



Science Policy

INTRODUCTION

Science is a core subject area within the National Curriculum. This Policy outlines the purpose, aims and management of Science taught and learned in our school.

THE NATURE OF SCIENCE

At Upwood Primary School, we believe that a good Science education is integral in a pupil's ability to make sense of the world around them and to appreciate how Science is a fundamental part of everyday life. Science is about pupils developing a sense of enquiry, thus extending their knowledge and understanding of the world. We believe pupils should be given the opportunity to develop scientific concepts through as many first hand experiences as possible. Scientific activities should help foster each pupil's natural curiosity whilst enabling them to develop the skills of co-operation, independent learning, observation, problem solving and critical reflection. We will provide a stimulating learning environment in which children will learn to:

- express their own ideas
- ask questions
- seek explanations
- formulate and test hypotheses
- devise and carry out experiments and investigations
- make observations
- record and explain results

AIMS

At Upwood Primary School we aim to:

- encourage/develop interest, enjoyment and enthusiasm in all pupils
- develop an enquiring mind and scientific approach to problem solving
- ensure pupils understand the link between Science and the society/ world they live in
- relate Science to everyday life through the use of everyday materials and situations
- engender positive scientific attitudes

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- ensure pupils understand the importance of health and safety issues when completing scientific activities.
- encourage the development of appropriate scientific language.
- support and develop each pupil's English and Maths skills within a scientific concept.

CURRICULUM ORGANISATION

Class teachers will deliver the Science curriculum to their year group, with the support of any teaching assistance available at those times. Science will be delivered as part of the curriculum on a regular basis throughout the year in accordance with the time allocation for each key stage, and in general this will be done in the form of a stand-alone subject. In Foundation and the Early Years, the planning and teaching of Science will be based on the strand *Understanding the World* (one of the four specific areas of learning). In Key Stages 1 and 2 we follow the National Curriculum which was updated in 2014. Elements that require statutory force came into effect from September 2014. Links will be made with other subjects, wherever possible, and on occasions topic days may take place in classes. Science teaching will take place in individual classes and outside on the school grounds for example the field, playground and courtyard area to enhance Science lessons. Team leaders update the curriculum maps annually for their key stages.

CONTINUITY AND PROGRESSION

Continuity and progression is achieved through the use of the National Curriculum but also through careful consideration of the progression in skills across the school.

The National Curriculum ensures progression and continuity in Science teaching across the school by:

- preventing duplication in learning,
- promoting development in learning,
- maintaining motivation,
- ensuring coverage of the objectives effectively across key stages.

TIME ALLOCATION

The most recent centrally published guidance on time allocation for Science recommends (although not statutory) that at Key Stage 1 Science is taught for 1.5 hours per week. It recommends that at Key stage 2, this rises to 2 hours per week. Timetables are reviewed annually by the SLT who ensure that the above time allocations are considered, in line with school priorities.



TEACHING AND LEARNING STRATEGIES

Science is a subject based around practical investigation and should therefore employ teaching methods to maximise the potential for this type of work. It is the responsibility of individual teachers to select the approach which is most effective in achieving the learning objectives for that lesson. There needs to be a balance between knowledge teaching and investigative Science, between group and class work and also between the use of first and second hand sources. Methods of grouping could vary according to the task and be based on a variety of criteria, for example. ability, friendship etc.

RESOURCES

It is the responsibility of all staff to ensure resources are used safely within School and stored carefully in their appropriate areas. Staff need to encourage pupils to take responsibility for resources whilst they are using them. All equipment is stored in the main Science Cupboard in the Year 5/6 area. This is arranged in subject order. The school library also provides a wide range of information books relating to the National Curriculum. Big books can also be found in the Key Stage 1 corridor (near the back door), which provide excellent opportunities for teaching Science through English.

Any problems with equipment should be reported directly to the Science Co-ordinator. New resources will be purchased by the Science Co-ordinator in discussion with teachers and the head teacher who sets the budget in April each year.

CONTRIBUTION TO OTHER AREAS OF THE CURRICULUM

Spiritual, Moral, Social and Cultural

Children need to be given the opportunity to explore ethical issues in Science and learn how to treat the environment and living things with care and sensitivity. Each teacher needs to consider these issues when completing medium and short-term planning for their class.

Links to Other Subjects

Science links particularly to:

Design and Technology – e.g. forces, electricity, materials.

Maths – e.g. problem solving, graphs, measuring, patterns.

English – e.g. text types, vocabulary.

PSHE – e.g. drugs and alcohol, sex and relationship education, team work.



Geography – e.g. environmental issues, seasonal changes.

However, there are times when it supports:

PE – e.g. movement and forces.

History – e.g. development of things in everyday life.

Art – e.g. materials.

Music – e.g. sound.

Key Skills

Communication:

- Speaking and listening, e.g. group discussions, reporting back, questioning.
- Reading, e.g. following instructions, researching, extending knowledge.
- Writing, e.g. planning, labelling, instruction writing.

Application of number:

- Measuring, using graphs, charts and tables, pattern seeking.

ICT:

- Collecting, sorting and retrieving information, data logging, word-processing.

Problem solving:

- Asking “what if....., how.....?” questions.
- Taking responsibility for their own learning.
- Working collaboratively with others.

HEALTH AND SAFETY

There is a risk assessment for Science which is updated annually.

INCLUSION

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



At Upwood Primary School, we aim to promote equality of opportunity between disabled pupils and other pupils, eliminate discrimination that is unlawful under the Disability Discrimination Act and eliminate harassment of disabled people that is related to their disability. We will promote positive attitudes towards disabled people and encourage participation by disabled people in public life and take steps to meet disabled people's needs. Any children with disabilities will be supported to access the full curriculum. Please see our Accessibility Plan for full details.

COMMUNITY LINKS

Wherever possible, we aim to use any community expertise to enhance Science teaching and learning opportunities for pupils. This may be done through visitors to school, using areas within the local community, i.e. parks/ woods, or going on trips to centres which can offer special links to the curriculum, e.g. The Raptor Foundation, Ramsey Heights Countryside Classroom, The Great Fen Project. This is a two-way process and, wherever possible, we will also consider how pupils' work in school could benefit the local community.

ASSESSMENT, REPORTING AND RECORDING

Assessment has the purpose of discovering what a pupil has learnt and mastered, so as to inform decisions about next steps, and to ensure each pupil is making adequate progress according to their ability.

Assessment should:

- be informative and summative.
- follow the child to the next class or school.
- meaningfully aid the teacher with future planning.
- promote continuity and progression.
- form the basis of reporting to parents/carers.

The Science Co-ordinator, in conjunction with the head teacher, will monitor assessment procedures across the School. We share teacher assessments for Science with parents/carers at the end of Key Stages 1 and 2.

MONITORING AND EVALUATION

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It is the responsibility of all staff to regularly evaluate the teaching and learning of Science within their year group. This information should then be used to inform any further planning and address any issues that have arisen.

The head teacher and the Science Co-ordinator will be responsible for monitoring Science teaching and learning across the school. This will be done through classroom observations, viewing pupils' work, work scrutiny and through pupil voice. This will be done in accordance with the monitoring and evaluation cycle in the School Improvement Plan.

CONTINUING PROFESSIONAL DEVELOPMENT

The needs of the staff will be monitored by the head teacher through performance management meetings and also by the Science Co-ordinator to decide how training issues will be resolved. This may be done through external courses, whole staff in-house training, partnership planning and teaching or INSET courses.

POLICY REVIEW

This policy will be reviewed as part of our policy review cycle which is included in the School Improvement Plan. If changes are needed they will be made with the consensus of the teaching staff and Governing Body.