

## St Peter and St Paul - Science Policy

### Rationale

Science is the systemic investigation of the physical, chemical and biological aspects of the world.

Pupils at St Peter and St Paul engage with the concepts relating to these aspects through first hand experience in lessons which are centred around investigation and enquiry. Teachers are expected to deliver lessons that allow pupils to plan, prepare and carry out their own investigations. By following this process, pupils are able to develop a deeper understanding of the concepts being taught (as laid out in the National Curriculum 2014).

### Aims

- To develop pupils' enjoyment and interest in science and an appreciation of its contribution to all aspects of everyday life
- To build on pupils' curiosity and sense of awe of the natural world
- To use a planned range of investigations and demonstrations to expose children to observable phenomena related to the concepts that they are learning
- To develop, year on year, the depth and understanding of pupils' scientific vocabulary
- To develop pupils' practical skills and their ability to make accurate and appropriate measurements
- To develop an understanding of the role that technology plays in scientific enquiry
- To extend the learning environment beyond the classroom, through meaningful use of the outside areas and the locality

- To promote healthy lifestyles by developing pupils' understanding of how the body works
- To develop a seamless approach to the teaching of science, which compliments the school's Catholic ethos and develops pupils' sense of intrigue and respect for the world around them

## Objectives

The following objectives should form the basis for planning, delivery and assessment of all science lessons across the school:

- To develop pupils' enjoyment and interest in science and an appreciation of its contribution to all aspects of everyday life
- To develop a strong knowledge base of the scientific concepts laid out in the National Curriculum (2014)
- To encourage pupils to relate their understanding of scientific concepts to applications and effects within the real world
- To develop questioning skills, and a general sense of enquiry about the world
- To encourage pupils to predict the likely outcome of investigations and practical activities, drawing on an ever increasing foundation of scientific knowledge
- To provide pupils with a range of specific investigations and practical work which gives them a worth-while experience to develop their understanding of science
- To engage pupils in every phase of a science investigation – planning, preparation, analysis
- To develop an understanding of variables, and what it means for a test to be 'fair'

- To introduce pupils to new scientific vocabulary, and to give them ample opportunity to apply this in written and spoken form
- To equip children with the necessary understanding of scientific terms to be able to communicate their understanding and ideas about science
- To develop practical skills and the ability to make accurate and appropriate measurements
- To give children the opportunity to work with a range of scientific equipment
- To allow pupils access to ICT for planning, preparing and recording their findings
- To allow pupils access to the internet so that they can obtain information

The study of science will be planned to give pupils a range of differentiated activities which are appropriate to their age and abilities. Tasks will be set which will challenge all pupils, including the more able. For pupils with SEN, the task will be adjusted or extra support will be provided. The grouping of pupils for an activity will take into account the strengths and weaknesses of individuals and ensure that all can take an active part in the task and gain in confidence.

Pupils will be involved in a variety of structured activities and in more open-ended investigative work:

- Activities to develop good observational skills
- Practical activities using measuring instruments which develop pupils' ability to read scales accurately
- Structured activities to develop understanding of a scientific concept
- Open ended investigations

## **Relevance**

Wherever possible science work will be related to the real world and everyday examples will be used.

## **Cross Curricular Skills and Links**

Science pervades every aspect of our lives and can be related to all areas of the curriculum:

- Mathematics – through accurate measuring and the analysis of quantitative data
- Computing – through use of technology for the purposes of researching information and recording data
- Philosophy – through the cultivation of questioning skills

## **Continuity and Progression**

Foundation Stage pupils investigate science as part of Understanding of the World. Children are encouraged to investigate through practical experience; teachers guide the children and plan opportunities that allow the children to experience and learn whilst experimenting for themselves. By careful planning, pupils' scientific skills and knowledge gained at Key Stage 1 will be consolidated and developed during Key Stage 2.

At St Peter and St Paul, we have developed a standardised investigation framework that children are introduced to in KS1 and become increasingly familiar with throughout KS2.

Pupils in Key Stage 1 will be introduced to science through focused observations and explorations of the world around them. These will be further developed through supportive investigations into more independent work at Key Stage 2. The knowledge and content prescribed in the National Curriculum will be introduced throughout both key stages in a progressive and coherent way.

### **Equality of Opportunity**

All children have equal access to the science curriculum and its associated practical activities. The SLT, Class Teachers and TAs at St Peter and St Paul Primary School are responsible for ensuring that all children, irrespective of gender, learning ability, physical disability, ethnicity and social circumstances, have access to the whole curriculum and make the greatest possible progress. Where appropriate, work will be adapted to meet pupils' needs and, if appropriate, extra support given. More able pupils will be given suitably challenging activities. Gender and cultural differences will be reflected positively in the teaching materials used.

All children have equal access to the Science Curriculum, its teaching and learning, throughout any one year. This is being monitored by analysing pupil performance throughout the school to ensure that there is no disparity between groups.

### **Health and Safety**

Pupils will be taught to use scientific equipment safely when using it during practical activities. Class Teachers and Teaching Assistants will check equipment regularly and report any damage, taking defective equipment out of action. A simple risk assessment will be carried out for all

practical activities any perceived hazards will be reported to the Head who will determine the appropriateness of said activity.

### **Assessment for Learning, recording and reporting**

Throughout the school teachers will assess whether children are working at/above or below the expected level for their age based on their understanding and application of the content of the National Curriculum 2014. Progress and attainment is reported to parents through parents' evenings and end of year reports.

### **Role of the Teaching**

Teachers at St Peter and St Paul will:

- Plan and deliver the science curriculum following the guidelines in this document
- Look after resources and keep the science areas neat, safe and accessible
- Ensure, where appropriate, that work is displayed in an informative and stimulating way
- Consider and minimise risks for all activities and systematically teach pupils to take responsibility for determining the risks to themselves and others
- Notify the subject leader of any extra resources required and of any breakages or losses that occur

### **Role of the subject leader**

The science subject leader and St Peter and St Paul will:

- Be responsible for the development of science in school
- Monitor the science curriculum and update school policy where necessary
- Monitor the effectiveness of science teaching in school by means of book scrutiny, ensuring the quality of the learning environment and overseeing assessment in line with the current school assessment policy
- Support teachers in their planning and strategies for classroom management during science lessons
- Disseminate new information
- Support teachers in delivering the curriculum and arrange staff development and INSET training where appropriate
- Be responsible for the purchasing, collating and maintaining of science resources
- Work with class teachers to minimise risks for all activities in line with current Health and Safety regulations.