

## ST PETER'S C OF E PRIMARY SCHOOL



### SCIENCE POLICY

#### Rationale

Science for primary school pupils is about exploring, discovering and investigating in an attempt to make sense of the world around them in an exciting and challenging way. We aim to make these experiences as broad and varied as possible so that the children develop a keen interest in science and become enthusiastic young scientists.

“Science provides the understanding of the world through the specific disciplines of biology, chemistry and physics. All pupils should be taught essential aspects of the knowledge, methods, processes and uses of science. Through building up a body of key foundational knowledge and concepts pupils should develop a sense of excitement and curiosity about natural phenomena. They should be encouraged to understand how science can be used to explain what is occurring, predict how things will behave and analyse causes.”

(Purpose of study from the science programmes of study document 2014)

## Aims

We encourage pupils:

- to begin to understand the way things work in the world around them through their own investigations and observations
- develop scientific knowledge and understanding through the specific disciplines of biology, chemistry and physics
- to develop the skills of working scientifically
- to develop a wide breadth of knowledge of scientific vocabulary
- to become caring people who respect living things and the environment

## Implementation

In accordance with the National Curriculum

Hours per year

Key Stage One 54 hours

Key Stage Two 72 hours

## Foundation Stage

Science in the Foundation Stage is taught through the element of Knowledge and Understanding of the world. This gives opportunities for the children to solve problems, make decisions, experiment, predict and explore the environment around them.

## Key Stage One and Two

Working scientifically is an approach which allows children to explore and investigate the world of science through a range of activities that promote scientific skills. This should be taught through the content of the biology, chemistry and physics programme of study. The pupils should be taught the following practical scientific methods:

(KSI)

- asking simple questions and recognising that they can be answered in different ways
- observing closely, using simple equipment
- performing simple tests
- identifying and classifying
- using their observations and ideas to suggest answers to questions
- gathering and recording data to help in answering questions

(LOWER KS2)

- asking relevant questions and using different types of scientific enquiries to answer them
- setting up simple practical enquiries, comparative and fair tests
- making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, with a range of equipment, including thermometers and data loggers
- gathering, recording, classifying and presenting data in a variety of ways to help in answering questions

- recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables
- reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
- using results to draw simple conclusions make predictions for new values, suggest improvements and raise further questions
- identifying differences, similarities or changes related to simple scientific ideas and processes
- using straight forward scientific evidence to answer questions to support their findings

#### (UPPER KS2)

- planning different types of scientific enquiries to answer questions, including recognising controlled variables where necessary
- taking measurements using a range of scientific equipment with increasing accuracy and precision, taking repeated readings when appropriate
- recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graph, bar and line graphs
- using test results to make predictions to set up further comparative and fair tests
- reporting and presenting findings from enquiries, including conclusions, casual relationships and explanations of and degree of trust in results in oral and written forms such as displays and presentations

- *identifying scientific evidence that has been used to support or refute ideas or arguments*

## **Content**

*Science is concerned with the acquisition of certain scientific concepts and areas of knowledge, important and necessary for further scientific understanding and growth. The school aims to develop the fundamental concepts and introduce a body of knowledge through which to practice the skills of working scientifically through the content covered in biology, chemistry and physics.*

## **Biology**

*Animals, including humans (KS1 and 2)*

*Plants (KS1 and 2)*

*Evolution and inheritance (KS2)*

*All Living things and their habitats (KS1 and 2)*

## **Chemistry**

*Everyday materials and their uses (KS1)*

*Grouping and classifying materials (KS2)*

*Changing materials (KS2)*

*States of matter (KS2)*

*Rocks (KS2)*

*Separating and mixtures of materials (KS2)*

## *Physics*

*Seasonal change (KS1)*

*Electricity (KS2)*

*Forces and magnets (KS2)*

*Light and sound (KS2)*

*The earth and space (KS2)*

## *Coverage*

*These areas of science are met through the topic planning for each key stage with additional science covered when revising or revisiting key areas.*

## *Learning support*

*Pupils with additional learning needs are supported by differentiated learning strategies. This applies to pupils who need additional support and those who are more able.*

## *Healthy schools initiative*

*This initiative has been established to provide pupils with a wide range of opportunities to explore healthy lifestyles through the biology area of the curriculum (health, nutrition, circulation, growth and movement).*

## *Assessment, Recording and Reporting*

*Individual progress in science will be assessed in accordance with the School Assessment policy. Assessment in science covers all strands. Pupils*

will be assessed using the Star Assessments and teachers individual assessment criteria against the 2014 curriculum identifying children as emerging, expected or exceeding using a point system against the science criteria for their year group.

### Equality of opportunity

All pupils will have equal opportunity to participate in different scientific activities regardless of their ability, gender, cultural or ethnic background. This is in accordance with the school's equal opportunities policy. There should be flexibility within planning to allow for differentiation enabling pupils to achieve their potential in all areas of science.

### Health and safety

Teachers in the school are aware of safety amongst the children in their care. The school has adopted the Association for Science Education's booklet 'Be Safe'. This is kept in the staffroom.

### Resources

Resources for science are stored centrally in boxes in the curriculum resource area. The science subject leader is responsible for ensuring that the equipment necessary for effective delivery of the curriculum is available. The 'Switched on Science' scheme is being used to support the implementation of the Curriculum 2014. (Science equipment is ordered within key stages using the topic budget allowance).

## Computing

Computing is used regularly within the science curriculum. This includes the use of various apps, programs to record data, photography and the collection of science information. It is included within the science planning and is used in all the key stages.

## Excellence and Enjoyment/ Every child matters

These areas inform the planned curriculum for science and impact on all aspects of teaching and learning.

## Monitoring and Evaluating

The science subject leader monitors teaching and learning across the school by viewing planning, collecting test data, work samples, training and talking to staff and children.

There is an annual review of science on the School Development Plan this will take into account any training needs of teaching and support staff.

Last Review:            November 2018  
Next Review:            November 2022