



BLETCHINGDON PAROCHIAL C of E (V.A) PRIMARY SCHOOL

“Learn to Believe – Aspire to Achieve”

At Bletchingdon Parochial CE (VA) Primary School we believe that everyone will reach their true potential. Through supportive, yet challenging teaching, we inspire our children to learn.”

Love honesty courage respect unity

Science Policy

Policy Statement

This policy defines the school’s aims and objectives in relation to the teaching and learning of Science. Science is a systematic investigation of the physical, chemical and biological aspects of the world, which relies on first hand experiences, questioning, and research. The scientific process and pupils’ problem-solving activities will be used to expand their understanding of the concepts involved. The main aspects of science to be studied will be determined through use of the *Understanding of the World Strand Early Years Foundation Stage (EYFS) Framework 2013* and the *National Curriculum 2014 for Science Guidelines*,

Through their study of science, pupils at Bletchingdon Parochial C of E (VA) Primary School will continue to extend their understanding, participation and care for the natural world.

Aims

We aim to encourage all pupils to:

- develop **scientific knowledge and conceptual understanding** through the specific disciplines of biology, chemistry and physics.
- develop understanding of the **nature, processes and methods of science** through different types of science enquiries and investigations, that help them to answer scientific questions about the world around them.
- be equipped with the scientific knowledge required to understand the **uses and implications** of science, today and for the future.
- understand links with science across the curriculum and real life.
- extend their studies into the outdoor learning environment and the locality.
- develop their ability to reason, predict, think logically and to work systematically and accurately.
- make fair, critical responses about their own science work, that of their peers.
- work independently, or co-operatively with others.
- be confident and competent in communicating scientific ideas when making formal presentations, demonstrating to each other, and participating in debates.
- acquire and understand specific scientific vocabulary.
- present their work clearly, accurately and coherently.
- foster an enjoyment and interest in science, understanding its central contribution to all aspects of everyday life.

The above aims are consistent with our school's aims and take account of the Early Years Foundation Stage Framework, the National Curriculum 2014 Programmes of Study and End of Key Stage level descriptions.

Teaching

A range of teaching approaches are used in school, which adhere to the *Understanding of the World Strand Early Years Foundation Stage (EYFS) Framework 2013 and the National Curriculum 2014 for Science Guidelines*:

In the Foundation Stage, teaching can be either individual, small group or whole class. In addition, the children learn through directed and self-initiated activities. Stories, enquiries and investigations may also be used to develop children's understanding of the world around them.

In KS1 and KS2 teaching can be individual, small group or whole class depending on the area of study.

Foundation Stage

Teachers in the Foundation Stage follow the the *Understanding of the World Strand Early Years Foundation Stage (EYFS) Framework*

By the end of the Foundation Stage children should:

- Children talk about past and present events in their own lives and in the lives of family members.
- They know that other children don't always enjoy the same things, and are sensitive to this.
- They know about similarities and differences between themselves and others, and among families, communities and traditions.
- Children know about similarities and differences in relation to places, objects, materials and living things.
- They talk about the features of their own immediate environment and how environments might vary from one another.
- They make observations of animals and plants and explain why some things occur, and talk about changes.
- Children recognise that a range of technology is used in places such as homes and schools.
- They select and use technology for particular purposes.
- Children also make links where appropriate, to other areas of the EYFS Framework.

KS1 and KS2 Science Curriculum

The programmes of study for science are set out year-by-year for Key Stages 1 and 2. It is however, only required to teach the relevant programme of study by the end of the key stage. Within each key stage, school has the flexibility to introduce content earlier or later than set out in the programme of study, and may introduce key stage content during an earlier key stage if appropriate.

Teachers will base their planning on the programmes of study for their relevant year groups.

Scientific knowledge and conceptual understanding

The programmes of study describe a sequence of knowledge and concepts. While it is important that pupils make progress, it is also vitally important that they develop secure understanding of each key block of knowledge and concepts in order to progress to the next stage.

Pupils should be able to describe associated processes and key characteristics in common language, but they should also be familiar with, and use, technical terminology accurately and precisely. They should build up an extended specialist vocabulary. They should also apply their mathematical knowledge to their understanding of science, including collecting, presenting and analysing data.

The nature, processes and methods of science

‘Working scientifically’ specifies the understanding of the nature, processes and methods of science for each year group. It should not be taught as a separate strand.

Attainments targets

By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study.

Planning

It is the responsibility of the class teacher to plan work for their pupils in the year group(s) that they teach.

Planning is based on:

- EYFS Framework (for those pupils still working towards these goals)
- National Curriculum 2014
- Exemplified year group planning units available electronically
- A range of other resources

Long-term plans (LTPs) map the scientific topics studied in each term during the key stage. The science subject leader works this out in conjunction with teaching colleagues in each year group.

Medium term plans are prepared for the beginning of each half term, short term planning is done weekly and identifies very specifically the learning objectives, teaching assistant deployment, whole class teaching, resources needed, pupil activities, groupings and differentiation.

Science is usually taught as a discrete subject, yet cross-curricular links are made where possible. Teachers and Teaching Assistants work together to plan work for intervention groups.

Where possible, Science teaching incorporates Outdoor learning through use of the school grounds, identifying and extending links to the ‘real world’.

Assessment and Record Keeping

Effective assessment involving careful observation, analysis and review by practitioners of each child’s science knowledge, skills and understanding is used in order to track their progress and make informed decisions about planning for the next steps of learning. Effective ‘Assessment for Learning’ is in place across the school (see marking policy)

- Assessment is on a continuous basis, taking into account the children’s work throughout the year.

- Half termly science assessments are carried out; these are followed by target setting with pupils.
- Summative assessment records are passed to the Science Subject Leader and Headteacher for information and analysis at the end of the academic year.
- Work is monitored by the class teacher, Science Subject Leader and Headteacher to assist in planning for future work to meet the needs of the children
- Appropriate test materials will be used to monitor the school's progress.
- Baseline assessing upon entering Reception is implemented during the first three weeks of the autumn term.
- Class teachers mark and assess all Science work, providing effective written or verbal feedback back to pupils individually. (Marking is in line with our marking policy).

Homework

Reception pupils will occasionally be given small projects to share with their parents / carers, which will promote understanding of the world and also communication and listening skills. KS1 and KS2 pupils will be expected to complete and return one science homework set each term.

Evaluation

The Science Subject Leader will:

- review and revise the school policy and classroom practice
- advise planning
- consult with individual staff
- consult with children

Special Needs

Some pupils experience learning difficulties, which affect their progress in Science. Class teachers are responsible for trying to pinpoint any difficulties, so that through early intervention these pupils can be helped. Where pupils are shown to be experiencing difficulties and under-achieving over a period of time, class teachers monitor problems closely. For children with statements, staff need to consider provision and classroom support for Science activities.

Children with special educational needs should have full access to the Science curriculum. Within the framework of the National Curriculum, children of all ages and abilities are catered for.

Gifted and Talented

Teachers' planning is differentiated and provides challenge for more able children. Having determined the children's needs, by monitoring and assessing their work, we plan for differentiation, varying our expectations and outcomes with the abilities of the children, thus ensuring steady progress is made. Activities are structured to ensure success for all children, allowing more able children to undertake work of a more challenging nature where appropriate.

Equal Opportunities

At Bletchington CE Primary School, we are committed to equality of opportunity.

All pupils will have equal opportunity to reach their full potential across the Science Curriculum regardless of their race, gender, cultural background, ability or any physical or sensory disability.

Safety

Following COSHH guidance:

Be Safe publication & <http://www.hse.gov.uk/services/education/>

Resources

There are sufficient teaching resources for all science units in the school, most of which are kept in a central store, where there is an equipment box for each unit of work. The library contains a good supply of science topic books and computer software to support children's individual research. Children also have access to netbooks, iPads and dataloggers for use in enquiries and investigations.

Role of Subject Leader

The Science Subject Leaders are responsible for the development and monitoring of the Science curriculum to ensure a coherent Science strategy for our school. They can help teachers with their planning and are responsible for developing the school's policy.

The Subject Leaders will assist teachers by leading staff meetings, planning and leading INSET activities, providing consultancy and advice, and by supporting them in the classroom. The Subject Leaders are responsible for implementing changes required by the New National Curriculum and will attend training courses in respect of its implementation. The knowledge and skills gained on these courses will be imparted to colleagues through regular staff meetings and on INSET days. The Subject Leaders also ensure that all staff access the relevant CPD. The Head teacher / Subject Leaders will scrutinise planning, Science work and assessments. They will also gather the views of children in termly discussions.

Role of the Governing Body

To ensure the implementation of the Early Years Foundation Stage Framework and the National Curriculum and to review the policy bi-annually.

Policy Review

This policy was written by the Science Subject Leader in consultation with staff.

It was adopted by

It is due for review during the summer term of 2017.

Signed Head teacher

Signed Chair of Governors

Signed Chair of Raising Standards Committee