



Science Policy

Why

At Brookdale Primary School the curriculum is designed to **include, inspire, engage and nurture** our children to achieve and flourish as citizens of today and the future; encouraging children of all ages to think deeply about the past, present and future of our community and the wider world.

We believe that teaching and learning in Science develops children's enthusiasm and enjoyment of scientific learning and discovery. The purpose of Science education is to capture children's natural curiosity about the world and what they observe, to promote respect for the environment, living things and processes and give all children, irrespective of gender, culture, ability or aptitude, the skills, concepts and knowledge to equip them with foundations and knowledge for being future citizens of our planet.

How

Our Science curriculum **includes, inspires, engages and nurtures** our children's interest in and enjoyment of science through

- practical and engaging lessons, with identified key knowledge, technical vocabulary and skills that build on previous learning;
- engagement with the local environment to ensure that children learn through varied and first-hand experiences of the world around them;
- having positive and diverse role models when researching scientists;
- making rich connections through Year Group Big Questions that develop a deeper thinking about the applications of scientific knowledge
- science enhancements e.g workshops, trips and interactions with experts so that children have the understanding that Science has changed our lives and that it is vital to the world's future prosperity;
- children learning about possibilities for careers in Science as a result of science learning, community links and connection with national agencies such as the STEM association;
- providing equal opportunities for children to apply their scientific knowledge to other subjects, (cross-curricular links);

EYFS

In the Early Years Foundation Stage (EYFS), it is our intention to relate the children's knowledge and scientific understanding to the objectives set out in the Early Learning Goals which underpin the curriculum planning. The children's learning includes The World, aspects of Exploring and Using Media and characteristics of effective learning. The range of experiences encourages children to make connections between one area of learning and another, and so extends their understanding. We provide a rich environment in which scientific development is valued and encouraged. Children are given opportunities to observe changes around them and develop skills in questioning, exploring and observing, then explaining what they have discovered using the various senses. The children are given the opportunity to work individually and collaboratively with others.

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

Years 1 to 6 - follow the National Curriculum for Science 2014

Teachers create a positive attitude to Science learning within their classrooms and reinforce an expectation that all children are capable of achieving high standards. 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>). Resources from White Rose Science, Explorify and PSTT are used to supplement the PLAN knowledge matrices.

- Science is taught in planned and arranged topic blocks by the staff that link to the year group big question for that term. These units are identified on Year Group curriculum maps.
- PLAN knowledge matrices are used to identify expected prior learning, key knowledge and vocabulary and common misconceptions for each unit of work. Knowledge Organisers make this key vocabulary explicit for children visible in children's science books or on class displays and revisited regularly.
- PLAN exemplar materials for each year group help to moderate assessments of which children are at the expected standard.
- Learning and skill development from previous years is sequenced e.g. 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.
- Working scientifically is sequenced across year groups and embedded to ensure the application of Science skills outlined in the PLAN Science Progression Maps for each unit, PLAN working scientifically progression maps and our Brookdale scientific enquiry maps.
- Children record Science learning in either individual Science books or through whole class floor books. The floor books are used for whole class challenges and record investigative thinking and findings. Floorbooks are used (EYFS, Y1 and Y2) and another for KS2. Individual science books from Y1 are passed to Y2, Y3 to Y4 and Y5 to Y6.
- Children are introduced to scientists through practical exploration using the resource "Standing ON THE Shoulders of Giants".
- Activities provide opportunities for children to compare ideas, methods and approaches in their own work and that of other children, and to say what they think or feel about them.
- Children are taught about hazards, risks and controls which may be encountered when using tools, equipment and materials. Assessment of risk is made before and during lessons by the adult(s) taking a lesson and children are encouraged to manage their environment to ensure health and safety to themselves and others.
- The use of technology may be used to enhance teaching of Science. Visual images using

sites such as Explorify may be used to elicit prior learning or key vocabulary and ipads in order for children to develop their ideas or keep a record of them. Observations can be recorded using images or voice recordings and data logging is used in KS2 to record measurements.

What

- Children know more and remember more as they progress through school.
- Children have built up knowledge and skills they can talk about and demonstrate.
- Children are able to talk about key vocabulary and learning from subject Knowledge Organisers
- Children are able to assess and evaluate their own work, helping them appreciate how they can improve their own performance and consider targets they would set themselves in the future.
- Children's individual Science books, class floor-books, photographic evidence and teacher observations are used to help inform teacher judgements at the end of the academic year (see assessment policy) supported by PLAN exemplification
- Assessments are entered into the school assessment software Insight at two data drops in the year. Year 2 and Year 6 teachers also make statutory assessments at the end of the year. This gives an overview of science attainment across the school.
- Progress, achievement and effort in Science are passed on to parents and carers at open evenings and in the annual report.
- Through ongoing monitoring, pupil and teacher voice as part of our bespoke "Deep Dive" process the subject leadership team can report on standards in Science across the school to the governing body,

