Science Policy

Burscough Bridge Methodist School

Mission Statement

‘Let Your Light shine to all’ (John Wesley)

Through exciting opportunities in lessons and the wider curriculum our children become well rounded, caring changemakers in our world. Each child is at the heart of all we do to ensure they become the best they can be and are meant to be.

Vision

As a truly distinctive Methodist school our vision is to be a Welcoming, Worshipping, Witnessing presence in the village and the community. At Burscough Bridge children thrive, emotionally, spiritually and academically to be the person God intended them to be; a school that the Methodist Church and the local community can take great pride through.

Intent

- At Burscough Bridge Methodist it is our intention to deliver a high-quality science education which provides the foundations for understanding the world through the specific disciplines of biology, chemistry and physics. It is vital that all pupils should be taught essential aspects of the knowledge, methods, processes and uses of science. Through building up a body 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 science can be used to explain what is occurring, predict how things will behave, and analyse causes.

Aims

- Our Science policy follows The National Curriculum 2014 for Science Guidelines and aims to ensure that all pupils:
    - Are provided with a Science Curriculum which is broad, balanced, relevant and differentiated.

- Develop scientific knowledge and conceptual understanding through the specific disciplines of Biology, Chemistry and Physics.

- Develop 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, using a wide variety of materials and equipment.

- Are equipped with the scientific knowledge required to understand the uses and implication of Science, today and for the future.

- To ensure the progressive development of scientific concepts, knowledge, skills and attitudes.

- To promote positive attitudes towards, and enthusiasm for, Science work in and out of school.

- Work in Science is divided into Key Stages (EYFS, KS1, LKS2 and UKS2) and organised into units of increasing challenge.

- 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 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.

Objectives

- In the teaching and learning of Science we can identify a number of objectives:

    - To provide a balanced range of scientific activities as an integral part of the whole school curriculum.
    - To ensure continuity and progression in science work from Reception (Foundation Stage) to Year 6.
    - To incorporate opportunities to develop basic scientific skills, attitudes and knowledge appropriate to the development of the child.
    - To provide opportunities for children to acquire, practice and develop scientific skills and strategies through a carefully structured activity-based programme centred on investigations.
    - To provide flexible ways of working including class, group and individual.
    - To provide opportunities for children and staff to share and develop ideas and respect each other's views.
    - To develop children's natural curiosity about themselves and their world and

use to foster positive attitudes to scientific learning.
    - To provide first-hand experiences which help children to understand themselves and the world in which they live.
    - To develop children's ability to reason, predict, think logically and to work systematically and accurately.
    - To build upon the experiences children bring to science and develop them in a wide range of contexts.
    - To build upon children's confidence and competence when working in science.
    - To encourage children to work in an increasingly independent way and develop their own research skills.

- Class teachers and subject leader will be responsible for ensuring all relevant units of work are covered throughout the year. Please see Science Overviews for details of when units will be delivered.

WORKING SCIENTIFICALLY WITHIN THE CURRICULUM

- Class teachers and subject leader must ensure that there are frequent opportunities for pupils to 'work scientifically' within the curriculum. 'Working scientifically' specifies the understanding of the nature, processes and methods of science. Pupils are required to work scientifically within all areas of the science curriculum. The following skills are statutory:
- Key Stage 1 - During years 1 and 2, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:
- Asking simple questions and recognising that they can be answered in different ways
- Observing closely, using simple equipment
- Performing simple tests
- Identifying and classifying
- Using their observations and ideas to suggest answers to questions
- Gathering and recording data to help in answering questions

- Lower Key Stage 2 - During years 3 and 4, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:
    - Asking relevant questions and using different types of scientific enquiries to answer them.
    - Setting up simple practical enquiries, comparative and fair tests.
    - Making systematic and careful observations and, where appropriate, taking

accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.
    - Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions.
    - Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.
    - Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.
    - Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.
    - Identifying differences, similarities or changes related to simple scientific ideas and processes.
    - Using straightforward scientific evidence to answer questions or to support their findings.

- Upper Key Stage 2 - The main 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. Pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:
    - Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.
    - Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.
    - Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.
    - Using test results to make predictions to set up further comparative and fair tests.
    - reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.
    - Identifying scientific evidence that has been used to support or refute ideas or arguments.

Assessment

- Class teachers are responsible for carrying out assessment of Science within their class. This assessment will inform the teachers future planning.
- The Subject Leader Will:
- To prepare a policy and scheme of work for the whole school in Science.
- To provide guidance and support to other members of staff in implementing the National Curriculum in Science by meetings, guidance and example.
- To be responsible for the acquisition and maintenance of Science resources within

the school in collaboration with the Head Teacher.

- To keep and use the assessment data, to analyse pupils' progress in Science, to monitor the effectiveness of the schools' teaching in Science and to identify strengths and weaknesses.
- To monitor progress throughout the school in Science.

The Head Teacher Will:

- Set high expectations and monitor teaching and progress.
- Encourage whole school approach, keeping parents, governors and all support staff well informed.
- Support the subject leader and individual teachers.