



Science Policy

January 2017

To be reviewed January 2019

Introduction

This policy outlines the teaching, management and organisation of science at Worth Primary School. The new National Curriculum 2014 states why we teach science in schools:

'A high-quality science education provides the foundations for understanding the world through the specific disciplines of biology, chemistry and physics. Science has changed our lives and is vital to the world's future prosperity, and all pupils should be taught essential aspects of the knowledge, methods, processes and uses of science. Through building up a body of key foundational knowledge and concepts, pupils should be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. They should be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes.'

Mission Statement

At Worth Primary School we believe that all pupils deserve and need a fully rounded curriculum to become confident, independent lifelong learners. Science has a crucial role in this and is considered a vital part of each pupil's experience in school. As such, all pupils are given opportunities to participate in activities across the disciplines of biology, chemistry and physics during their time in school in line with the National Curriculum 2014.

Key Aims and Objectives

Aims	Objectives
1. To use a variety of teaching strategies to give pupils an increasingly secure understanding of the concepts and knowledge of science.	<ul style="list-style-type: none">❖ To plan for whole class/small group and individual learning activities during science lessons❖ To use research, practical activities and demonstration to further scientific knowledge.
2. To ensure all pupils develop and use the skills of scientific investigation	<ul style="list-style-type: none">❖ Activities will be planned for pupils to ensure they learn and use the skills of observing, identifying, classifying, comparing, predicting, estimating, measuring, testing, experimenting, fair testing, communicating and drawing conclusions.
3. To stimulate pupils' interest and curiosity in the world around them by creating awe and wonder.	<ul style="list-style-type: none">❖ Plan for practical, hands-on science activities where possible.❖ Deliver high-quality, interesting and engaging science lessons.❖ Provide opportunities for pupils to use

	<p>their scientific knowledge to support them in asking questions, discussing ideas and theories.</p> <ul style="list-style-type: none"> ❖ Provide children with opportunities to experience the work of professional scientists through visits to organisations/museums, workshops
<p>4. To help pupils understand the language and specialist vocabulary of science and to use technical terminology accurately and precisely.</p>	<ul style="list-style-type: none"> ❖ Ensure that pupils are taught specific science vocabulary associated with each topic. ❖ Expect pupils to use taught vocabulary in their recording of their scientific learning.
<p>6. To track pupil progress in science to inform future learning opportunities.</p>	<ul style="list-style-type: none"> ❖ Use teacher assessment to track pupil progress. ❖ Use informative feedback following assessment and allow pupils time to respond to this feedback to ensure progress.
<p>7. To develop the use of information and communication technology in science studies</p>	<ul style="list-style-type: none"> ❖ To plan opportunities to use the data – logger and other technological aids.

Curriculum

The school has adopted the Kent scheme of work written by Andrew Berry as the basis of our science curriculum in school. Skills, concepts and knowledge will always relate to the scheme of work but teachers may alter the context in which these are taught to enable cross curricular links to be made. A cross curricular approach is encouraged where possible so pupils will experience science through literacy (reporting and recording), history (the work of influential scientists over time), geography (science of geology, habitats and other earth sciences), mathematics (accurate measuring, and data recording) and computing.

To ensure balanced coverage within the mixed-age classes at Worth School, a two-year rolling cycle is followed within the Kent scheme of work. The topics are planned so that they build upon prior learning. There are opportunities for children of all abilities to develop their skills and understanding in each topic and progression is built into the scheme so that children are continually challenged as they move up through the school.

Assessment

Formative: Teachers will continually assess pupil's progress and understanding during and after lessons, this will be through observation, discussion with pupils and marking of work. Pupils will have opportunities to respond to marking in their books.

Summative: Teachers may devise an end of unit quiz/test to ascertain pupils understanding. At the end of each unit the teacher will highlight the 'Content Assessment Statements' green to show that the individual has met expected standards. Additional notes may be made by the teacher on this sheet. In addition, teachers will consider each pupil's investigative skills and recorded on the investigative skills year group sheet.

There are six assessment points during the school year during which a pupil's attainment in science will be recorded on Worth's 'i-track' assessment system (see appendix).

Resources

All the main practical science resources are currently based in the mobile. These resources should be kept neat and tidy. Any missing or damaged resources should be reported to the subject leader. The Kent Scheme provides resource lists for each unit of study.

Health and Safety

Pupils will be taught to use scientific equipment safely when using it during practical activities. Class Teachers, Teaching Assistants should report any damage to the subject leader and defective equipment should be taken out of action. The school has adopted the ASE book 'Be Safe' as its model risk assessment and therefore this should be consulted when necessary. If an activity is not covered by 'Be Safe' then we will contact CLEAPSS (School Science Service Helpline 01895251496) for further advice.

Equal opportunities

All pupils will have an equality of access to a broad and balanced science curriculum irrespective of gender, ethnicity or special educational needs.

Inclusion

All pupils will have access to the full National Curriculum for science. At Worth teachers ensure that they adopt an inclusive approach to their science planning and teaching; ensuring that pupils of all abilities and backgrounds have an equal opportunity to make good progress and enjoy science. Pupils with specific learning difficulties and disabled pupils will be provided with modified learning programmes, resources and equipment appropriate to their needs. For most pupils curriculum access will be enabled through the use of modified teaching methods and the deployment of learning support assistants.

Written By: Laura Smith January 2017

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Notes for use of 'i-track' assessment system for science

At Worth, pupils in Yrs 1-6 are taught in mixed age-group classes. We have adopted the Kent Scheme of Work as the basis of our science curriculum in school. For the teaching of science, a 2-year rolling programme of study is followed to avoid unnecessary repetition and to ensure progression. Some areas of science are covered once over 2 years (for example Earth and Space) and others (such as Animals, Including Humans) are visited each year, means we have to consider progression over KS1, lower KS2 and upper KS2 for some topics and by year group for other topics.

Suggested solution

For the pupils in the lower of the 2 age groups within a class, who are studying a topic which will not be covered again the following year, you will need to record them as having achieved at the older group level, for example, a Year 5 pupil who has met all the statements for Earth and Space will be recorded as 'Year 6 expected'. However, in a topic such as 'Animals, Including Humans' they could be recorded on i-track as 'Year 5 expected' leaving room for further progression and consolidation the following year.

Laura Smith

December 2016