigations. We aim for our children to understand that current scientific knowledge and understanding is based on evidence and so has been amended as new evidence has been discovered. At Frome Vale, children are taught scientific knowledge and enquiry skills through practical investigations, hands on experiences, observations and research. Our aim is to develop a broader curriculum that gives children the opportunity to acquire in-depth knowledge in physics, biology and chemistry that teaches them to explain how and why things happen.

Implementation: Science topics begin with an initial question and children complete an elicitation activity, e.g. 'mind maps' to demonstrate their current understanding of that area. Children then annotate these 'mind maps' at the end of a topic to show their developed understanding. Our aim is that at an early stage in their topic, children will also identify questions they will attempt to answer by the end of the topic. In KS1 and initially KS2, a whole class question may be chosen. It is essential that children are exposed to scientific vocabulary so that they can access the curriculum and discuss ideas and observations in a scientific way. We will teach our children the vocabulary needed at an early stage in the topic and will support them to use and retain it through supporting materials such as word banks and by making links with other curriculum areas such as through guided reading. Children will contribute to scientific investigations and plan them, with support in KS1 and then with increasing independence across KS2.

The skills and knowledge covered in each topic are progressive reflecting the children's different levels of skill and knowledge as they progress through the Key Stages. Children are encouraged to supplement their topic learning with their choice of non-fiction reading texts and independent research during ICT to create powerpoints and factsheets. Children will develop knowledge in their topic area through practical investigations involving paired, group and whole class work but will also have ample opportunity to show their individual understanding through recorded work in their science progress books. Class work will be recorded in floor books which will showcase the children's practical and oral work. Our aim is for this to inform teacher assessment and planning to ensure progression and appropriate challenge across the school. When children are recording work in their science progress books, it will be the same high quality as seen in other curriculum books across the school including English.

Impact: Children at Frome Vale will be able to propose questions that help them understand the natural and physical world. They will be able to plan a line of enquiry that helps them to further understand the world around them and will understand how to conduct this enquiry in a fair and logical way. Our children will be able to take measurements and collate data to help make conclusions and answer questions.

They will be able to reflect on new discoveries, both from their own investigations and from research and will use new this new information to amend their current understanding. Children at Frome Vale Academy will be excited and engaged during their Science learning and will see themselves as Scientists investigating the world around them.