Emmaus Primary School

Church of England and Catholic Primary School

Travelling together with Jesus

SCIENCE

Policy

Intent

At Emmaus Primary School our vision is to give children a Science curriculum which enables all children to explore and discover the world around them confidently, so that they have a deeper understanding of the world we live in. To achieve this, we provide exciting, practical hands on experiences that encourage curiosity and questioning. Our stimulating science curriculum nurtures their natural curiosity and on-going intellectual development. Through our hands-on, inquiry-based curriculum, our children will experience the joy of having wonderful ideas, exploration and investigation – that is, the joy of finding out and being scientists!

At Emmaus we recognise that the school grounds offer a rich resource which we can utilise to inspire and effectively meet the requirements of the EYFS Framework and National Curriculum Programmes of Study and we ensure our outdoor areas provide a stimulating environment to all ages and abilities.

We believe that these opportunities will ensure that our children are confident, life-long learners and who will explore the world around them and that these challenging experiences help our children secure and extend their scientific knowledge and vocabulary. Concepts taught are reinforced by focusing on the key features of scientific enquiry, so that pupils learn to use a variety of approaches to answer relevant scientific questions.

Implementation

School Aims

We believe that the science we teach and the ways in which we teach it will meet the aims of our school in that it will foster, in the children, understanding, care and respect for all Creation in accordance with the values of the Gospel.

We believe that science offers opportunities to develop the talents of our children through broadening their knowledge, developing their practical skills and enhancing their problem solving capabilities.

All children are encouraged to develop and use a range of skills including observations, planning and investigations, as well as being encouraged to question the world around them and become independent learners in exploring possible answers for their scientific based questions. Specialist vocabulary for topics is taught and built up, and effective questioning to communicate ideas is encouraged. Concepts taught are reinforced by focusing on the key features of scientific enquiry, so that pupils learn to use a variety of approaches to answer relevant scientific questions.

We believe that science plays a strong role in encouraging commitment, responsibility and respect for both self and others through developing the perseverance required to carry out investigations, the need to act safely and sensibly in practical work and by learning how to care for living things and to use equipment in a safe and sensible manner.

Aims of Science

The general aims of our science teaching include:-

Teaching children scientific skills
Enabling children to acquire scientific knowledge
Building on children's natural curiosity
Developing the children's skill of thinking and behaving scientifically.

Curriculum Planning of Science

What We Teach

We base our teaching on the National Curriculum Programmes of Study for Key Stages 1 and 2. The attainment targets inform our planning and help us to ensure that we plan for continuity and progression.

Topic Approach

We plan our science using topics (normally about five a year) ensuring that an aspect of each attainment target is addressed at least once during the year.

Cross Curricular Links

We recognise that science topics often have close links with other curricular areas and we exploit these links wherever possible.

Progression

We ensure progression in science by planning that areas of study are revisited and developed to give a progressively deeper understanding and greater competence.

Balance

We strive to ensure a balance between the acquisition of scientific concepts and the practice of scientific skills.

Breadth

We ensure breadth of experience by planning that each time children revisit a topic they study a new aspect of it.

Differentiation

We endeavour to match work to the ability level of the child. We seek to present activities that are challenging without being overwhelming. Where necessary we provide activities which are differentiated or have expectations of differentiated outcomes.

Teaching and Learning Styles

We recognise and accept that the full depth and breadth of the Science curriculum cannot be delivered by the adoption of any one strategy. It is our policy to take into account the emphasis of the lesson, knowledge, skills and the developmental level of the children. We recognise that the best teaching will use a combination of instruction and inquiry based strategies, allowing the children to learn through first hand experiences as much as possible. The children will be helped and encouraged to make sense of these experiences through discussion and application to new learning situations. We make use of the local environment in providing first-hand experience for science activities and encourage teachers to make use of educational visits further affined such as Croxteth Park, museum, farm, seashore, zoo etc to enhance the quality of the children's learning.

Contribution of into other subjects

Cross-curricular work offers a creative way to develop children's knowledge, skills and understanding while motivating them to learn through stimulating, interconnected topics.

At Emmaus teachers plan Science with relevant links to literacy, numeracy, ICT, D&T, Art and Design Technology. These provide a wealth of opportunities to teach subjects within exciting and motivating contexts, mapped to cover the National Curriculum requirements.

The Foundation Stage

Science in the Early Years Foundation Stage is integrated into the learning opportunities and experiences planned and provided throughout the year. It is introduced indirectly through activities that encourage children to explore, problem solve, observe, predict, think, make decisions and talk about the world around them. Through the strand, 'Understanding the World' area of learning, pupils in Nursery and Reception have direct opportunities to develop fundamental Science skills with practitioners skilfully engaging with pupils asking questions about why things happen and how things work.

Resources

Resources are shared by all teachers and are stored centrally in the resources room. Each teacher is responsible for the care of equipment and for ensuring that the children treat the equipment with respect. Resources are audited on a termly basis and new resources purchased if necessary.

Health and Safety

We accept a responsibility to plan safe activities for science in accordance with the attached guidelines. We accept a responsibility for the health and safety of any living creatures we may use to assist our teaching.

Please see our school Online Safety Policy

Impact

Assessment and Recording

Records of pupil progress will be entered on the Emmaus Class Tracking System.

The data is collated and analysed by the curriculum lead and shared with staff.

End of Key Stage data will be analysed and feedback used to inform teaching and learning.

Monitoring and Evaluation

Monitor the teaching and learning of science throughout the school

Read and keep copies of science planning across the school

Learning walks and lesson observations

A celebration of learning displayed in corridors which demonstrates progression across the school

Tracking of knowledge in pre and post learning quizzes

Pupil discussions about their learning

Look at samples of children's work and talk to children about their science activities

Topics, lessons and equipment will be regularly reviewed

Teaching approaches and the management of work in the classroom will be evaluated

Our ability to achieve continuity and progression will be carefully monitored and evaluated

We will review our record keeping systems and the usefulness of the outcomes of our assessments

The Science Subject Leader will:

Working alongside the Head Teacher, the science subject leader has the responsibility for the progression and co-ordination of teaching through the science curriculum;
Has the responsibility for the maintenance of the science equipment and for the purchase of new equipment, materials and other resources
Will support colleagues who are planning science activities
Will liaise with relevant bodies and attend appropriate science courses
Will be a resource for science knowledge for the whole school and will advise staff on the appropriate use of equipment
Will monitor the teaching and learning of science throughout the school;
Will provide INSET, where appropriate, within the school.

Our statement of SMSC

Through our varied curriculum our children will have…

- A sense of enjoyment and fascination in learning about themselves, others and the world around them, including the intangible
- imagination and creativity in their learning
- A willingness to reflect on their experiences.
- The ability to recognise the difference between right and wrong and their readiness to apply this understanding in their own lives
- An understanding of the consequences of their actions
- A willingness to participate in a variety of social settings, cooperating well with others and being able to resolve conflicts effectively
- A willingness to participate in, and respond to, for example, artistic, musical, sporting, mathematical, technological, scientific and cultural opportunities

Date: - September 2023

Date of next review: - September 2024