



Intent

Science

At Burnt Tree Primary School, we recognise how science impacts every aspect of daily life, and without science human kind would not have made progress throughout history. As one of the core subjects taught at primary level, we give the teaching and learning of science the prominence it deserves to extend children's scientific knowledge and vocabulary. Our aim is to provide an exciting and engaging curriculum based on experiential learning which will have a lifelong impact. We aim to develop children's curiosity about the world in which they live and teach them to become well rounded citizens that embrace our diverse school community.

We believe that all children can learn to be scientists by following their own natural curiosity; therefore, our desire to enthuse and inspire children to develop a lifelong love of science is reflected in our curriculum, extra-curricular activities and learning environments. We encourage children to be curious thinkers and knowledgeable speakers by being inquisitive about science, and by providing high quality resources to encourage children to expand their understanding so they can be ambitious individuals who are excited to learn.

Using the requirements of the Science National Curriculum as our guide, our Science lessons offer opportunities for children to:

- Develop scientific knowledge and conceptual understanding of the disciplines of Physics, Chemistry and Biology.
- Formulate their own questions about the natural world.
- Foster the confidence to 'be wrong' when it comes to making predictions and postulating their own theories.
- Promote an awareness of the importance of teamwork in scientific experimentation.
- Practically investigate their questions using various methods of enquiry.
- Gain competence in the science skills of planning scientific investigations, gathering and analysing data and critical evaluation of investigations across the disciplines.
- Use a range of methods to gather data from investigations and secondary sources including I.C.T., drawings, diagrams, videos and photographs.
- Present data in a variety of methods including tables, bar charts, line graphs, pictograms and pie charts.
- Have care for the safety of all individuals in lessons by developing knowledge of the hazards of the materials and equipment they handle, along with mitigating these hazards.
- Develop an enthusiasm and enjoyment of scientific learning and discovery.
- Secure and extend their scientific knowledge and vocabulary



Implementation

At Burnt Tree Primary, our science curriculum is designed so that children are taught a range of topics in block sections. Each year group is taught using the national curriculum which focuses on developing their knowledge and skills whilst building on their previous learning, therefore developing depth of understanding and progression of skills.

Children explore, question, predict, plan, carry out investigations and observations as well as conclude their findings. Children present their findings and learning using science specific language, observations and diagrams. In order to support children in their ability to 'know more and remember more' there are regular opportunities to review the learning taken place in previous topics as well as previous lessons. At the start of each lesson children will review previous learning and will have the opportunity to share what they already know about a current topic.

Effective CPD opportunities are available to staff to ensure high levels of confidence and knowledge are maintained. Effective use of education visits and visitors are planned, to enrich and enhance the pupil's learning experiences within the Science curriculum. Teachers use highly effective assessment for learning in each lesson to ensure misconceptions are highlighted and addressed. Effective modelling by teachers ensures that children are able to achieve their learning intention, with misconceptions addressed within it. Through using a range of assessment tools, differentiation is facilitated by teachers, to ensure that each pupil can access the Science curriculum. Our Science Assessment Tracker allows us to use data to inform future practice.

The Early Years Foundation Stage Curriculum supports children's understanding of Science through the planning and teaching of 'Understanding the World.' It is introduced indirectly through activities that encourage every child to explore, problem solve, observe, predict, think, make decisions and talk about the world around them. Children find out about objects, materials and living things using all of their senses looking at similarities, differences, patterns and change. Both the environment and skilled practitioners foster curiosity and encourage explorative play, children are motivated to ask questions about why things happen and how things work. Our children are encouraged to use their natural environment around them to explore. Children enjoy spending time outdoors exploring mini-beasts and their habitats, observing the changing seasons, plants and animals.

In key stage one children continue to develop their scientific knowledge. They are introduced to scientific language associated with topics, use high quality resources alongside their learning and experience a range of outdoor and indoor learning, bringing in experienced visitors to ensure children have that long lasting knowledge and a love for learning.

Key stage one children, study a range of topics including plants, animals including humans, everyday materials, seasonal changes and living things and their habitats. They begin to understand that skills are required to be a 'good' scientist.

In key stage two, children build on their prior knowledge and continue to develop their scientific knowledge through scientific skill based work as well as topic based work. They become excited learners through using high quality resources and exciting experiences presented to them.

We teach the National Curriculum, supported by a clear skills and knowledge progression. This ensures that skills and knowledge are built on year by year and sequenced appropriately to maximise learning for all children. In key stage two, children revisit previous topics and build upon them, learning new topics such as light, rocks, forces, earth and space, electricity and evolution.



Impact

The impact of this curriculum design will lead to outstanding progress over time, across key stages, relative to a child's individual starting point and their progression of skills. Children will be equipped with scientific skills that will enable them to ask questions, predict, set up tests, observe and measure, record data, communicate results and evaluate. Children will enjoy and experience listening to knowledgeable speakers who will speak to the children about science. Children will be curious and knowledgeable about a range of exciting opportunities that present themselves around science. Children will learn to be curious about the world around them. They will ask questions and be ambitious to want to find the answers.

Children will therefore be expected to leave Burnt Tree Primary reaching at least age related expectations for Science. This is evidenced in a range of ways, including pupil voice, their work and their overwhelming enjoyment for science. Through our science fayre, trips and interactions with experts our Science curriculum will lead pupils to be enthusiastic Science learners and understand that science has changed our lives and that it is vital to the world's future prosperity. Children will be excited learners that wish to continue their lifelong learning journey in Science. They will become global citizens that understand that science inevitably changes the world and they are a part of that who can make a difference.