

Science Policy September 2017



Saint Augustine Webster
Catholic Voluntary Academy



Mission Statement

The school will aim to:

- develop an awareness of God's love and presence in individual's lives and to elicit a response to that;
- help pupils to develop a reasoned set of attitudes, values and beliefs allowing the individual to make sound and moral judgements in the light of personal commitment to the Lord, Jesus Christ;
- make prayer, worship and liturgy valued experiences;
- develop real links with home and parish;
- create caring relationships with all those children and adults who are involved in the school.

1 Aims and objectives

1.1 Science stimulates and excites children's curiosity about events and phenomena in the world around them. We believe science includes the acquisition of knowledge, concepts, skills and positive attitudes. Through science we can teach methods of enquiry and investigation to stimulate creative thought. Children learn to ask scientific questions and begin to appreciate the way science will affect their future on a personal, national, and global level.

1.2 The aims of science are to enable children to:

- ask and answer scientific questions;
- think independently
- plan and carry out scientific investigations and fieldwork, using equipment, including computers, correctly;
- know and understand the life processes of living things including evolution and inheritance;
- know and understand the physical processes of materials, electricity, light, sound and natural forces;
- teach science within a cross-curricular framework where appropriate
- know about the nature of the solar system, including the earth;
- evaluate evidence and present their conclusions clearly and accurately.
- To use ICT to support the teaching of Science
- To foster a creative approach to science, so children are motivated to learn.

2 Teaching and learning style

2.1 We use a variety of teaching and learning styles in science lessons. Our principal aim is to develop children's knowledge, skills, and understanding. Sometimes we do this through whole-class teaching, while at other times we engage the children in an enquiry-based research activity in groups. We encourage the children to ask, as well as answer, scientific questions. They have the opportunity to use a variety of data, such as statistics, graphs, pictures, and photographs. They use ICT in science lessons where it enhances their learning. They take part in role-play and discussions and they present reports to the rest of the class. They engage in a wide variety of problem-solving activities. Wherever possible, we involve the pupils in 'real' scientific activities, for example, researching a local environmental problem or carrying out a practical experiment and analysing the results. Science may be taught by making cross-curricular links with other subjects; or it may be taught discretely.

2.2 We recognise that there are children of widely different scientific abilities in all classes and we ensure that we provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child. We achieve this in a variety of ways by:

- setting common tasks which are open-ended and can have a variety of responses;
- setting tasks of increasing difficulty (we do not expect all children to complete all tasks);
- grouping children by ability and/or differentiated tasks
- providing resources of different complexity
- using classroom assistants to support the work of individual children or groups of children.

3 Science curriculum planning

3.1 The school uses the National Curriculum as the basis of its Science planning.

3.2 We carry out our curriculum planning in science in three phases (long-term, medium-term and short-term). The long-term plan maps the scientific topics studied in each term during the key stage. Where possible, we combine the scientific study with work in other curriculum subject areas; at other times the children study science as a discrete subject.

3.3 Our medium-term plans, give details of each unit of work for each term.

3.4 The class teacher is responsible for writing the daily lesson plans for each lesson (short-term plans).

3.5 We have planned the topics in science so that they build upon prior learning. We ensure that there are opportunities for children of all abilities to develop their skills and knowledge in each unit and we also build progression into the science scheme of work, so that the children are increasingly challenged as they move up through the school.

4 Spiritual, moral, social and cultural development

4.1 Science teaching offers children many opportunities to examine some of the fundamental questions in life, for example, the evolution of living things and how the world was created. Through many of the amazing processes that affect living things, children develop a sense of awe and wonder regarding the nature of our world. Science raises many social and moral questions. Through the teaching of science, children have the opportunity to discuss, for example, the effects of smoking and the moral questions involved in this issue. We give them the chance to reflect on the way people care for the planet and how science can contribute to the way we manage the earth's resources. Science teaches children about the reasons why people are different and, by developing the children's knowledge and understanding of physical and environmental factors, it promotes respect for other people.

5 Teaching science to children with special educational needs

5.1 The study of science will be planned to give pupils a suitable range of differentiated activities appropriate to their age and abilities. Tasks will be set which challenge all pupils, including the more able. For pupils with additional educational needs, the task will be adjusted or the pupils given extra support. The grouping of pupils for practical activities will take account of their strengths and weaknesses and ensure that all take an active part in the task and gain in confidence. At our school we teach science to all children, whatever their ability. Science forms part of the school curriculum policy to provide a broad and balanced education to all children. Through our science teaching we provide learning opportunities that enable all pupils to make progress. We do this by setting suitable learning challenges and responding to each child's different needs.

5.2 When progress falls significantly outside the expected range, the child may have special educational needs. Our assessment process looks at a range of factors – classroom organisation, teaching materials, teaching style, differentiation – so that we can take some additional or different action to

enable the child to learn more effectively. This ensures that our teaching is matched to the child's needs.

We enable pupils to have access to the full range of activities involved in learning science. Most practical lessons are carried out in the iStation; each year group having an allotted time during the week. Where children are to participate in activities outside the classroom, for example, a trip to a science museum, we carry out a risk assessment prior to the activity, to ensure that the activity is safe and appropriate for all pupils.

6 Assessment and recording

- 6.1** Assessment opportunities will be identified within schemes of work. Assessment is used to inform future teaching. Science is reported to parents as part of the annual school report.

Evidence of the children's attainment will come from:

Children's work folders.

Recorded lesson observations.

Teacher assessment of the depth of learning at the end of Key Stage 1

Teacher assessment of the depth of learning and test results when appropriate at the end of Key Stage 2.

We assess children's work in science by making informal judgements as we observe them during lessons. On completion of a piece of work, the teacher marks the work and comments as necessary. At the end of a unit of work s/he makes a summary judgement about the work of each pupil in relation to the depth of learning they demonstrate. We use this information as the basis for assessing the progress of each child and we pass this information on to the next teacher at the end of the year.

6.2 Teachers make an assessment of the children's work in science at the end of Key Stage 1 and 2. We report the results of these tests to parents along with the teacher assessments which we make whilst observing the work of children throughout the year.

6.3 The science subject leader keeps samples of children's work in a portfolio and uses these to demonstrate what the expected level of achievement is in science for each age group in the school.

7 Resources

7.1 We have sufficient resources for all science teaching units in the school. We keep these in the iStation, in labelled cupboards. The library contains a supply of science topic books, as does the iStation. Teaching materials and the library are continually developed to reflect curriculum and teaching needs.

8 Monitoring and review

8.1 It is the responsibility of the Senior Leadership Team (SLT) to monitor the standards of children's work and the quality of teaching in science. The

science subject leader in conjunction with the SLT is responsible for supporting colleagues in the teaching of science, for being informed about current developments in the subject and for providing a strategic lead and direction for the subject in the school.

Signed:

Date: September 2017

Review Date: September 2019