



Bankwood Community Primary School Science Policy

'Pride, Progress and responsibility'

The Nature of Science

The contribution which science makes to pupils' education is significant. It teaches knowledge which is relevant to everyday life, including environmental and health and safety issues. It also teaches skills in the following: investigation, enquiry, questioning of ideas and communication, which can be applied across a range of subjects.

Aims

Through studying science pupils will:

- Develop skills of planning experimental work through both practical experience and the use of primary and secondary sources of information.
- Develop questioning skills related to obtaining and interpreting evidence.
- Draw conclusions from their evidence, giving reasons and making comparisons and record and communicate these in a variety of ways.
- Develop systematic investigative skills taking into account fair testing.
- Consistently refine their knowledge and understanding of Life Processes, Humans as organisms, Green plants as organisms, Variation and classification, Living things and their environment, Grouping and changing materials, separating mixtures of materials, Electricity, Forces and motion, Light and sound and Earth and beyond.
- Understand appropriate scientific vocabulary.
- Understand and use standard measures and SI units in their work.
- Be able to relate their understanding in all areas of the subject.
- Understand the impact that human activity has on climate, eco systems and animals and discuss solutions to this.

This will help us fulfill the whole school aims of creating a school community with a positive atmosphere in which children learn to value themselves, each other and the world in which they live, where positive attitudes towards learning are developed and where the individual is encouraged to reach his/her potential through first hand experience and a meaningful and creative curriculum.

Areas of Knowledge

We will ensure the requirements of the National Curriculum are met through the structuring of the curriculum to provide continuity and progression throughout the school in the skills and understanding of the subject. Areas of the subject are revisited in different years, but at a level appropriate to pupils' understanding through the key-skills Science morning sessions.

Particular emphasis should be placed on the skills, knowledge and understanding associated with experimental and investigative science which can be found in our whole school key skills. These



SC1 skills should underpin all areas of the subject through the Enrichment Curriculum.

How to Plan Science

Foundation Stage

The Foundation Stage base their planning on the objectives laid out in 'Understanding the World' section of the Early Learning Goals. Science can be integrated into cross curricular themes; however, it should be planned for as a subject in its own right, with clear scientific learning objectives stated.

At Foundation Stage children are encouraged to:

- Participate in activities based on first hand experiences;
- Take part in exploration, observation, problem solving, prediction, decision making and discussion;
- Explore and question;
- Communicate ideas orally and in other ways.

Key Stages 1 and 2

Each unit of work –taught termly- is in line with the 2014 amendments to the Science curriculum and therefore provides consistency and progression across the whole school.

It is imperative that teachers take ownership of the objectives within each unit, adapting lessons to meet the needs of their class. We should ensure when planning we take into account the standard at which our pupils are working and what they are expected to achieve.

Discrete Science lessons (the scientific knowledge, skills and understanding) are to be taught in morning sessions. This will help to ensure subject knowledge is adequately covered and reinforced for our children. At Bankwood we plan and teach following the principles and ethos of an 'Enrichment Curriculum' ;therefore, science should, where possible, link to other subjects being taught and include opportunities for further child-led exploration and discovery outside of the timetabled Science lesson, for example, through practical investigations in afternoon sessions.

Planning should include: key questions and key vocabulary with an emphasis on scientific enquiry skills. Children should be given the opportunity to select their own equipment for investigative purposes; this could be used as an extension activity for more able pupils.

At Key Stage 1 pupils will be taught to:

- Ask questions and decide how they might find the answers to them;
- Use first hand experience and simple information sources to answer questions
- Think about what might happen before deciding what to do;
- Recognise when a test or comparison is unfair;
- Explore uses the senses;
- Communicate what happened in a variety of ways;
- Make simple comparisons;
- Review their work and explain to others what they did.

At Key Stage 2 pupils will be taught to:

- Establish links between causes and effects;
- Ask questions that can be investigated scientifically;
- Consider which sources of information they will use to answer questions;
- Decide which evidence should be collected and what equipment and materials should be used;
- Make a fair test or comparison by changing one factor and keeping other factors the same;
- Make systematic measurements and observations;
- Use a wide range of methods for recording;
- Decide whether conclusions agree with predictions; use their scientific knowledge and understanding to explain.

Resources

The Science Subject Leader will work with the Head teacher to ensure that there are sufficient resources for Science. It is the responsibility of every teacher to alert the Science Subject Leader to resource needs. Science Subject Leaders will ensure that the annual review of the School Improvement Plan adequately reflects the current needs of the subject and will prioritize accordingly.

Science resources are currently stored in a central area and organized by subject area e.g. life processes, materials and their properties and physical processes and are easily accessible for all staff. Each class teacher has a unit file containing paper resources and stock sheets for each science unit to be covered that year. Staff are requested to note any resources needed throughout the year and alert the Science Subject Leader.



Science Language

Scientific language should be developed through interactive teaching and displayed within the classroom when each unit is being taught. When planning each lesson key vocabulary will be identified. The scientific language is specific to year group and Scientific Enquiry (ScI) skills.

Special Educational Needs & Differentiation

There is a whole school SEN policy and science is taught according to its guidelines. Tasks are planned to meet each individual pupils' needs and teachers ensure that work is appropriately challenging to all abilities.

Equal Opportunities

To be read in conjunction with the Equal Opportunities, Inclusion and Race Equality Policies.

All pupils irrespective of ability, gender or cultural diversity are given the same opportunities in science. We organise working groups of mixed ability, mixed gender and mixed cultural backgrounds. Consideration will be given to regular monitoring of the above. It is the class teachers' responsibility to ensure equal opportunities. Consideration will be given to the role models, which the school provides for pupils and how these can be supplemented by visits and visitors from different backgrounds. Resources and displays will provide positive images, which motivate pupils and contribute to raising expectations.

The way in which pupils have equality of access to resources will be kept under review.

Health and Safety Guidance

There is a Health and Safety policy in school, in which science plays a part in the Personal and Social Health Education of pupils with reference to Drugs Awareness and Sex Education. There is a copy of 'Be Safe' in school which is published by the Association for Science Education (ASE) and sets out the guidance for safety in science. Any practical Science activities that require specific safety precautions to be adhered to must have a risk assessment completed and be agreed by the Science coordinator using LA guidelines.

Pupil Assessment

Assessment needs to be informative, diagnostic and useful. Each class teacher incorporates formative assessment in their planning of Science work. It is built-in, ongoing and an integral part of their planning. We plan for assessment in our units of work by having clear learning objectives



and targeting individuals or groups. Data is collected termly to provide us with information about the progress the children are making and any gaps in learning. The Interim Teacher Assessment Frameworks for the end of Key Stage 1 and Key Stage 2 Science are used to assess if children are working at the expected standards. However, teachers must base their teacher assessment judgement on a broad range of evidence from across the curriculum for each pupil. At the end of each unit scientific knowledge and understanding is assessed and is recorded on an assessment grid. These records (in Excel format) provide a record of achievement for each child and for each unit of work covered throughout the year. These records can be found on Teacher Share in the 'Assessment' folder. Summative assessments are: the Foundation Stage Profile, Y2 SATs teacher assessments and Y6 SATs and also assessments in Y1, Y3, Y4 and Y5. (See Assessment Schedule).

Summative Assessment

- Science is moderated half termly against the Key-skill grids taken from the National Curriculum.
- The main focus of assessment in science is Scientific Enquiry. We will ensure that we provide activities to ascertain if children are developing the scientific skills needed to design, plan, carry out and analyse results from investigations

Recording and Reporting

There are two parents' evenings per year where pupil progress is discussed. We write an Annual Report at the end of the summer term to send to parents. Strengths and areas for improvement in science are noted. The parents of Y6 pupils also receive the results of End of Key Stage 2 Teacher Assessment.

The Head teacher and staff are always available to discuss a pupil's progress at any time. At Bankwood we work in partnership with parents and share information about pupil progress with parents.

Monitoring and Evaluation

The monitoring and evaluation arrangements previously stated in this document are in line with the issues raised in our OFSTED report.

The Science Leader is responsible for monitoring Science Planning both Medium and Short Term. A portfolio of work will be set up to help the leaders keep abreast of levels of attainment and work coverage. Lesson observations will be scheduled by the leaders as appropriate to monitor various issues including planning, differentiation, assessment and resources.



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