

Curriculum statement for the teaching and learning of Science

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| Intent | At Burlington C of E Primary and Nursery School our science provision aims to immerse our children in the knowledge and skills they require to be scientists of the future. It is our intention to encourage and enable children to ask questions about the world around them, as well as to develop the skills and confidence necessary to go about finding the answers to these questions. The science curriculum at Burlington is designed so that knowledge and skills are progressive and transferable to other curriculum areas. We believe that science can unlock ambition and drive in children to learn and succeed and we aim to inspire a belief that science is for everyone. | | |
| Underpinned by | The teaching of skills | The application of skills | Vocabulary |
| | Burlington pupils will be taught how to use a range of equipment and technology confidently and accurately. They will develop a range of working scientifically skills including questioning, making observations, planning and performing tests, recording and presenting results and examining evidence to make and justify scientific conclusions. The skills the pupils learn are transferrable and will support their learning in other subjects, thereby deepening their understanding of the world around them. | Throughout their time at Burlington, pupils will be given regular opportunities to practice and apply their working scientifically skills. They will experience a range of different enquiry types: asking questions, observing changes over time; grouping and classifying; noticing patterns; fair and comparative tests and researching of secondary sources. Cross-curricular links will allow skills to be transferrable and consolidated between curriculum subjects. They will also have opportunity to apply their growing knowledge of scientific vocabulary through practical, collaborative, presentation and written tasks. | Burlington pupils will understand and use a range of appropriate scientific vocabulary to discuss, communicate and justify their ideas. They will also understand the vocabulary relevant to the scientific method and associated with working scientifically. Key topic vocabulary will be displayed in the classroom or available to children in the form of knowledge organisers. |

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| Implementation | <p>Curriculum Approach Pupils engage with science weekly and are guided, supported and stretched through the science topics which build upon prior knowledge and working scientifically skills. Our science long term plan maps out our rolling program for each class. Planning is carefully differentiated by class teachers to enable SEND children to access the science curriculum whilst also enabling opportunities for pupils working at greater depth to broaden and apply their knowledge, skills and scientific vocabulary.</p> <p>Sharing work Pupils' science work is recorded in science floor books and individual books and is shared between pupils and staff. In class, children also share their learning in a variety of ways: discussion, presentations, drawings and posters, information booklets. There are frequent opportunities to celebrate children's science work and show the process of their learning via display boards in school. Occasionally, science work is shown in assemblies alongside other curriculum subjects. Children's work is also responsibly shared online with parents using our school blog and Tapestry.</p> <p>Resources Pupils at Burlington we have access to a wide variety of practical science resources to support learning. Children are taught to name and use a range of scientific equipment correctly, so that they may select equipment appropriate to its purpose. Opportunities are given for children to practise using these pieces of equipment to develop competency and precision. As they progress through school, children are supported to use science resources with increasing independence, accuracy and critical judgement. Resources such as Explorify is used to elicit dynamic scientific discussion and to encourage children to think like scientists.</p> | <p>External Stimuli Pupils are taught about how the world has influenced scientists throughout history, including Sir Isaac Newton, Thomas Edison, Mary Anning, Charles Darwin, Linda Brown Buck, Charles Mackintosh, Alexander Graham Bell amongst others. Where possible, teaching is made relevant to children's everyday experiences and pupils are encouraged to question the structure and behaviour of the physical and natural world around them. Children are exposed to as many real life experiences and opportunities as possible. Class One have weekly visits to a local woodland area to observe the changes throughout the year. They also have Little Beasties Pet Shop into school to look closely at various animals. Class Two have regular visits to the woodland area. Class Three take part in a Big Bang workshop held at a local college.</p> <p>Thoughtful Questioning Questioning is a fundamental aspect of science; it is integral to all types of science enquiry and is developed through every science topic. Pupils often ask questions at the beginning of a science topic to focus their learning as they progress through the unit. In lessons, some questions may be closed, requiring a specific answer based on scientific knowledge. More often, questions are child-centered and open, allowing for a range of answers from children of all abilities and life experiences and science investigations. Children are encouraged to understand that some questions may have more than one answer, which may be neither right nor wrong, and to consider what evidence is needed to support or refute an idea.</p> | <p>SMSC At the heart of science lessons are collaborative practical tasks that require respect and co-operation for shared decision making amongst pupils. Through discussing past and present scientists and their discoveries, children gain an understanding of the role and impact science and innovation have in society. In addition, this enables children to learn about other times and cultures, and the imagination, creativity, self-belief and perseverance necessary for these inspiring scientists to succeed. Some science topics require pupils to appreciate different viewpoints e.g. the theory of Evolution and creationism. Children are also encouraged to develop the working scientifically skill of using evidence to support or refute their ideas and thus to offer reasoned points of view. Throughout Burlington children learn about the importance of making the right choices with regards to a healthy lifestyle, including diet, exercise and drug safety.</p> |
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| Impact | By the end of the key stage, pupils are expected to know, apply and understand the knowledge, skills and processes specified in the subject of science program of study. | | | |
| | PUPIL VOICE | EVIDENCE IN KNOWLEDGE | EVIDENCE IN SKILLS | BREADTH AND DEPTH |
| | Children enjoy learning about significant scientists of the past and their inventions or discoveries and feel inspired by achievements. | Pupils understand how their science knowledge is relevant in the outside world and why it is important to learn about science. Pupils can demonstrate and apply their science knowledge. They are able to articulate clear explanations, reasoned opinions and researched information using acquired vocabulary from science lessons. | Within the science curriculum, there are opportunities for all children to demonstrate their working scientifically skills, orally and in writing as well as during more practical and investigative tasks. Pupils are able to apply their working scientifically skills to plan and perform different types of enquiry to answer a question. They are able to present their findings in a variety of ways. Pupils can examine their findings and explain how and why they have reached their conclusions. | Much opportunity is given for children to develop a deeper understanding, level of skill and appreciation of science. Pupils have developed their scientific ideas to the expected standard by the end of a science topic. Challenges are available to extend scientific skills within the classroom. Some children can use their skills and knowledge in other curriculum areas and to make links to other topics. A dedicated whole school Science Week is an ideal opportunity for science to have a high profile and excellence in science to be shared. |

