



Atherton Sacred Heart RC Primary School

Science Policy

WHY DO WE TEACH SCIENCE?

A high-quality Science education provides foundations for understanding the world. Science has changed our lives and is vital to the world's future prosperity. Through building up a bank of key foundational knowledge and concepts, pupils should be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. They should be encouraged to understand how key knowledge and concepts can be used to explain what is occurring, predict how things will behave, and analyse causes. This understanding should be consolidated through their appreciation of applications of Science in society and the economy.

The Science Policy at Sacred Heart follows Science Guidelines within The National Curriculum 2014 and aims to ensure that all pupils:

- develop their **scientific knowledge and conceptual understanding** through the specific disciplines of Biology, Chemistry and Physics;
- develop their understanding of the **nature, processes and methods of Science** through different types of science enquiries that help them to answer scientific questions about the world around them;
- are equipped with the scientific knowledge required to understand the **uses and implications** of Science, today and for the future.

In teaching Science we supporting our children in developing:

- a positive attitude towards Science and an awareness of its fascination;
- an understanding of Science through a process of enquiry and investigation;
- confidence and competence in scientific knowledge, concepts and skills;
- an ability to reason, predict, think logically and to work systematically and accurately;
- an ability to communicate scientifically;
- the initiative to work both independently and in co-operation with others;
- the ability and meaning to use and apply science across the curriculum and real life.

School curriculum

The programmes of study for Science are set out year-by-year for Key Stages 1 and 2. We are however, only required to teach the relevant programme of study by the end of the key stage. Within each key stage, School has the flexibility to introduce content earlier or later than set out in the programme of study and may introduce key stage content during an earlier key stage if appropriate

Planning is based on the programmes of study for the relevant year groups.

Scientific knowledge and conceptual understanding

The programmes of study describe a sequence of knowledge and concepts. While it is important that pupils make progress, it is also vitally important that they develop secure understanding of each key block of knowledge and concepts in order to progress to the next stage.

Pupils should be able to describe associated processes and key characteristics in common language, but they should also be familiar with, and use, technical terminology accurately and precisely. They should build up an extended specialist vocabulary. They should also apply their mathematical knowledge to their understanding of Science, including collecting, presenting and analysing data.

The nature, processes and methods of science

'Working scientifically' specifies the understanding of the nature, processes and methods of Science for each year group. It should not be taught as a separate strand.

Attainment targets

By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study.

Organisation

In Key Stage 1 children are taught science in their year group by their class teacher, with support from a TA. It is taught as an essential part of a cross curricular topic.

In Key Stage 2 each Year group in Key Stage 2 has one full afternoon of discrete science teaching. They are all taught in the Year 3 classroom by a semi specialist teacher.

Monday – Year 3

Tuesday – Year 6

Wednesday – Year 5

Thursday – Year 4

At Sacred Heart RC Primary School we use and adapt ideas from a wide range of publishers and online resources to enhance our short term plans.

Assessment

Throughout each unit of work, the science teacher will use ongoing assessment for learning to monitor pupils' progress in scientific knowledge, understanding and skills through:

- Observations during lessons
- Marking work
- Discussions with pupils
- Half-termly assessments of knowledge and understanding of concepts.
- Observation of how children work scientifically during small group investigations.

Teaching and Learning

A variety of teaching styles are used to teach science. The main focus is to provide practical and investigative activities that embed the children's ability to work scientifically whilst developing their knowledge, understanding and skills through first hand experience. At Sacred Heart we aim to carry out **at least** one thorough investigation for each topic taught.

Science Investigation Days are also planned once per term to support children and ensure science is kept **FUN**.

We also recognise, though, that there are times when a more formal 'chalk and talk' style is necessary, along with modelling and demonstrations by the teacher, to avoid or address misconceptions.

Both educational visits and outside agencies working with the children are a valuable tool to enhance learning.

Equal Opportunities

At Sacred Heart we ensure that all children have the right to access the curriculum. Where appropriate science work is differentiated to meet the needs of the children. Children who are gifted and talented or have particularly good science knowledge and understanding are encouraged to extend their thinking further.

Children are put into ability groups from KS2 upwards, especially when carrying out an investigation.

A series of differentiated planning frames are used to support and stretch children as appropriate. These ensure all children can access learning at their own level and are able to reach their full potential.

Role of The Science Subject Leader

- Deliver the science curriculum within key stage 2.
- To lead staff meetings and discussions related to science issues, e.g. formation of schemes of work etc.
- Create an Action Plan for science.
- Evaluate and update science policy.
- Monitor whole school science resources.
- Give support to colleagues as appropriate e.g. planning.
- Carry out lesson observations and learning walks within Key Stage 1.
- Scrutinise work to identify strengths and weaknesses.
- Analyse science results and feedback to head teacher and staff.
- Organise and plan Science Investigation Days.
- Plan educational visits and visitors.
- Evaluate and manage science resources and budget.

Health and Safety

Health and Safety issues are carefully considered, when creating, and are incorporated into the science scheme of work.