

## **South Wingfield Primary Science Policy**

This policy outlines the teaching and management of the Science taught and learnt at South Wingfield Primary. Scientific enquiry and investigation is the core of all Science lessons. This policy has been drawn up to reflect our whole school approach to Science and has been discussed with staff and has the agreement of the governing body. The implementation of this policy is the responsibility of teaching staff.

### **Intent**

Science at South Wingfield Primary encourages curiosity, develops inquisitive minds and fosters a fascination with how the world works around them. We aim for children to acquire specific skills and knowledge to help them think scientifically, to gain an understanding of the scientific processes and also an understanding of the uses and implications of Science, today and for the future. At South Wingfield Primary School scientific enquiry skills are embedded in each topic that the children study and the key concepts within these topics are revisited, developed and embedded throughout their time at school. Topics such as Plants, are taught from EYFS and studied again in further detail throughout Key Stage 1 and Key Stage 2. The development and revisiting of key concepts allows children to build upon prior knowledge and increase their enthusiasm for the topics whilst embedding this procedural knowledge into the long-term memory. Children at South Wingfield will learn and enjoy science through practical and investigative work. All children are encouraged to develop and use a range of skills including observations, planning and investigations, as well as being encouraged to question the world around them and become independent learners in exploring possible answers for their scientific based questions. Children are taught how to use age-appropriate equipment and resources safely and accurately. Children with Special Educational Needs will be supported to access the science curriculum in the classroom by teacher support and variation of task and questioning to make age related objectives accessible for all pupils. At South Wingfield, we utilise the natural environment and use opportunities to explore key scientific concepts both inside and outside. We aim to give children wider opportunities linked to the Science curriculum such as school trips linked to topics, Science Ambassadors and Science Day experiences. We aim to provide an excellent foundation for further learning in KS3.

### **Coverage**

The National Curriculum statutory requirements must be taught and assessed in each year as a basic minimum. We have mapped out all of the national curriculum coverage into yearly overviews to ensure that we have an ambitious curriculum that covers all national expectations. Teachers should reflect on Key concepts and the progression document to carefully plan an engaging and progressive Science topic that addresses misconceptions and challenges all learners. Science must be taught discretely once per week by the class teacher.

### **Teaching and Learning**

We use a broad range of teaching and learning styles in our science lessons, and above all, we aim to use a hands-on and practical approach, embedding the 'working scientifically' strand of Science. We strive to provide children with practical experiences whenever possible, encouraging them to ask their own questions, and to find answers by: observing over time; pattern seeking; identifying, classifying and grouping; comparative and fair testing (controlled investigations); and researching using secondary sources. They are also both taught to and

given opportunities to collect, analyse and present their own data. Each new topic begins with reflecting on what the children already know and encouraging them to make links to previous learning. Time should be taken to identify and teach vocabulary for each topic. KS1 verbally revisit key vocabulary throughout their Science lessons and KS2 also do this as well as creating a working 'Key Vocabulary' glossary. Children and parents are also provided with knowledge organisers about their topic. The children should be immersed in high quality spoken language, and discussion regularly used to probe and remedy misconceptions. Science should feature in each half term on the long term curriculum planning document for each year group. Science planning should be completed for each topic on the planning format and uploaded onto the shared area for all members of staff to access. The science co-ordinator will have a long term overview of science across school and will also periodically inspect individual year group's plans.

### **Assessment**

Children demonstrate their ability in science in a range of different ways and teachers' assessments take account of this. Assessments made by teachers include observing the children at work, question and answer sessions, and assessing their recorded work. At the end of each topic children present their learning in a 'double page spread'. All assessment is used to inform future planning and groupings. Work is marked according to the school marking policy, with teachers highlighting WALT's/SCOT's with the learning objective and success criteria, and improvements being given. Time and support is then given for children to work on these improvement points before learning moves on in the next lesson. Children are also encouraged to make judgements about their own work and mark their confidence using a colour code. Assessment data is collated at the end of every term and monitored over the year.

### **Inclusion and Equal Opportunities**

We teach science to all children, whatever their ability, as part of our commitment to teach an ambitious, broad and balanced curriculum to all. The science curriculum aims to provide equal access for all pupils irrespective of race, gender or disability. Teachers provide learning opportunities that match the needs of all of the children in the class. This can include: setting tasks which are open-ended and so can have a variety of responses; setting tasks and providing resources of different complexities; sometimes grouping children by ability and setting different tasks to each group; sometimes encouraging mixed age partnerships, and the use of teaching assistants to support children's participation. Science lessons take into account the targets set for children in their Individual Education Plans (IEPs).

### **The contribution of Science to teaching in other curriculum areas**

We aim to link Science to other areas of the curriculum wherever possible throughout the year. At South Wingfield we celebrate British Science Week within school and teachers encouraged to use a range of curriculum areas to teach this.

#### **English**

Science contributes significantly to the teaching of English in our school by actively promoting the skills of reading, writing, speaking and listening. The children develop oral skills in science lessons through discussions (for example of the environment) and through recounting their observations of scientific experiments. They develop

their writing skills through writing predictions, recording information and writing up their experiments.

### **Mathematics**

Every science topic should include element of mathematics. This can be shown through their working scientifically skills and in science books. Throughout a child's time at South Wingfield, during their science lessons they will be taking measurements, recording data in tables and graphs, in their analysis of data and their understanding of number when concluding.

### **Information and communication technology (ICT)**

Children use ICT in science lessons where appropriate. They use it to support their work in science by learning how to find, select, and analyse information on the Internet. Children use ICT to record, present and interpret data and to review, modify and evaluate their work and improve its presentation.

### **Personal, social and health education (PSHE)**

Science makes a significant contribution to the teaching of personal, social and health education. Firstly, the subject matter lends itself to raising matters of citizenship and social welfare. For example, children study the way people recycle material and how environments are changed for better or worse. Also, children benefit from the nature of the subject in that it gives them opportunities to take part in debates and discussions. Science promotes the concept of positive citizenship. Science also promotes team work and team building skills between peers.

### **Health and Safety**

The general teaching requirement for health and safety applies to this subject. Risk assessments are undertaken for fieldwork activities or off-site visits and these comply with our Health and Safety Policy.

### **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 Science subject leader is also responsible for supporting colleagues in the teaching of Science, for being informed about current developments in the subject and for providing a strategic lead and direction for the subject in the school. The Science subject leader gives the Head Teacher an annual summary report in which s/he evaluates strengths and weaknesses in the subject and indicates areas for further improvement. The science subject leader has specially-allocated time for fulfilling the vital task of reviewing samples of children's work and visiting classes to observe teaching in the subject, all records of this are found in the science co-ordinators files. Feedback will be given from the Science Subject leader both to individuals and feedback in staff meetings, teachers can also contribute towards the development of the Science curriculum through feeding back during staff meetings.