



ST.MARY'S CATHOLIC PRIMARY SCHOOL

SCIENCE POLICY

Responsibility of: Miss A Winter

Date of Policy: September 2017

Review Date: Autumn 2018

Approved by Governors

INTRODUCTION

This policy is linked to the Mission Statement of the school, which states:

“With God’s help we: Dream, Believe, Achieve, Succeed.”

Science is the field that attempts to describe and understand the nature of the universe. It is broken down to cover three fields of knowledge: Life processes and living things, Materials and their properties and Physical processes. Where applicable these should be taught by use of the fourth field of Scientific enquiry.

The teaching of Science at St Mary’s will be taught in line with the school safety policy and Every Child Matters.

AIMS

- To enable our pupils to develop an understanding and respect for the natural world.
- To develop an everyday application of scientific knowledge in the world around us.
- To promote the learning of scientific skills, understanding and vocabulary.
- To develop in our children the ability to communicate scientifically. For them to ask questions, predict, hypothesize, explain and test in a scientific way.
- To promote confidence in the safe use of appropriate scientific equipment.
- To promote confidence in the use of computing to collect, display and present data.
- To allow pupils to carry out a full scientific investigation when the topic allows.
- To ensure where appropriate that each science lesson incorporates some Sc1 skills.
- To promote a positive image of science, scientists and theories and discuss where relevant up to date scientific issues and debates.
- To broaden children’s inquiring abilities and nurture the awe and wonder that children have about how the world works.
- To provide equality of access for all our children to the 2014 National Curriculum for Science.

THESE AIMS ARE MET BY:

- Following the 2014 National Curriculum and EYFS

- Ensuring a weekly teaching time for science of approximately one and a half hours a week in KS1 and two hours a week in KS2
- Providing stimulating and challenging practical opportunities for the children to learn using scientific enquiry.
- Supplementing teaching with relevant, up to date and stimulating resources.
- Teaching scientific skills throughout the curriculum by having lessons that have skills based objectives as well as knowledge based ones.

SCHEME OF WORK

In our Scheme of Work we have tried to ensure a suitable balance between the processes of scientific enquiry and investigation (AT1) and scientific knowledge in the areas of Life Processes and Living Things (AT2), Materials and their Properties (AT3) and Physical Processes (AT4). Consideration has been given to the fact that we are encouraging our children to become scientific in their thinking and for to acquire the skills of scientific investigation that can be applied to any area of science.

Our scheme of work is designed so that work from each of the A.T's is tackled by each year, although not necessarily from each strand within the A.T. Our scheme of work outlines the areas of the Programme of Study to be covered by each Year Group. It provides guidance on learning objectives, common concepts, activities, investigations and the scientific language to be introduced in each year. In addition, in Year 6 the children will have the opportunity to recall and extend work from the previous years.

KEY SKILLS

Opportunities for teaching, practising, developing and refining a range of key skills are found in our scheme of work. The key skills promoted in science are:

- **Communication-** Speaking effectively for different audiences, listen, understand and respond appropriately to the ideas of others and participate in group discussions.
- **Application of number-** Processing data, solve increasingly complex problems and explain the reasoning used.
- **Data Handling** - Selecting/collecting data, constructing bar/line graphs, to interpreting findings.
- **Information Technology-** Using ICT sources and tools to research, analyse, interpret, evaluate and present information.
- **Working with others-** Contributing to small group work or whole class activities, acquiring the ability to work as a team and the developing of the social skills of co-operation and mutual understanding.
- **Improving own learning performance-** Understanding purpose for learning, reflect on the processes of learning, assessing progress, identifying problems and planning ways to improve learning.
- **Problem solving-** Identifying the problem, planning ways to solve a problem, monitoring progress and reviewing solutions to a problem.

THINKING SKILLS

By using thinking skills pupils can focus on 'knowing how' as well as 'knowing what'- learning how to learn. The following thinking skills complement the key skills and are embedded in the science curriculum.

- **Information processing skills**- Locating, collecting, sorting, classifying, sequencing, comparing, contrasting and analysing information.
- **Reasoning skills**- Giving reasons for opinions, drawing inferences, making deductions, use precise language to explain thinking and make judgements and decisions informed by reasons or evidence.
- **Enquiry skills**- Asking relevant questions, posing and defining problems, planning what to do and how to research, predicting outcomes, anticipating consequences, testing conclusions and improving ideas.
- **Creative thinking skills**- Generating and extending ideas, suggesting hypotheses, applying imagination, looking for alternative innovative outcomes.
- **Evaluation skills**- Judging the value of what they have read, developing criteria for judging the value of their own and others work and ideas, confidence in their judgements.

ASSESSMENT / RECORDING / REPORTING

Assessment in school is on two levels.

St Mary's are using the new *Rising Stars New National Curriculum Assessments range* to help teachers assess the pupils in each year group. This range has been developed and written specifically to provide a whole-school approach to assessment for the new Programmes of Study. As the DfE had announced that the level descriptors will not be used within the new National Curriculum, it is up to schools to decide how best to assess the progress that the pupils are making in relation to the new Programmes of Study. This range will allow us to identify strengths and weaknesses, measure progress and track learning throughout the year in conjunction with our school tracking system for other core subjects. The end of topic and end of term Progress tests have been written by practising teachers, subject specialists and advisors and are devised to flag up any gaps in pupils' learning or gifted and talented pupils who might need challenging. The results offer meaningful and understandable information for pupils, parents, teachers, school leaders, governors and Ofsted.

This formative assessment will be carried out along side summative teacher assessment – where the teacher makes an overall judgement on the pupil's progress and attainment based on the pupil's work throughout the year.

Children's annual reports indicate the progress that children have made each year both in terms of knowledge and practical application. Data is inputted into 'Target Tracker' (the school's tracking system) every term/half term so that progress can be tracked throughout each year and through the school.

SAFETY AND CARE

The safe use of equipment is promoted at all times.

The ASE Safety Policy has been adopted by our school. Copies of this policy - "Be Safe" - can be found in the Science Resources Area and inside equipment boxes.

Any insects or animals being used for study should be treated with respect and returned to their habitat as soon as the activity is complete. For specific guidance related to work undertaken on "decay" consult ASE "Be Safe".

Children are to be made aware that science activities can be hazardous and that consideration must be given to making work as safe as possible. Undertaking a risk assessment and discussing appropriate solutions should be discussed with the children.

RESOURCES

Specific Science Resources are kept in a central area within the Resources Room (located in the room next door to the Year Two classrooms). The science coordinator will see that this level of resourcing is maintained and will administer the allocated budget for science.

Additional Needs

Planning will give all pupils access to the curriculum at a level they can achieve at.

MONITORING / EVALUATION

It is the responsibility of the co-ordinator to monitor planning, the effectiveness of teaching in science, standards of the children's work and resources.

This policy document was constructed by the Headteacher, Science Co-ordinator and teaching staff of St Mary's Catholic Primary School.