WORTHINGTON PRIMARY SCHOOL

Science Policy

REVISION HISTORY

Document version	Date of release	Changes made
Version 2	January 2014	Complete rewrite for 2014 Curriculum
V2.1	January 2017	Reviewed – no changes made
V2.2	Sept 2023	Reviewed all sections – added health and safety and overview of units.

Contents

Introduction

Science teaches an understanding of natural phenomena. It aims to stimulate a child's curiosity in finding out why things happen in the way they do. It teaches methods of enquiry and investigation to stimulate creative thought. Science changes as humans understanding and experience changes. It is an on-going process as our ideas about the world around us are constantly developed and revised. Children learn to ask scientific questions and begin to appreciate the way science will affect their future on a personal, national, and global level.

Aims and Objectives

- To build on children's curiosity to develop an interest and enjoyment of science
- Experience purposeful and imaginative science lessons which cover major scientific concepts
- Have sufficient scientific knowledge to understand both the uses and implications of science, today and in the future.
- Have use of accurate recordings, the correct techniques and appropriate scientific language to analyse their results and find answers to given scientific questions.
- Have an awareness of the links between science and other school subjects, as well as their lives more generally.

Teaching and Learning

We use a variety of teaching and learning styles within science lessons. Our principal aim is to develop children's knowledge, skills, and understanding, as well as a sense of enjoyment in science. Sometimes we do this through whole-class and small group teaching, while at other times we engage the children in an enquiry-based research activity. We encourage the children to ask, as well as answer, scientific questions. We provide the opportunity to use a variety of data, such as statistics, graphs, pictures, and photographs.

ICT is used in science lessons where it enhances their learning. They take part in role-play and discussions and they present reports to the rest of the

class. They engage in a wide variety of problem-solving activities. Wherever possible, we involve the pupils in practical activities as these increase enthusiasm and motivation and provide first-hand experience. Opportunities for developing the range of intelligences are presented to the children and staff teach to visual, auditory and kinesthetic learning styles.

Practical activities provide the children with a range of contexts allowing safe exploration of the world without the need to master facts and theories. By taking part in practical activities children with special educational needs are given the opportunity to develop fine motor skills and co-ordination. Knowledge and skills can be developed in small steps through practical work. Sequencing of written work becomes easier after practical experiences.

Curriculum Planning

Our school uses the 2014 National Curriculum as a basis for its science curriculum planning. We follow the science programme Developing Experts which has been created using experts from universities and industries who each share their expertise in each particular topic.

We carry out our planning in science in three phases; long-term, medium-term and short-term. The long-term plan maps out our thematic topics and how science fits in to this across the academic year. We combine scientific study with other subject areas, with science sometimes taking the lead. Due to our mixed age classes our topics run on a two-year rotation to ensure complete National Curriculum coverage without repeating topics.

Curriculum mapping is provided for each class so prior learning can be reflected and built on as progression for the children, especially when revisiting subjects over a longer period due to the two-year rolling plan. Each teacher is aware of what the other year groups have taught beforehand.

Resources

We have sufficient resources for all science teaching units in the school. We keep most of these in a central store located in the hall. The library contains a good supply of science topic books to support children's individual research. Staff inform the coordinator of any requirements for new apparatus. Any resources required for a practical lesson are outlined in the planning and can be ordered in advance.

Assessment for learning

At Worthington Primary School Assessment for Learning is an integral part of teaching and learning in each class. Assessment that is for learning, as opposed to of learning, looks forward as well as back. Our teachers use assessment for learning not just to confirm and verify what their children have learnt, but also to help their pupils and themselves understand what the next steps in learning should be and how they might be attempted. This kind of assessment has a 'formative' purpose: it helps to shape what lies ahead rather than simply to gauge and record past achievements. The strategies we consider important for Assessment for Learning are:

- Sharing learning objectives.
- Formative feedback, either written or verbal.
- Peer and self-assessment.
- Formative use of summative tests at the end of a topic.

The Foundation Stage

In the Foundation Stage science is studied as part of Knowledge and Understanding of the World. The aim is to help the children make sense of the world around them. They will learn to develop their skills of observation, prediction, critical thinking and discussion. The children conduct experiments, are encouraged to explore different methods of discovery and they start to use drawings and charts to present their findings. It is a fun practical curriculum; the children work with a range of materials both inside and outside the classroom

KS1 and KS2

Science is taught weekly as a discrete lesson and as part of cross-curricular themes when appropriate. 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

Overview of Units

Cycle A

KS1	Living Things and Their Habitat (Y2)	Seasonal Changes (Y1)	Animals including Humans - Life Cycles (Y2)	Animals, including Humans – Growth (Y2)	Plants (Y2)	Uses of Everyday Materials (Y2)
LKS2	Rocks (Y3)	Electricity (Y4)	Animals including Humans (Y3)	Forces and Magnets (Y3)	Plants (Y3)	Scientific Enquiry
UKS2	Earth and Space (Y5)	Light (Y6)	Animals including Humans (Y6)	Living Things and their Habitats (Y6)	Properties of Materials (Y5)	Changes of Materials (Y5)

Cycle B

KS1	Animals including Humans – All About Me! (Y1)	Exploring Everyday Materials 1(Y1)	Living Things and Their Habitats – Habitats Around the World (Y2)	Exploring Everyday Materials 2 (Y1)	Plants (Y1)	Animals including Humans – All About Animals (Y1)
LKS2	Animals including Humans (Y4)	Sound (Y4)	Living Things and their Habitat – Conservation (Y4)	States of Matter (Y4)	Light (Y3)	Living Things and their Habitats (Y4)
UKS2	Animals including Humans (Y5)	Electricity (Y6)	Living Things and their Habitats (Y5)	Forces (Y5)	Evolution and Inheritance (Y6)	Looking After our Environment (Y6)

Equal Opportunities

All children have equal access and inclusive rights to the curriculum regardless of their age, gender, race, religion, belief, disability or ability. We plan work that is differentiated for the performance of all groups and individuals. Worthington Primary School is committed to creating a positive climate that will enable everyone to work free from racial intimidation and harassment and to achieve their full potential. Policies are available on each of these that expand on this further.

Roles and responsibilities

Head teacher and Governing Body

- support the use of appropriate teaching strategies by allocating resources effectively
- ensure that the school buildings and premises are best used to support successful teaching and learning
- monitor teaching strategies in the light of health and safety regulations
- monitor how effective teaching and learning strategies are in terms of raising pupil attainment
- ensure that staff development and performance management policies promote good quality teaching.

Subject leader

- To have an impact on raising standards of attainment for Science across the whole school.
- Ensure the effective implementation of the National Curriculum for Science so that it meets the needs of our children.
- To monitor the whole school and individual needs to be able to assess individual professional development opportunities and needs.
- To maintain an overview of current trends and developments within the subject.

- To ensure, together with the Head Teacher, a rigorous and effective programme of monitoring.
- To maintain the availability of high-quality resources.
- To effectively manage any funding designated to Science.

Parents and Carers

We believe that parents have a fundamental role to play in helping children to learn. We do all we can to inform parents about what and how their children are learning by:

- holding parents' evenings to discuss children's progress
- sending an annual report to parents in which we explain the progress made by each child and indicate how the child can develop their learning
- explaining to parents how they can support their children with homework

Health and Safety

When working with science equipment and materials during practical activities teachers should ensure that children understand the hazards and learn how to control them, ensuring the safety of themselves and others. Risk assessments are available and accessible to all staff electronically and should be reviewed and followed for each topic – especially if a practical lesson is taking place.