



Science Policy

Intent

At Brookdale Primary School, we believe a Science curriculum should develop children's enthusiasm and enjoyment of scientific learning and discovery.

We intend on delivering a curriculum which:

- Promotes practical and engaging, high-quality Science aiming to provide children with the foundations and knowledge for understanding the world;
- Promotes scientific enquiry and engagement with the local environment to ensure that children learn through varied and first-hand experiences of the world around them;
- Offers workshops, trips and interactions with experts, and themed weeks (Coast to Country project, 2020 STEM week) so that children have the understanding that Science has changed our lives and that it is vital to the world's future prosperity;
- Allows children to learn about possibilities for careers in Science as a result of our community links and connection with national agencies such as the STEM association;
- Captures children's natural curiosity about the world and what they observe, to promote respect for the environment, living things and processes and their own and other's health and safety;
- Develops children's scientific skills through practical and engaging lessons, with identified key knowledge, technical vocabulary and skills that build on previous learning;
- Recognises that Science underpins much of our daily lives and makes connections with real life so that an understanding of the uses and implications of scientific learning in Science for today and the future is promoted;
- Gives every child a chance to believe in themselves as a scientist through using positive and diverse role models when researching scientists;
- Makes rich connections through Year Group Big Questions to develop a deeper thinking about the applications of scientific knowledge and conceptual understanding and making links between different experiences;
- Provides equal opportunities for children to apply their scientific knowledge to other subjects, (cross-curricular links);
- Is in line with the expectations in the National Curriculum 2014.

The intent of the science curriculum is outlined and detailed in the science progression map which is organised by scientific areas of learning.

Implementation

Children have weekly lessons in Science throughout Key Stage 1 and 2, planned from NC programmes of study and the year group PLAN knowledge matrices (<https://www.planassessment.com/plan-knowledge-matrices-teacher>). In Early years, Science is taught through the children learning about the world around them in their learning through play, natural exploration and linked to Power of Reading texts.

Additional opportunities are provided in Science, such as STEM week, Chester Zoo visits and visitors into school, visits to habitats in the local environment and trips to sites of more expert knowledge e.g. Jaguar Landrover, B & M Waste Services. At Brookdale we also have an outdoor learning environment that is regularly used to promote scientific learning and enquiry.

Teachers create a positive attitude to Science learning within their classrooms and reinforce an expectation that all children are capable of achieving high standards.

EYFS

In the Early Years Foundation Stage (EYFS), we relate the scientific aspects of the children's work to the Development Matters statements and the Early Learning Goals (ELG) for The World and some aspects of Exploring and Using Media, as set out in the EYFS profile document. Scientific development involves providing children with opportunities to observe changes around them and develop skills in questioning, exploring and observing, then explaining what they have discovered.

The EYFS team support children's learning through planned activities but also value and support self-initiated scientific learning.

- In EYFS the children develop scientific skills through planned sessions or challenges linked to the Power of Reading text, through self-selected play in continuous provision, through links to seasonal changes and observations and activities linked to use of the Forest School Area or through the children's own interests.
- Children are assessed through observation against the Development Matters statements and ELG's. These judgements are entered into the EYFS assessments system, Tapestry, as part of each child's learning journey.

Year 1 - Year 6

- Science is taught in planned and arranged topic blocks by the class teacher that link to the year group big question for that term. These units are identified on the Year Group curriculum maps. This allows achievement of a greater depth of knowledge and application of thinking within the year group and a progressive increase of key knowledge, vocabulary and skills across key stages.
- Teachers use the year group PLAN knowledge matrices to identify expected prior learning, key knowledge and vocabulary and common misconceptions for each unit of work. Teachers then create knowledge organisers to make this key learning explicit for children. These will be stuck in children's science books at the start of each unit and revisited regularly.
- Teachers use the year group PLAN knowledge matrices to access exemplar materials for each year group that help to moderate assessments of which children are at the expected standard. These assessments are then entered into the school assessment package, Classroom Monitor.
- We build upon the learning and skill development from the previous years. As the children's knowledge and understanding increases, and they become more proficient in selecting, using scientific equipment, collating and interpreting results, and they become increasingly confident in their growing ability to come to conclusions based on real evidence.
- Through scientific planning, we are identifying opportunities for working scientifically to be embedded in lessons. Teachers will ensure the application of Science skills through: -
 - observing over time,
 - pattern seeking,
 - identifying, classifying and grouping,

- comparative and fair testing,
 - research using secondary resources
- We will then have the working scientifically approach embedded throughout the school with each year group developing skills further as children journey through Brookdale Primary.
 - Children record their Science learning in either their individual Science book or through whole class floor books. The floor books are used for whole class challenges and record investigative thinking and findings.

Impact

The successful approach at Brookdale Primary results in practical and engaging, high-quality Science aiming to provide children with the foundations and knowledge for understanding the world. Our engagement with the local environment ensures that children learn through varied and first hand experiences of the world around them. Through various workshops, trips and interactions with experts, and themed weeks (Coast to Country project, 2020 STEM week) children have the understanding that Science has changed our lives and that it is vital to the world's future prosperity. Children learn the possibilities for careers in Science as a result of our community links and connection with national agencies such as the STEM association. Pupil voice is used to further develop the Science curriculum, through questioning of pupil's views and attitudes to Science to support the children's enjoyment of Science and to motivate learners.

- The Science lead is responsible for reporting on Science standards across the school to the governing body.
- EYFS staff make summative judgements termly by entering data into Tapestry and internal tracking sheets.
- Year 1-Year 6 make judgements following the conclusion of a science topic. They use the PLAN assessment examples to moderate their judgements of working towards or at the expected level for each child and enter this data into Classroom Monitor.
- In addition, end of key stage judgements are made. Year 2 and Year 6 teachers make these assessments at the end of the year.
- The impact of Science learning is also measured through learning walks which include lesson observations, book scrutinies and pupil voice. Pupil voice is used to further develop the Science curriculum, through questioning of pupil's views and attitudes to Science to support the children's enjoyment of Science and to motivate learners.

