Wootton-by-Woodstock CE Primary School

Policy Agreed: Feb 2019
Person Responsible: Sylwia Arneil
To be reviewed: Feb 2022

Policy for Science 2019

DEFINITION

- Science is a core subject of the National Curriculum 2014.
- Science is primarily a practical subject although secondary sources of information are encouraged.
- We use our knowledge and understanding of science to observe, investigate, reason, communicate, and make sense of the evolving world around us.
- Science as outlined in the 2014 Curriculum is a means to understanding the world through the specific disciplines of biology, chemistry and physics.

AIMS

To allow children to develop a sense of excitement and curiosity about the work around them and enable them to work as much as possible from first- hand experience both in and out of the classroom.
To encourage children to:

- Develop an enquiring mind through a range of stimulating and enjoyable experiences, particularly, practical experiences.
- Develop a systematic and logical way of working, including recording and communicating their findings.
- Apply skills and knowledge to investigations.
- Develop an understanding of scientific concepts
- Be secure in their understanding of each block of knowledge/concepts in order for progress to be made and secure foundations built upon.
- Work carefully, safely and accurately.
- To apply their scientific skills and knowledge in everyday real-life situations.

GUIDELINES

CURRICULUM

In science activities we encourage the development of the following skills:

- Observing, raising questions, predicting, hypothesising, planning, fair testing and controlling variables, measuring, collecting data, interpreting data, explaining evidence, spoken vocabulary and communicating findings.

We foster attitudes of:

- Patience, perseverance, curiosity, co-operation, open-mindedness, responsibility, independence and a willingness to tolerate uncertainty.

Scientific activities are designed to develop the child's capability to:

- Ask questions, use appropriate spoken language, discuss coherently, predict and argue rationally.
- Sort, compare, order, identify and classify.
- Interpret and consider evidence and link logically and critically.

- Make use of recording and communicating skills using other areas of the curriculum.
- Plan, organise and research.
- Have an interest in, and a respect for, living things – plant or animal.

Key principles are shared with the children through classroom posters (Principles of Science Teaching and Learning).

TEACHING AND LEARNING

PROGRESSION AND DIFFERENTIATION

We recognise that curriculum planning must allow children to gain secure understanding of each block of knowledge/concepts before they move onto the next. This allows children to gain a secure and progressively deeper understanding and competency, as they move through the school. Differentiation will be monitored through our planning and activities.

Foundation Stage children cover the science areas through the Early Years Foundation Stage curriculum under the heading of Knowledge and Understanding of the world. Teachers carry out ongoing assessments and observations and progress is tracked in children's individual profiles and on the Schools data programme. End of year attainment is recorded in terms of emerging, expected and exceeding in terms of developmental age and these results are submitted to the LA.

At KS1 pupils observe, explore and ask questions about living things, materials and physical processes. They begin to collect evidence to help them to answer questions and to link this to simple scientific ideas. They begin to evaluate evidence and consider whether tests or comparisons are fair. They use reference materials to find out more about scientific ideas. They share ideas and communicate them using scientific language, drawings, charts and tables with the help of ICT if it is appropriate.

At KS2 pupils learn about a wider range of living things, materials and physical processes.
They build on secure foundations made in KS1 and make links between ideas and explain things using simple models and theories. They apply their knowledge and understanding of scientific ideas to familiar processes, everyday things and their personal health. They think about the effect of technological developments on the environment and in other contexts. They carry out more systematic investigations, working individually and with others. They use a range of reference sources in their work. They talk about their work and its significance, using a wide range of scientific language, diagrams, charts, graphs and ICT to communicate their ideas.

ASSESSMENT – RECORD KEEPING AND REPORTING

- Children's achievements should be assessed through the use of self and peer assessment and by teachers and recorded efficiently. From year 1onwards children's progress is recorded and assessed on Target Tracker.
- Teachers use their own practical assessment tasks at the end of each topic.

RESOURCES

- A list of science resources is kept on the shelf in the staff room and in the boxes with the science equipment.
- Science resources are kept up to date and in good condition. The resources are located on the cloak room storage shelf and in Saplings' classroom.
- We make use of local human resources (e.g. visiting speakers and adults with particular skills).

- We make use of physical and environmental resources (e.g. museum visits, field trips) and the local environment.
- Science can be taught through Computing.

ICT

Technology is widely used across the school for delivery of science lessons. IPads are used regularly by all year groups to research information, record work, and investigations and to watch videos. KS2 use Google Science Journal to take reading and to record data.
Children and staff are encouraged to produce work for inclusion on the school website.

MONITORING AND EVALUATION

The school monitors and evaluates on a continuous basis through:

- Lesson observations and the quality of teaching
- Work sampling
- The quality and effectiveness of long, medium and short term planning
- The quality and consistency of assessment and recording
- The quality of resources to support learning

EQUALITY AND ACCESS

We reflect and promote a child's key rights irrespective of religion, belief, race, nationality, ethnicity, gender, sexual orientation, age, ability or disability, opinion or family background. All children have equal access to opportunities in scientific study; they have the right to experience, enjoy and express themselves in all aspects of scientific enquiry. Appropriate support will be given and when necessary outside agencies will be consulted for further support. Please see the Equality and Access, SEND and Inclusion policies.

HEALTH AND SAFETY

- Safe and sensible storage and economical use of resources is encouraged.
- Children are encouraged to select appropriate equipment and use it in a disciplined and safe manner.
- In addition see Health and Safety policy

PROFESSIONAL DEVELOPMENT

- Adults are given opportunity to attend INSET and take part in other relevant projects, which allow professional development to take place.
- Staff are encouraged to extend professional development and improve their professional practice.

SMSC

The teaching of Science will also enable the children to gain a deeper understanding of the spiritual, moral, social and cultural similarities and differences within the changing world in which we live in today. It will provide opportunities to develop the whole child:
Spiritual: Children understand how science impact on people's beliefs. It will create excitement, promote curiosity and allow children to experience the beauty of the world we live in, sparking owe and wonder. It will allow children to question their inner thoughts and life in this world.
Moral: Children reflect on how scientific developments are important to us and how life may be different if we have no, or limited, access to scientific developments. Children learn to acknowledge how we can

change our environment to make it a better place in which to live. Evaluating opinions and values of others which have been expressed through investigations and raised scientific questions. Expressing personal values and ideas inspired by, for instance, moral topics such as How did the world begin? Big bang theory.
Social: Developing social skills in collaborative science projects in which children need to share and support, negotiate, plan, execute and evaluate tasks.
Cultural: To develop multicultural awareness, sensitivity and respect for those from cultures different to their own. Using science as a means of exploring and understanding elements of other cultures, ethnicities, nationalities and religions. To investigate the links between people and their environment i.e. how people use the materials around them. How people use scientific developments to improve their lives.-link to global use.