

## Science Policy

Date	Author	Comment
January 2020	Miss L. Wright	Updated and approved
April 2022	Miss L. Wright	Updated

## Science Policy

This policy outlines the structures in place to ensure that Southcoates Primary Academy delivers a high quality science curriculum for all learners.

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### Intent

#### **Purpose of Study**

We believe that all pupils of Southcoates Primary Academy must have regular access to high quality learning experiences in science, appropriate to their age and stage of development. We provide first hand experiences and exploration to allow children to build knowledge and develop their understanding of the world. This is achieved through engaging and challenging lessons, practical investigations, visits and talks.

#### **Aims**

Science teaching at Southcoates Primary Academy aims to ensure that all pupils:

- are focused, interested, involved and excited by science;
- are asking questions to direct their learning and find the answer;
- are participating in first hand experiences as part of practical activities and experiments;
- are investigating and exploring by looking closely to make observations about the real world;
- are able to apply their knowledge to real life situations;
- are using appropriate scientific vocabulary fluently and accurately;
- are initiating learning through their own interests.

### Implementation

#### **Organisation**

The school follows the Statutory Framework for the Early Years Foundation Stage and the Primary National Curriculum for science, which ensures a wide breadth of coverage that builds on the knowledge, skills and understanding of previous years.

The **Subject Leader Audit for Science** outlines the science unit for each half term, along with an investigation for each unit.

The **Termly Progression Document for Science** details the procedural and declarative knowledge that will be taught in each phase, each term.

- Early Years objectives have been written in line with the **Early Years Framework**, with most of the science objectives relating to the 'Understanding the World' Area of Learning and Development.
- The objectives for Years One to Six cover the expectations of the **National Curriculum**.
- The science curriculum at Southcoates plans for opportunities to embed learning related to our Curriculum Drivers: Safe Behaviours, Positive Role Models and Awareness of the World.
- The progression of technical vocabulary relating to science is also planned for on the **Termly Progression Document**.

Using the objectives from the Termly Progression Document for science and each phase's Medium Term Plans, **Short Term Planning** is conducted by teachers to plan the sequence of lessons that will enable the high quality teaching of the objectives.

The **Declarative and Procedural Knowledge Progression Document for Science** outlines how progression is planned for, with opportunities to recap and build on prior learning.

### **Impact**

As children move through their years at Southcoates, the curriculum design should enable our children to become confident scientists who are able to apply age appropriate declarative and procedural knowledge. The children should be able to talk confidently about their learning and use a range of technical vocabulary.

The children's learning is evidenced through discussions, observations and work within science books. Formative assessment is carried out constantly, within lessons, through questioning and discussion to check children's understanding of a concept. Marking in science books links to factual knowledge such as correct use of vocabulary and scientific processes. Marking also links to basic skills to promote a high standard of spelling, punctuation and grammar across the curriculum. Photographic evidence and diagrams are also used to evidence children's learning and outcomes.

## **Pedagogy**

### **Rationale**

The SPA Curriculum aims to provide our children with teaching, opportunities and experiences that will help them to flourish and grow into successful citizens who will make positive contributions to the world around them. Underpinning our curriculum are our Curriculum Drivers:

<b>Safe Behaviours</b>	The science curriculum has a heavy focus on safe behaviours. Within their science lessons, children will be taught the importance of the safe and responsible use of equipment and materials.
<b>Positive Role Models</b>	It is very important that the children value their learning. Learning about scientists and the work that they do will help them to understand where the subject fits in the world. It will help to raise our children's ambitions and aspirations for their own futures.
<b>Awareness of the World</b>	Our world is evolving and changing at a fast pace, and our children are the next generation that will contribute to these changes. Children at Southcoates are given the opportunity to think about positive and negative impacts of science on our world, and to discuss their thoughts and feelings on this.

### **Resources**

All teachers have access to a range of resources to support teaching in science. These are kept in a central store in the staffroom, which is only accessible by adults. Resources are kept in labelled boxes for each unit of science for each year group. Children are shown how to use the resources safely in their lessons and under adult supervision.

## Opportunities to Revise, Repeat and Build on Prior Learning

Our SPA Curriculum has been designed by Southcoates' teachers to ensure that the objectives progress as the children move through their years at Southcoates. Opportunities to revise, repeat and build on prior learning are built into our Long Term Plans, Medium Term Plans and Short Term Plans.

The specific progression of procedural and declarative objectives can be found in the Declarative and Procedural Knowledge Progression Document for Science.

## Assessment

### Assessment for Learning

Ongoing assessment is carried out within lessons through questioning, discussion and observation to check the children's understanding. Teachers monitor the application of newly learned skills. Teachers and pupils engage in focussed discussions about how to make progress, and ongoing assessment for learning influences the following teaching inputs and lesson design.

### Formative and Summative Assessment

Early Years:

Termly Early Years assessments in relation to the Areas of Learning and Development outlined on the Early Years Framework are inputted on the Bromcom system. The code Y (Yes) or N (No) is inputted to indicate whether or not each child is on track to achieve the Early Learning Goal by the end of the year.

Years One to Six:

Formal teacher assessments for Years One to Six are conducted biannually at the following assessment points:

- Mid-year assessment: class teachers make an end of year prediction based on whether or not the child is on track to achieve the expected standard by the end of the year. (Assessments are based on each child's attainment in relation to the end of phase objectives outlined on the Termly Progression documents and Medium Term Plans.)
- End of year assessment: class teachers make a final judgement to indicate whether the children are working towards, have achieved, or have exceeded the expected standard. These grades are reported to parents on the mid-year Annual Reports, and the End of Year Reports. The following codes are inputted onto the Foundati **Figure 1: Construction Units** racker to record the level at which each child is working:  
WTS – Working Towards the Expected Standard  
EXS – At the Expected Standard  
GDS – Greater Depth Standard

The children’s learning is assessed against end of **phase** expectations. The following assessment grid is used to show the judgements given in Years One, Three and Five in relation to the end of phase expectations:

	End of Phase Standard			
	ETS	WTS	EXS	GDS
Y1	WTS	EXS	GDS	
Y2		WTS	EXS	GDS
Y3	WTS	EXS	GDS	
Y4		WTS	EXS	GDS
Y5	WTS	EXS	GDS	
Y6		WTS	EXS	GDS

## Culture

### Opportunities for All

Southcoates Primary Academy is committed to the inclusion of all pupils, within the school curriculum and participation in all aspects of school life.

All pupils that are engaging in subject-specific study are taught age appropriate objectives as outlined on the Termly Progression Document for Science. Teachers ensure that these objectives can be accessed by all pupils through the use of scaffolding, personalised teaching and additional support. Where possible, practical sessions are delivered to support learning and enable children to investigate concepts for themselves. Teachers adapt teaching methods to suit the needs of individual learners, and to remove barriers where possible, to give every child the opportunity to succeed and achieve.

Children who are confidently achieving age related expectations are challenged to deepen their learning by being given opportunities to apply their skills in a variety of situations, dependent on the task being undertaken.

## **Fostering a Love of the Subject**

Southcoates Primary Academy highly values all subjects, and is committed to ensuring that every child has access to high quality experiences as well as an ambitious progressive and embedded curriculum.

To raise the profile of science, and to ensure that children understand the importance of the subject outside of the school environment, the following opportunities and experiences are organised for our children:

- Visits to and visitors from areas of STEM in the workplace to raise aspirations of the children.
- British Science Week activities relating to different areas of science along with studying scientists from these areas.
- Eco committee.
- Visits and learning outside of the school environment where possible – for example, observing plants and animals in their natural habitats at East Park and Tophill Low Nature Reserve.

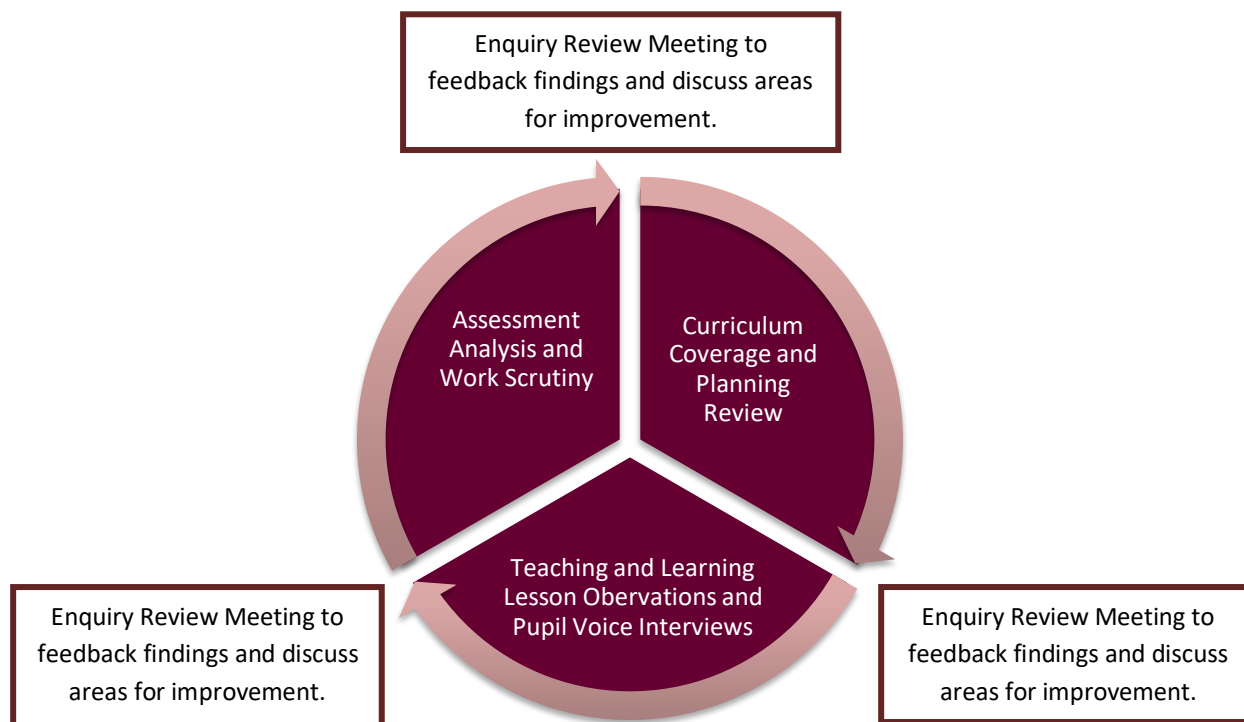
## **Subject Monitoring and Improvement**

### **Subject Leadership**

- Science is overseen by the Assessment and Standards Faculty. The Assessment and Standards Faculty meet every other week to discuss:
  - Outcomes of monitoring.
  - Additional whole school opportunities and experiences to enrich learning and personal development.
  - CPD requirements.
  - Assessment.
  - Curriculum development.
- The Subject Leader for science and the Subject Leader for computing work in partnership to complete the monitoring cycle and to work on curriculum development and improvement for both subjects.

## Subject Triangulation

The curriculum, teaching and learning and outcomes of science are monitored, developed and improved using an annual cycle of monitoring: subject triangulation. Each year, a cycle of teaching and learning lesson observations, pupil voice interviews, work scrutinies, curriculum coverage/planning reviews and assessment analysis informs the subject leader of the quality of education for science.



## Subject Improvement

Subject leaders feed back findings from the Subject Triangulation monitoring cycle to all teachers at the termly Enquiry Review Meetings. In these meetings, strengths, areas for improvement and CPD requirements are discussed. Good practice is shared to help to continually raise the standard of teaching and learning. The Enquiry Review Meetings are attended by all Teachers, Subject Leaders and members of the Senior Leadership Team, enabling constructive and productive conversations that aid continuous reflection, development and improvement of the curriculum.

## CPD

- Subject Leaders are given opportunities to attend CPD events run by The Enquire Learning Trust.
- Subject Leaders are able to request staff meeting slots to upskill teachers and to deliver updates and training.
- Teachers and Subject Leaders are encouraged to work together to discuss areas for improvement, and to identify areas where extra CPD may be required.
- Subject Leaders attend local Subject Leader Network Meetings to network with Subject Leaders from local schools.