



Stanton Bridge Primary School

Footballer



Doctor



Police Man



Teacher



Footballer



Doctor



Police Man Teacher



2017

RATIONALE:

Teaching Science at Stanton Bridge Primary School involves the encouragement, promotion and development of children's interest and knowledge of materials, objects and phenomena which surround them at home, at school and everywhere else. Through the science curriculum, children will develop skills to explore and understand the world in which they live.

Through teaching Science children are given opportunities to:

Develop their knowledge and understanding of important scientific ideas, processes and skills and relate these to everyday experiences.

Acquire a curious and questioning mind. Develop skills of observation and investigation. Collect, retrieve, present and communicate their findings to others in a variety of ways.

EYFS

During the Foundation Stage children begin to explore the world around them, with specific Science work covered through the Specific areas.

KS1 National Curriculum Objectives

The principal focus of science teaching in key stage 1 is to enable pupils to experience and observe phenomena, looking more closely at the natural and humanly-constructed world around them. They should be encouraged to be curious and ask questions about what they notice. They should be helped to develop their understanding of scientific ideas by using different types of scientific enquiry to answer their own questions, including observing changes over a period of time, noticing patterns, grouping and classifying things, carrying out simple comparative tests, and finding things out using secondary sources of information. They should begin to use simple scientific language to talk about what they have found out and communicate their ideas to a range of audiences in a variety of ways. Most of the learning about science should be done through the use of first-hand practical experiences, but there should also be some use of appropriate secondary sources, such as books, photographs and videos.

'Working scientifically' is described separately in the programme of study, but must **always** be taught through and clearly related to the teaching of substantive science content in the programme of study. Throughout the notes and guidance, examples show how scientific methods and skills might be linked to specific elements of the content.

Pupils should read and spell scientific vocabulary at a level consistent with their increasing word reading and spelling knowledge at key stage 1.

Lower KS2 National Curriculum Objectives - years 3 & 4

The principal focus of science teaching in lower key stage 2 is to enable pupils to broaden their scientific view of the world around them. They should do this through exploring, talking about, testing and developing ideas about everyday phenomena and the relationships between living things and familiar environments, and by beginning to develop their ideas about functions, relationships and interactions. They should ask their own questions about what they observe and make some decisions about which types of scientific enquiry are likely to be the best ways of answering them, including observing changes over time, noticing patterns, grouping and classifying things, carrying out simple comparative and fair tests and finding things out using secondary sources of information. They should draw simple conclusions and use some scientific language, first, to talk about and, later, to write about what they have found out.

'Working scientifically' is described separately at the beginning of the programme of study, but must **always** be taught through and clearly related to substantive science content in the programme of study. Throughout the notes and guidance, examples show how scientific methods and skills might be linked to specific elements of the content.

Pupils should read and spell scientific vocabulary correctly and with confidence, using their growing word reading and spelling knowledge.

Upper KS2 National Curriculum Objectives - years 5 & 6

The principal focus of science teaching in upper key stage 2 is to enable pupils to develop a deeper understanding of a wide range of scientific ideas. They should do this through exploring and talking about their ideas; asking their own

questions about scientific phenomena; and analysing functions, relationships and interactions more systematically. At upper key stage 2, they should encounter more abstract ideas and begin to recognise how these ideas help them to understand and predict how the world operates. They should also begin to recognise that scientific ideas change and develop over time. They should select the most appropriate ways to answer science questions using different types of scientific enquiry, including observing changes over different periods of time, noticing patterns, grouping and classifying things, carrying out comparative and fair tests and finding things out using a wide range of secondary sources of information. Pupils should draw conclusions based on their data and observations, use evidence to justify their ideas, and use their scientific knowledge and understanding to explain their findings.

'Working and thinking scientifically' is described separately at the beginning of the programme of study, but must **always** be taught through and clearly related to substantive science content in the programme of study. Throughout the notes and guidance, examples show how scientific methods and skills might be linked to specific elements of the content.

Pupils should read, spell and pronounce scientific vocabulary correctly.

EVERY CHILD MATTERS

In accordance with the Children's Act 2004, schools now have a duty to provide the outcomes outlined in 'Every Child Matters'.

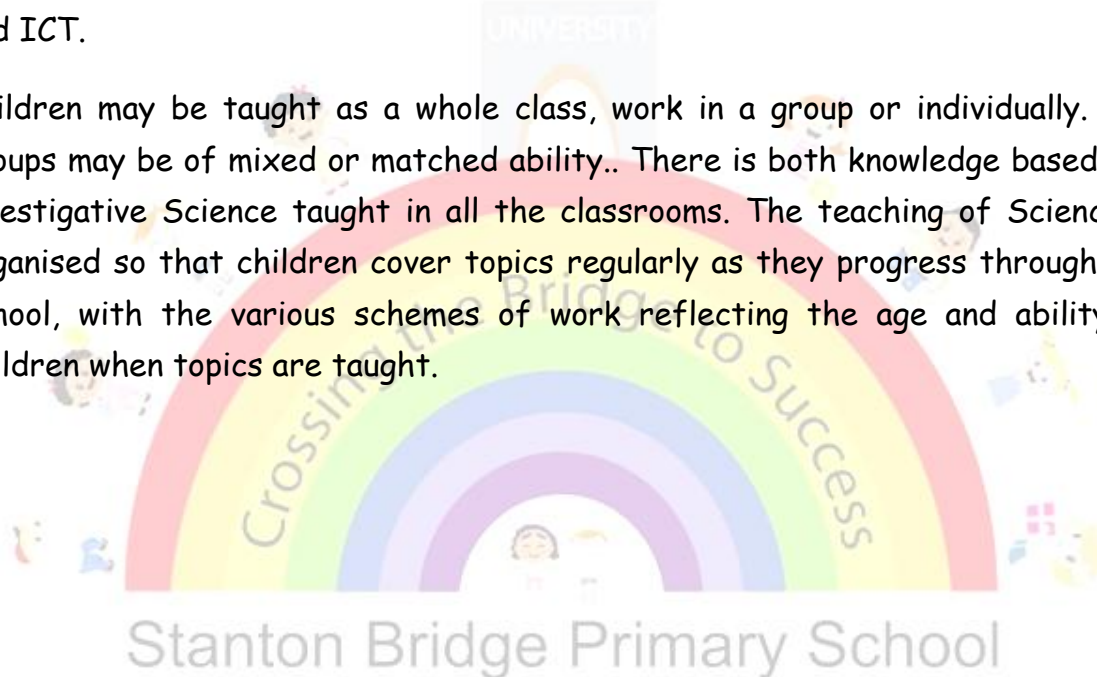
During Science lessons, children are kept safe from danger by ensuring that all equipment is checked regularly and stored carefully. The staff are mindful of children who have allergies to certain foods when they are involved in food tasting sessions. They are taught the correct ways to handle equipment and to work collaboratively.

TEACHING AND LEARNING:

Stanton Bridge Primary School has developed its own scheme of work based on the National Curriculum. The school also uses the 'Rising Stars Science Curriculum' scheme alongside.

In KS1 science is taught 1 hour per week and 2 hours per week in KS2. Science in both key stages reinforces cross- curricular links including literacy, numeracy and ICT.

Children may be taught as a whole class, work in a group or individually. The groups may be of mixed or matched ability.. There is both knowledge based and investigative Science taught in all the classrooms. The teaching of Science is organised so that children cover topics regularly as they progress through the school, with the various schemes of work reflecting the age and ability of children when topics are taught.



Footballer



Police Man



Teacher



Doctor



Topic Overview:

Terms	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Autumn 1	Animals including humans Who am I?	Animals including humans Healthy me	Magnets Opposites attract <i>Switched on ipad: Spinning wheels</i>	Living things and their habitats Living things <i>Switched on ipad: Build a nest</i>	Living things and their habitats Circle of Life <i>Switched on ipad: Life cycle library</i>	Evolution and inheritances We're Evolving
Autumn 2	Animals including humans On safari	Plants Young gardeners <i>Switched on ipad: What am I?</i>	Animals including humans Food and our bodies	Animals including humans Teeth and eating	Forces Let's get moving <i>Switched on ipad: Science station discovery trail</i> <i>Switched on ipad: Parachute jump</i>	Animals including humans Staying Alive <i>Switched on ipad: Investigating exercise</i>
Spring 1	Everyday Materials Celebrations	Living things and their habitats Mini worlds <i>Switched on ipad: Discovering habitats</i> <i>Switched on ipad: Minibeast hunt</i>	Rocks Earth rocks <i>Switched on ipad: Rock Group</i>	Electricity Power it up	Animals including humans Growing up and growing old	Electricity Electrifying
Spring 2	Everyday Materials Polar adventurers <i>Switched on ipad: Material Scavengers</i>	Uses of everyday materials Materials monster <i>Switched on ipad: Material Scavengers</i>	Plants How does your garden grow?	Sound What's that sound? <i>Switched on ipad: Exploring sounds</i>	Properties and changes of materials Material World <i>Switched on ipad: Classifying car materials</i>	Light Let it Shine
Summer 1	Plants Treasure Island <i>Switched on ipad: What am</i>	Scientific Enquiry Move it	Light Mirror. Mirror <i>Switched on ipad: Light and shadow</i>	States of matter Looking at states <i>Switched on ipad: Fizzy drink geysers</i>	Earth and space Out of this world	Evolution and inheritances We are dinosaur hunters <i>Switched on ipad: Snail trail</i>
Summer 2	Scientific Enquiry Holiday <i>Switched on ipad: Colours in nature</i>	Animals including humans Little masterchefs	Super science We are astronauts	Super Science Brilliant Bubbles	Super science Super scientists	Living things and their habitats Classifying Critters

Assessment

Formative:

Formative assessment is used to guide the progress of individual pupils in Science. It involves identifying each child's progress in each area of the Science curriculum, determining what each child has learnt and what therefore should be the next stage in his/her learning. Teachers in the course of their teaching usually carry out formative assessment informally.

Suitable tasks include:

- Small group discussions, usually in the context of a practical task.
- Specific arrangements for particular pupils.
- Individual discussions in which children are encouraged to approve their own work and progress.

Summative

Prior Knowledge Assessment PKA - Test 1

The first test/Checklist 1 (diagnostic) is designed to help teachers assess prior learning of individual pupils and the class before planning and teaching begins. These tests/checklists are more open - ended than tests 2-4 to elicit as much information as possible to help teachers refine their plans for teaching the topic.

KS1

For Years 1 and 2 these tests are in the form of diagnostic checklists to enable an oral investigation of prior learning. As it is recognised that pupils have limited reading and writing vocabularies, particularly Year 1, each checklist comprises a set of questions for the adult to ask pupils with supporting visual prompts.

There is also a Pupil Responses Form that can be used to record whether some, most or all pupils are able to answer each question.

KS2

For Years 3-6 there is a diagnostic test for each topic.

Tests 2-4

Test 2 is designed to be used during a topic and test 3 and 4 at the end of the topic. In each test 5 marks are allocated to knowledge and understanding, 5marks are allocated to application, 4 marks additionally assess working scientifically.

Test 2-4 also contain a mix of objective questions and questions requiring written answers.

Displays:

Displays play a key role in supporting the teaching and learning of science. All classes have a display based on the Science topic they are teaching, which has the relevant vocabulary, key questions, visual prompts and also some form of the KWL process.

The role of the Science Co-ordinator

The role of the coordinator can be summarised as follows:

- To take the lead in policy development.
- To monitor the effectiveness of the teaching of science, both in the planning stage and in its delivery.
- To be available to support colleagues and to purchase and organise resources.
- To keep up to date in science development and advise colleagues appropriately.
- To liaise with other teaching staff regarding opportunities for children to participate in activities inside and outside the school, e.g. Science days organised by the school and science fairs organised by other schools.

Resources

All Science resources are allocated in the Science Cupboard. The resources are organised into Topic Boxes. staff should sign resources in and out and should notify the coordinator of any extra resources required, of any breakage's or losses, which occur, and of any new materials, books, videos etc., which might prove to be useful.

Special Educational Needs

All children are encouraged and supported to develop their full potential in Science. Some children may require extra support in the classroom and opportunities for consolidation and reinforcement. Activities are differentiated to meet the needs of all pupils.

Equal opportunities

All children are given access to the Science curriculum. The Schemes of Work are used to provide differentiation by outcome and intervention. Boys and girls have equal access to all resources and this is carefully monitored. Gifted and talented children are identified in line with the Gifted and Talented Policy and planning will include extension activities for these children. Class Teachers will ensure that children with special needs will be supported as necessary within the classroom.

Health and Safety

All teachers, children and other adults in school are expected to be aware of the need for safe working at all times. If any of these groups are unsure of anything, then they should consult with the coordinator for extra help and advice.