Bosmere Community Primary School

Science Policy

June 2022

Prepared by	*Rachel Tunbridge and Emma Ritchie*
Approved by the Committee/Governing Body	*Bosmere Primary School*
Signature of Chair of Governors/Committee	
Date approved	
Review date	*June 2023*

Curriculum Intent

At Bosmere Community Primary School our curriculum is designed to inspire enthusiasm for learning, to ensure achievement and to nurture pupil health and well-being. We aim to develop independent, creative and inquisitive learners who gain the confidence, resilience and skills needed to be learners for life and responsible citizens for the future.

Our inclusive curriculum focusses on progressive subject specific knowledge, skills and understanding as set out in the National Curriculum. It promotes high aspirations by engaging pupils in rich and memorable learning challenges that take pupils beyond the classroom.

Our approach allows pupils the opportunity to influence their own learning, placing particular emphasis on:

Enquiry: fostering a sense of curiosity and problem solving

Collaboration: opportunities to learn with and from each other

Oracy: talk for learning to develop a rich vocabulary and clarity in communication

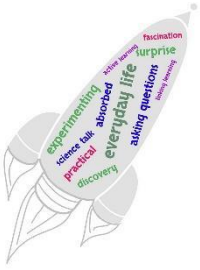
Linking learning: identifying cross-curricular links in knowledge and skills and applying transferable skills where meaningful

Identity: making the most of enrichment opportunities and local links, developing a sense of where we fit in the local and global community.

Introduction to Science

In its simplest form science is concerned with finding out about things. It involves a systematic study of the natural and physical world based on processes that lead to the drawing of conclusions. Children are natural scientists. They begin investigating their surroundings from birth, they question the world around them, they experiment and draw conclusions. The steps in this process lead to a progressively deeper scientific understanding. It is important therefore to build upon a child's natural curiosity and to encourage a scientific approach based on a rich resource of experiences both at school and at home – ultimately increasing each child's science capital.

Our **Science Principles**, generated by staff and pupils, are at the heart of science learning at Bosmere. The whole school community recognises the value of science in our everyday lives and many of our experiences are first-hand.



We will…

- ask questions;
- experiment;
- make links in our learning;
- be active and learn through discovery;
- be absorbed in our science journey with the ever-present buzz of science talk!

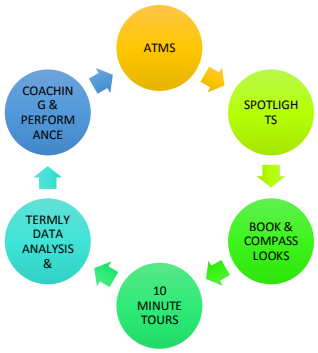
Implementation – Planning, teaching and learning

Curriculum planning for science is carried out in three phases – **long term, medium term and short term**.

- The long term plan maps the scientific topics and outcomes that should be covered by the end of each phase (National Curriculum).
- The medium term plan (or curriculum map) is produced by the Science leader and maps which units and outcomes will be covered within each half term of the two year rolling cycle for each phase.
- The class teacher is responsible for short term plans and ensuring a range of enquiry types are taught.

    - Teachers are encouraged by the science leader to access the PLAN assessment resources produced by the ASE. These include suggested activities to achieve the outcomes, including those that will ensure coverage of the 'Working Scientifically' skills for the relevant year group.
    - Links are made to the current 'topic theme' of Bosmere's creative curriculum wherever beneficial in short term plans. These plans list the specific learning intentions of each lesson and delivery is timed where possible so that science becomes an integral part of the current topic.
    - All class teachers are to ensure that whilst planning, teaching approaches should allow for different learning styles, pupils with special educational needs and equal opportunities.
- Science is a subject based around practical investigation. It is therefore essential to employ teaching methods which maximise the potential for investigative work. It is the responsibility of individual teachers to select the approach which is most effective in achieving the learning intentions for a particular lesson. We endeavour to strike a balance between guided practical learning (experiments) and investigational learning, between class, group and individual learning and between the use of first and second-hand sources.
- Wherever possible we involve the pupils in 'real' scientific activities and ensure each lesson involves at least one of the five enquiry types, with a planned science unit striking a balance across all of the enquiry types: **Identifying and classifying, Pattern seeking, Research, Observing over time, Fair testing / comparative testing.** These enquiry types will involve the teaching and use a range of enquiry skills: **Asking questions, Making predictions, Setting up tests, Observing and measuring, Recording data, Interpreting and communicating results and Evaluating**. While many enquiries will involve most or all of these skills, teaching may provide a focus on one of these skills in order to progress that particular area.
- We encourage the children to ask, as well as answer scientific questions. They have the opportunity to use a variety of resources and data, such as statistics, graphs, pictures and photographs. They use computing skills in science lessons where it enhances their learning. They take part in role-play and discussions and present reports to the rest of the class. They engage in a wide variety of problem-solving activities, making use of Concept cartoons and Explorify as specific resources to enhance critical thinking and science talk skills.
- Science in the Early Years Foundation Stage is taught as an integral part of the topic work covered during the year using the children's experiences and interests as a starting point for their learning. This may be as an adult directed activity, where safety is paramount, an adult initiated activity, where a new skill is taught, or as a child-initiated activity, where exploration and discovery is desired. The science objectives are identified within the *Early Years Foundation Stage Statutory Framework 2021* and 'Development Matters (2021) and span many of the Areas of Learning.
- Science poses a number of potential dangers in the classroom as a result of its practical nature. Bosmere Primary School has adopted the safety policy included in the 'Be Safe' document produced by the Association of Science Education and are members of CLEAPSS Primary, a professional organisation that helps keep children, colleagues and ourselves safe by providing model risk assessments and bespoke expert advice through their helpline, courses, publications and website. Teachers will assess the risk of individual situations and make reference to the Be Safe document or CLEAPSS advice when they are planning lessons. Pupils should be made aware of safety requirements and encouraged to develop an awareness of safety as they undertake practical work.
- There are sufficient resources for all science teaching units of work. These are kept in a central area and are stored together with teacher resources (books, photographs, posters etc.). Other books to support the teaching of science are available in the library. The subject leader, in consultation with other staff, is responsible for purchasing new equipment as necessary.

Impact – Monitoring and Assessment



- **Monitoring** – Science is monitored line with the whole school monitoring cycle.
- Subject leads evaluate impact at the end of each summative period. Written feedback, with targets identified and support plans put in place where appropriate, is given to each phase.
- The governors take an active role in science. They receive a termly report and are involved in termly meetings to regularly review teaching, learning and development.
- **Formative Assessment** - Children's learning and progress in science is assessed by making informal judgements as they are observed during lessons, assisted by the written outcomes and opportunities that children have to respond to teacher feedback in order to move their learning on. Arbor is used to record attainment against key objectives linked to each unit.
- The science leader directs teachers to the PLAN ASE exemplar materials to help them make their judgements as to whether a child is secure in an objective or not. These offer annotated examples of children's learning for each unit of science in the primary curriculum with assessment commentary.
- **Summative Assessment** - Teachers may use their discretion to provide end of unit / year tests that can help confirm their assessment judgements (this is more common in KS2).
    - Teachers are expected to report their judgements through selecting the relevant science skills and concepts on the Arbor and ticking the mark book against each objective for the year as it is taught or consolidated. Twice a year, February and June, a FPA judgement is made and the June FPA recorded on Arbor. Attainment for science is included in the end of year report to parents for each pupil in Years 1 through to 6.
- The science leader attends and delivers meetings and training as and when the need is identified to allow for continuity and progression within science and directs teachers to take responsibility for their own science CPD through the free online tool https://www.reachoutcpd.com/.

Summary of changes to the policy

Document control			
Date	**Section(s)**	**Update(s)**	**Notes**
21/6/22	Implementation	Reference to enquiry skills added alongside the enquiry types.	
21/6/22	Summative Assessment	Removed reference to Compass clumps and replaced with Arbor.	