



# Tenbury CE Primary Academy

## Science Policy

**'Therefore encourage one another and build each other up.'**  
Thessalonians 5:11

## **The Importance of Science**

Science provides the foundation for understanding the world around us. It can not only teach pupils about the world they live in, but also how to study it and make sense of various phenomena. As such, it is a fundamental aspect of all children's learning.

Through adherence to this policy, Tenbury CE Primary Academy will not only ensure statutory compliance with the national curriculum, but also that all pupils have a solid grounding in science and a positive attitude towards scientific knowledge and experimental processes.

### **Aims:**

Our Science policy follows the National Curriculum 2014 for Science Guidelines and aims to ensure that all pupils:

- Develop interest in, and enjoyment of science. By building on children's curiosity, the science curriculum will help to instil a positive attitude towards science in pupils.
- are taught major scientific concepts.
- experience science lessons that are purposeful, accurate and imaginative.
- have sufficient scientific knowledge to understand both the uses and implications of science, today and in the future. This will also give pupils an appreciation of the changing world around them.
- will ask questions, investigate these using correct techniques, accurately record their findings using appropriate scientific language and analyse their results.
- develop the skills of prediction, hypothesising, experimentation, investigation, observation, measurement, interpretation and communication.

# 1. Roles and responsibilities

1.1. The subject leader, Mrs K Hickman, is responsible for:

- Preparing policy documents and schemes of work for the subject.
- Reviewing changes to the national curriculum and advising on their implementation.
- Monitoring the learning and teaching of science, providing support for staff where necessary.
- Encouraging staff to provide effective learning opportunities for pupils.
- Helping to develop colleagues' expertise in the subject.
- Organising the deployment of resources and carrying out an annual audit of all science resources.
- Liaising with teachers across all phases.
- Communicating developments in the subject to all teaching staff.
- Leading staff meetings and providing staff members with the appropriate training.
- Organising, providing and monitoring CPD opportunities in the subject.
- Ensuring staff follow all criteria set out in the Science 'Non-Negotiables' document.
- Ensuring common standards are met for recording and assessment.
- Advising on the contribution of science to other curriculum areas, including cross-curricular and extra-curricular activities.
- Collating assessment data and setting new priorities for development of science in subsequent years.

1.2. The classroom teacher is responsible for:

- Acting in accordance with Tenbury CE Primary Academy's Primary School Science Policy, ensuring that lessons are taught in line with the school's Health and Safety Policy at all times.
- Liaising with the science subject leader about key topics, resources and supporting individual pupils.
- Ensuring that all of the relevant statutory content is covered within the school year.
- Monitoring the progress of pupils in their class and reporting this on an annual basis.
- Reporting any concerns regarding the teaching of the subject to the subject leader or a member of the senior leadership team (SLT).
- Undertaking any training that is necessary in order to effectively teach the subject.

## 2. The National Curriculum

2.1. The National Curriculum 2014 is followed and provides a full breakdown of the statutory content to be taught within each unit.

2.2. During **Reception class**, in accordance with the 'Statutory framework for the Early Years Foundation Stage', focus will be put on the seven areas of learning, with the scientific aspect of pupils' work relating to the objectives set out within the framework.

2.3. During **years 1 and 2**, pupils will be taught to:

- Ask simple questions and recognise that they can be answered in different ways.
- Observe closely, using simple equipment.
- Perform simple tests.
- Identify and classify.
- Use their observations and ideas to suggest answers to questions.

2.4. During **years 3 and 4**, pupils will be taught to:

- Ask relevant questions and use different types of scientific enquiries to answer these questions, setting up simple practical enquiries, comparative and fair tests.
- Make systematic and careful observations and, where appropriate, take accurate measurements using standard units and a range of equipment, including thermometers.
- Gather, record, present and classify data in a variety of ways to help answer questions.
- Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables.
- Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.
- Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.
- Identify differences, similarities or changes related to simple scientific ideas and processes.
- Use straightforward scientific evidence to answer questions or to support their findings.

2.5. During **years 5 and 6**, pupils will be taught to:

- Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.
- Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.
- Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.
- Use test results to make predictions to set up further comparative and fair tests.
- Report and present findings from enquiries, including conclusions, causal relationships and explanations of the results and the degree of trust in them. This should be in oral and written forms such as displays and other presentations.

- Identify scientific evidence that has been used to support or refute ideas/arguments.

### **3. Cross-curricular links**

3.1. Wherever possible, the science curriculum will provide opportunities to establish links with other curriculum areas. Most notably, science lends itself to:

#### **3.2. Maths**

- Science will involve a degree of numeracy at all levels.
- Pupils use their knowledge and understanding of measurement and data handling.
- Where appropriate, pupils record their findings using charts, tables and graphs.

#### **3.3. ICT**

- Pupils will use ICT to locate and research information.
- ICT will be used to record findings, using text, data and tables.
- Pupils are encouraged to use calculators and other electrical devices, gaining confidence throughout their school experience.

#### **3.4. PSHE**

- Health education is taught as part of the science unit about ourselves, which covers:
  - Health and growing
  - Teeth and eating
  - Moving and growing
  - Keeping healthy
  - Life cycles

#### **3.5. Spiritual development**

- Pupils' development will be focussed on the vastness of science and the natural world, encouraging a sense of awe. Science provides opportunities for children to reflect on their part in the world and ask questions.
- Pupils are encouraged to think about the effect of scientific discoveries on the modern world including how they affect how we feel, behave and live.
- Current scientific developments and issues will be discussed in the classroom, where appropriate.

## **4. Teaching and learning**

4.1. Tenbury CE Primary Academy follows the Collins scheme of work for science, in accordance with the National Curriculum 2014 objectives.

4.2. Science is taught as a discrete subject in:

KS1: 1 hour and 30 mins per week

KS2: 2 hours a week

However, the class teacher may wish to teach science as a 'block' each half term. When this is the case, teachers will use their professional judgements in making alterations to the weekly time allocations but will ensure that overall, the above time allocations are adhered to over the long term. In addition, science may also be taught as part of cross-curricular themes when appropriate.

4.3. Pupils will be taught to understand and use technical terminology and specialist vocabulary. This vocabulary will be displayed in the classroom as part of a working wall.

4.4. Lessons will allow for a range of scientific enquiry:

- Pattern seeking
- Carrying out time-controlled observations
- Identifying, classifying and grouping
- Undertaking comparative and fair testing
- Researching using secondary sources

4.5. Opportunities for outdoor learning will be provided wherever possible.

4.6. If appropriate, pupils may have the opportunity to undertake an external educational visit, which is science based. For example, Year 3 visit to Shropshire Hills Discovery Centre for workshop on seed dispersal.

## **5. Assessment and reporting**

5.1. Pupils will be assessed, and their progression recorded onto the school's online tracking system 'Insight'. Scientific enquiry will be also be assessed for each group.

5.2. The planning objectives within the Foundation Stage are from the Development Matters Statements from the Early Years Foundation Stage document. Regular assessments of children's learning informs future planning and next steps in learning. Assessment in the Foundation Stage takes the form of both formal and informal observations. Evidence of learning in Science is recorded in large topic 'Floor Books'. See Foundation Stage Policy for further details.

5.3. Pupils will be assessed throughout the year in order to gauge whether pupils have achieved the key learning objectives. Teachers will make their judgements on attainment by:

- Talking to pupils and asking questions
- Discussing pupils' work with them
- Marking work against the learning objective
- Specific assignments for individual pupils
- Observing practical tasks and activities

- Pupils' self-evaluation of their work
- Classroom tests

- 5.4. The subject leader will also keep a selection of books across the years as evidence of attainment to support teachers in future judgements.
- 5.5. Parents will be provided with a written report about their child's progress during the summer term every year. These will include information on the pupil's attitude towards science, progress in understanding scientific methods, ability to investigate, and the knowledge levels they have achieved.
- 5.6. Verbal reports will be provided at parent-teacher interviews during the Autumn and Spring terms.
- 5.7. Pupils with special educational needs and disabilities (SEND) will be monitored by the special educational needs coordinator.

## **6. Equipment and resources**

- 6.1. Science resources for the whole school are stored in an allocated area in school (science and art store room)
- 6.2. Staff members must inform the subject leader of any changes regarding science resources, such as broken items or when new resources are required.
- 6.3. Any equipment or resources which are a cause of concern will be removed immediately.
- 6.4. The subject leader will carry out an annual audit of the science resources, reordering any consumables when necessary.
- 6.5. Class teachers can discuss the need for new resources with the subject leader.

## **7. Health and safety**

- 7.1. Staff members will act in accordance with the school's Health and Safety Policy at all times.
- 7.2. Accidents and near-misses will be reported following the procedure outlined in the school's accident procedures in the Health and Safety Policy.
- 7.3. A risk assessment will be carried out by teachers before conducting an experiment or undertaking practical activities.
- 7.4. All pupils will be shown how to correctly use equipment and will be monitored by staff members whilst using equipment.
- 7.5. All pupils will be made aware of how they are expected to behave, ensuring that they show respect to other people and the environment.

- 7.6. Pupils are made aware of the personal safety protocols and equipment needed when using different equipment or carrying out different tasks.
- 7.7. Any 'new' experiments or activities which a teacher has not used in the classroom before will be trialled prior to being performed with pupils.
- 7.8. At the beginning of any experiment, the teacher will outline the purpose of the experiment to the class, and all hazards and safety precautions will be thoroughly outlined.

## 8. Inclusion

- Our inclusive approach and differentiation allows all children to learn regardless of race, gender, faith, culture or disability. We select and use resources that positively reflect all of the above.
- Inclusion for science is carried out in line with the school's policies for SEN, G&T, Equal Opportunities and the Disability Equality Scheme.
- Teachers plan high quality science with high expectations for all children.
- Teachers are aware that children bring to school different experiences, interests and strengths that will influence the way in which they learn science.
- Teachers will use a variety of teaching styles and strategies to meet the needs of all children in their science learning.

## 9. Monitoring and review

- 9.1. This policy will be reviewed every three years by the subject leader, in collaboration with the headteacher.
- 9.2. The subject leader will monitor teaching and learning in science at Tenbury CE Primary Academy, ensuring that the content of the national curriculum is covered.
- 9.3. Any changes made to this policy will be communicated to all teaching staff.

Signed by:

26.01.2023

Headteacher

Date:

26.01.2023

Chair of governors

Date:

Review date: January 2026