



Signed.....

Date.....November 2018

Review.....November 2020

Woodford Valley Academy Science Policy

This school is committed to creating the ethos in which children can grow towards Christian life, love and learning.

This policy should be read in conjunction with Whole School Learning, Inclusion, Monitoring and Evaluation and all other policies.

Rationale for Teaching Science

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 in our school is about developing children's ideas and ways of working to make sense of the world they live in as well as developing their skills. Our Christian ethos also encourages us to marvel at the world and its natural phenomena.

We provide a broad and balanced science curriculum for all the children in our school. Our aims, when teaching science, include the following:

- Preparing our children for life in an increasingly scientific and technological world
- To make them aware of our environment and how to care for it
- To help them grow in their understanding of scientific ideas
- To make them aware of the changes that take place to our bodies, making an explicit link between PSHE and Life processes

Attitudes

- Encourage positive attitudes towards science and make science accessible to all pupils
- Build on children's natural curiosity
- Encourage open mindedness, perseverance and responsibility
- Build upon self-confidence when working independently and with others

Skills

- Help acquire practical scientific skills
- Develop investigative skills, including observation, prediction, experimenting, interpreting and evaluating
- Develop the use of scientific language and recording work in an effective way
- To develop use of ICT within science in terms of investigating and recording

Teaching and Learning

We use a variety of teaching and learning styles in our science lessons. Our principal aim is to develop children's knowledge, skills and understanding of science. We achieve this through whole class teaching and by engaging the children in investigative group activities. Children are encouraged to ask, as well as answer, scientific questions.

They have the opportunity to use a variety of data, including graphs, pictures and statistics. ICT is an important part of our science teaching. We use it as a resource to enhance children's learning. These include: data logging, digital cameras, microscopes and other scientific software. There are also a wide range of online resources, for example, online investigations, which are often a good stimulus for discussion and observation. All of these are used in Foundation Stage, Key stage 1 and Key stage 2 as appropriate to topic, age and stage.

Every year we plan a science week, which encourages a whole school approach to a specified theme or concept. This theme may be chosen based on targets, our SIP or may be linked to other subjects, for example, our Stonehenge week linked materials with history.

We recognise that children have differing abilities in science and so we ensure that we promote suitable learning opportunities for all children. This involves using appropriate resources that challenge and support their learning.

Planning

As a school, we base our planning around the New Curriculum. This is then adapted by the individual class teacher to meet the needs of their class.

The science scheme is on a yearly cycle, with different topics being covered every two terms. Medium term plans give details of the topics being covered, ensuring that scientific skills as well as knowledge are practised and explored.

Class teachers plan individual lessons, which highlight objectives to be covered which should link to one of the skills being practised, for example, collaborative learning.

When planning, teachers ensure that children are building on prior learning so that they have the full potential to develop their skills and understanding. Teachers also evaluate their teaching to enable future planning.

Curriculum Links

Science has very good links with other areas of the curriculum. In literacy, writing skills are developed through the writing of explanations, instructions and recounts. Speaking and listening skills are developed through discussions and Philosophy for Children is used to explore different concepts, where children can build on and challenge ideas.

The children are encouraged to discuss issues in science and ask questions. In numeracy, data handling links well with science, where children present their findings in graphs and tables, helping them to identify trends and patterns in observations. They develop their skills of estimating and predicting through investigations.

PSHEE: Science has strong links with PSHEE. It lends itself to promoting matters of citizenship, for example, studying the environment and how we can help it. Children have the opportunity to think about keeping healthy, achieved through Life Processes and Humans topic. A link is also made in sex education in KS2, where the children explore in more depth the human life cycle, reproductive system and natural changes our bodies go through as we grow and mature.

Foundation Stage: Science is taught in Foundation Stage, making links to other curricular areas where appropriate. The scientific aspects of the curriculum are set out as the objectives in the Early Learning Goals. Science plays a big role in the knowledge and understanding of the world. The children are encouraged to explore and investigate a range of practical activities through adult-led and child-initiated opportunities. These activities promote discussion amongst the children and help develop their questioning and exploratory thinking.

Assessment and Recording

At the beginning of a topic, we carry out an elicitation session, where we allow the children to demonstrate their present knowledge of a topic, often asking them what they would like to find out. Teachers can then build their planning around this so that the children are being extended in their thinking.

We assess children's work in science through teacher observation in lessons and with end of unit tests or practical work to demonstrate their understanding. The teacher records individual pupil's progress on the school tracker. This allows the school to review progress in Science and allows the teacher to identify areas for future learning.

Resources

As well as the school's centralised resources, we compliment materials through our membership of the Wiltshire Resources and Library Service. We have an annual Science Week, where we focus on one topic in science and try and bring in activities from outside scientific organisations. The science co-ordinator also tries to plan interesting activities for the whole school to take part in throughout the year, to enhance a topic being taught in that year. We invite visitors in to help us offer exciting and meaningful opportunities to support and extend scientific learning. Year 6 has also made a link with a local secondary school, where we take part in 3 or 4 science sessions across a year. We have amazing school grounds which we use to enhance learning in science, encouraging more outdoor learning.

Monitoring and Review

It is the responsibility of the science subject leader to monitor the standards of children's work and the quality of teaching in science. The co-ordinator is responsible for supporting colleagues in the teaching of science, for being informed about current developments and for the development of science within the school.

