SCIENCE Policy 2019/20

St.Brigid's Catholic Primary School

Intent

Vision:

At St Brigid's, we aim for a high quality science curriculum which enables our children to develop a fascination of the world around them. We aim to inspire our children to become the next generation of scientist, engineers and environmentalists who will love, look after and respect the world around them. We aim to stimulate a child's curiosity in finding out why things happen in the way they do through various scientific enquiry and investigation. Children will learn to ask scientific questions and begin to appreciate the way in which science will affect the future on a personal, national, and global level.

Aims:

Out teaching will ensure pupils are able to:

- Develop scientific knowledge, skills and understanding through the areas of Chemistry, Biology and Physics.
- Use various types of scientific enquiry to help them ask and answer relevant scientific questions based on the world around them.
- Develop scientific knowledge to enable them to understand the use and implication of science today and in the future.
- Acquire key scientific vocabulary to enable them to communicate their scientific knowledge and understanding clearly and precisely.

BIOLOGY

- Explore, know and understand the life processes of living things through explicit teaching of the following topics: plants, animals (including humans), living things and their habitats, evolution and inheritance

CHEMISTRY

- Explore, know and understand the properties and changes of everyday materials through explicit teaching of the following topics: rocks, everyday materials, changes of materials and states of matter

PHYSICS

- Explore, know and understand physical processes through explicit teaching of the following topics: electricity, light, sound, forces (including magnets), solar system, earth and its seasonal changes;

Implementation

Teaching and learning:

In ensuring high standards of teaching and learning in science, we implement a curriculum that is progressive throughout the whole school, by focussing on scientific enquiry through a range of topics. This enable pupil's to build on their growing scientific knowledge, skills and understanding in all areas of Science.

Early Years

Through exploration and interaction with the world around them - your child will start to gain the **science** knowledge that they will build on throughout their primary school **years**, such as developing their skills of observation, prediction, critical thinking and discussion.

Key Stage One

In Key Stage One, children learn experience and observe phenomena, looking more closely at the natural and humanly – constructed world around them. They will be encouraged to be curious and ask questions about what they notice. They will be helped to develop their understanding of scientific ideas by using different types of scientific enquiry to answer their own questions, including observing changes over a period of time, noticing patterns, grouping and classifying things, carrying out simple comparative tests, and finding things out using secondary sources of information. They will begin to use simple scientific language to talk about what they have found out and communicate their ideas to a range of audiences in a variety of ways. We will do all of the above by providing first-hand practical experiences alongside other relevant resources (books, photographs and videos).

Lower **Key Stage Two**

The principal focus of science teaching in lower key stage 2 is to enable pupils to broaden their scientific view of the world around them. They should do this through exploring, talking about, testing and developing ideas about everyday phenomena and the relationships between living things and familiar environments, and by beginning to develop their ideas about functions, relationships and interactions. They should ask their own questions about what they observe and make some decisions about which types of scientific enquiry are likely to be the best ways of answering them, including observing changes over time, noticing patterns, grouping and classifying things, carrying out simple comparative and fair tests and finding things out using secondary sources of information. They should draw simple conclusions and use some scientific language, first, to talk about and, later, to write about what they have found out.

Upper **Key Stage Two**

The principal focus of science teaching in upper key stage 2 is to enable pupils to develop a deeper understanding of a wide range of scientific ideas. They should do this through exploring and talking about their ideas; asking their own questions about scientific phenomena; and analysing functions, relationships and interactions more systematically. At upper key stage 2, they should encounter more abstract ideas and begin to recognise how these ideas help them to understand and predict how the world operates. They should also begin to recognise that scientific ideas change and develop over time. They should select the most appropriate ways to answer science questions using different types of scientific enquiry, including observing changes over different periods of time, noticing patterns, grouping and classifying things, carrying out comparative and fair tests and finding things out using a wide range of secondary sources of information. Pupils should draw conclusions based on their data and observations, use evidence to justify their ideas, and use their scientific knowledge and understanding to explain their findings.

Science Curriculum:

At St Brigid's, science is taught across the year in all year groups from Y1 to 6 and focuses on the topics identified below:

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2

Year 1	Animals, including humans	Seasonal changes (autumn)	Everyday material	Seasonal changes (spring)	Plants	Seasonal changes (summer)
Year 2	Living things & habitats	Living things & habitats	Animals, including humans	Plants	Everyday materials	Everyday materials
Year 3	Forces and magnets	Animals, including humans	Rocks	Light	Light	Plants
Year 4	Living things & habitats	Animals, inc humans	States of matter	Sound	Sound	Electricity
Year 5	Living things & habitats	Animals, inc humans	Forces & magnets	Earth & Space	Earth & Space	Properties of materials
Year 6	Living things & habitats	Animals, inc humans	Evolution and inheritance	Light	Electricity	

Inclusion:

We aim to encourage all pupils to reach their full potential through the provision of varied opportunities. All children are challenged with open-ended tasks which provide opportunities to tackle more complex issues and a wider range of resources. Activities, resources and support are differentiated in order to meet the needs of all pupils.

British Values:

We ensure care is taken when selecting source material and that a range of perspectives and viewpoints are represented including those of men and women from different racial, national and religious groups. *Care is taken that societies are not just represented from the British perspective but also from their own.*

Vocabulary:

At St Brigid's the importance of vocabulary is highlighted through the science curriculum and each Year group has been provided with specific key vocabulary to be acquired during each topic of work. This is taught through fun

interactive games in the classroom and features on displays for children to access. Vocabulary is introduced as it is met through the topic. Pupils will add new vocabulary and learning to concept maps created prior to each topic.

Enrichment opportunities:

Each year group will participate in enrichment opportunities to enhance learning and promote a love of Science. This will include planned science visits linking to topics being taught and whole school National science week.

Impact

Assessment:

At St Brigid's assessment is an integral part of the teaching process. Children will complete a Planned 'assessment' task at the end of each topic based on identified key learning. Teachers will assess children's use of vocabulary, knowledge and skills which will help direct learning and support in future topics. Also, standardisation will be completed twice a year to ensure consistency of judgements. The impact and measure of this is to ensure that children at St Brigid's are equipped with scientific skills and knowledge that they can use and build upon year on year and also enable them to be ready for the curriculum at Key Stage 3 and for life as an adult in the wider world.

Monitoring:

Monitoring takes place regularly through book scrutinies and observations, which are completed twice a year to ensure progression across the year group and key stage. Similarly, pupil voice is completed to both assess children's knowledge but also their enjoyment of the topic, tasks, enrichment opportunities etc.

Review and evaluation:

	Date of Next Review by
Head teacher/SLT	July 2020
Approval	Curriculum and Standards