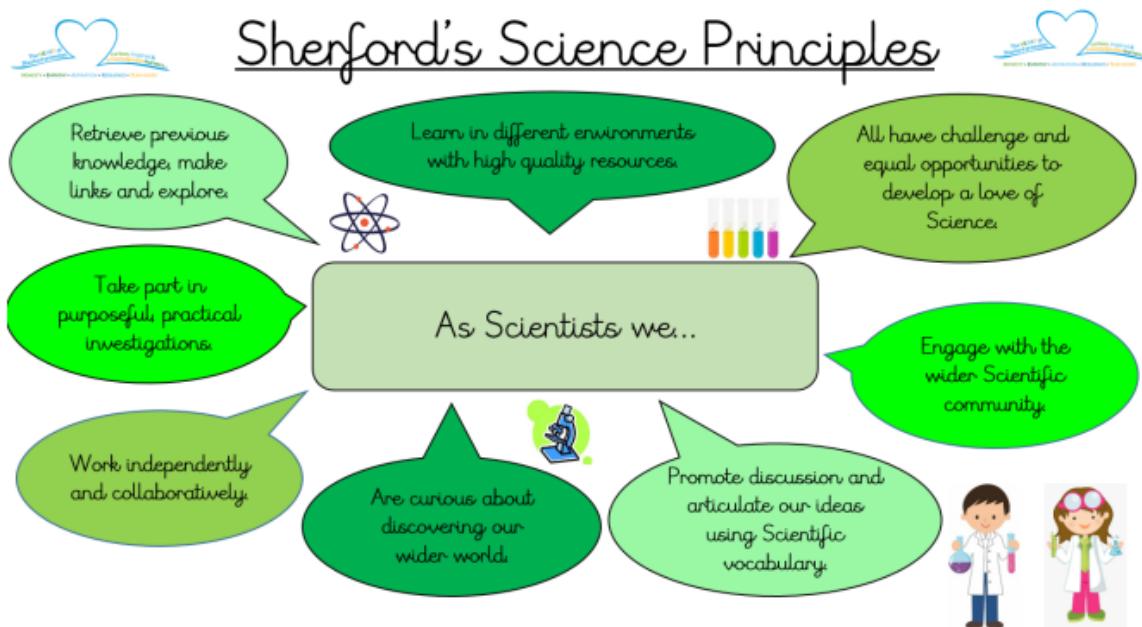


## Science at Sherford Vale School

### Our Intent



All pupils at Sherford Vale School are entitled to be taught the key knowledge and skills in the scientific disciplines to develop understanding of the world around them at an age-appropriate level and in line with the National Curriculum.

We aim to harness children's natural excitement and curiosity and inspire them to pursue scientific enquiry. Throughout the primary years, children should learn to explain and analyse phenomena, make predictions and solve problems.

Teachers should aim to nurture a love for the natural world, excitement for future possibilities in science and provide many opportunities for pupils to respond creatively in their learning.

### Implementation

#### **The Curriculum**

The National Curriculum statutory requirements must be taught and assessed in each phase as a basic minimum. Teachers should be familiar with previous and subsequent year groups' content in order to link learning and build on previous knowledge. They should also be aware of where a unit of work fits in with the bigger picture of the science curriculum across the primary school – this is essential

in ensuring key knowledge is taught and assessed to maintain progression through the curriculum. Assessment for learning is used continually to adapt teaching to meet the needs of the pupils. Teachers are encouraged to follow children's interests and lines of inquiry.

### **Timetabling**

Science must be taught discretely by the class teacher (2 hours per week in KS2 and 1.5 hours per week in KS1). Curriculum content should not be blocked into intensive 'science days' or 'science weeks'.

### **Planning and resourcing**

Teachers planning science must consult the progression document which is written in line with the National Curriculum learning objectives. Planning is then adapted and used to meet the needs of the pupils. A retention 'quiz' is also used to start each lesson to aid retention and inform future planning. The subject leader can be consulted at any time to assist with planning, resourcing, or support with subject knowledge.

### **Working Scientifically (Disciplinary knowledge and skills)**

Each topic covered must include discreet working scientifically lessons. Teachers can refer to our progression document to ensure specific year group coverage and a continuing progression throughout the school. This will also ensure a coverage of enquiry types and skills, ensuring that knowledge and skills are progressive. Scientific enquiry should be question-led and (over the academic year) must include: observing over time; pattern seeking; identifying, classifying and grouping; comparative and fair testing (controlled investigations); and researching using secondary sources. In order to secure conceptual understanding, key knowledge and skills must be taught prior to engaging in enquiry.

### **Language for learning**

Time should be taken to identify and teach the specialist vocabulary associated with each unit. Vocabulary is progressive and is a key part of our science curriculum. This is located on our school wide progression document and is planned in line with the National Curriculum. Vocabulary forms part of our retention quizzes at the start

of each lesson. Children should be given opportunities to pronounce vocabulary correctly to use it in context and to revisit the words and meanings regularly throughout the topic.

### **Science in the EYFS**

Science is explored through the children's understanding of the world and elements of technology. We provide opportunities for children to question, wonder, explore, discover, experiment and observe through direct experiences. The children are introduced to scientific vocabulary to help them further their understanding and are asked open-ended questions, so that they can make predictions and have opportunities to question. Our Early Years provision ensures that children have access to a range of materials that work in different ways for various purposes. Children can use resources and the environment around them to notice similarities and differences, changes over time and discuss their point of view with their peers.

### **Impact**

Assessment for learning is of key importance to high quality science teaching. Teachers should plan regular opportunities for pupils to check how well they are learning what they have been taught (for example through no/low-stakes quizzing, vocabulary checks, multiple choice hinge questions). Teachers should create an assessment for each unit to look for progression through a unit. The National Curriculum calls for opportunities for pupils to: Communicate ideas to a range of audiences in a variety of ways. Each topic taught must lead towards an outcome in which pupils are asked to demonstrate their understanding and retention. This will vary in each unit and could be a written task, an oracy outcome or a quiz/written assessment. The variety in pupils' responses, the correct use of scientific language, explanation of concepts and application of knowledge will assist teachers in assessing the depth at which each pupil has learned the material they have been taught.

The impact for pupils will be that they:

- Become resilient, independent and curious scientists who ask questions which are increasingly based on scientific understandings and finding things out for themselves.

- Science will be a high-profile subject throughout the school.
- Parents and the wider community will support science learning through trips and visits on regular basis where appropriate.
- Children will have an awareness of the full range of scientific careers and pathways available to them and will be keen to pursue STEM subjects at secondary school.
- Children will leave for secondary school equipped with the science knowledge and skills needed to succeed in their further education