

Science Policy

Our Lady & St Oswald's Catholic Primary School

Vision - 'Through Christ we Inspire and Flourish'



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1. Aims and Objectives:

- To establish investigative approaches in the classroom which promote and reflect the scientific process as set out in the National Curriculum Document.
- To give the children confidence to ask questions, share ideas and work collaboratively in practical activities.
- To let children communicate their ideas using appropriate scientific vocabulary.
- To enable them to record their findings in a variety of different ways.
- To give opportunities to observe their environment.
- To give opportunities to make predictions concerning their environment.
- To give opportunities to develop their own theories.
- To give opportunities to test these theories where appropriate.
- To enable them to draw and report reasonable conclusions from their tests

2. Science Curriculum:

Science is taught to all pupils, following guidance in the National Curriculum Programmes of Study. Science has two dimensions, firstly the body of knowledge across a range of areas and secondly the ways in which this knowledge is acquired.

- Working Scientifically
- Life processes and living things (Life processes, Humans and other animals, Green Plants, Variation and Classification & Living things in their environment)
- Materials and their properties (Grouping and classifying materials, Changing materials & Separating mixtures of materials)
- Physical processes (Electricity, Forces and motion, Light and sound & The Earth and beyond)

Contribution to other areas of the curriculum

Science has many links to other areas of the curriculum.

These include:

- English – reporting on experiments / information texts.
- Maths – showing data results in graphs and measurements.
- Music – vibration, tone and pitch.
- ICT – using as a tool for research, data logging, simulating, data handling, to practise and reinforce skills and to develop word processing skills.
- P.E. – using exercise to show changes in the body and to investigate forces.

- DT - using scientific knowledge to manufacture and refine projects, e.g. musical instruments.

Progression and Continuity

The scheme of work the school follows is primarily Snap Science.

The teaching of Science is organized so that children cover topics regularly as they progress through the school, with the various schemes of work reflecting the age and ability of children when topics are taught.

Early Years and Foundation Stage

In the Early Years Foundation Stage, Science is included as an aspect of 'Understanding of the World'. The children of Reception age are provided with a broad range of opportunities and experiences through which they may work towards the Early Learning Goals:

- to investigate objects and materials by using all of their senses as appropriate;
- to find out about and identify some features of living things objects and events they observe;
- to look closely at similarities, differences, patterns and change and to ask questions about why things happen and how things work.

KS1

The scheme of work covers the Programmes of Study and builds on the knowledge and skills acquired in the Foundation Stage.

KS2

The KS2 scheme of work runs on a two-year cycle which reinforces and builds upon work covered in previous years.

3. Time allocation:

Each class has 2 hours of timetabled science each week, this will comprise of a mix of working scientifically as well as knowledge based learning, science will also be taught through cross curricular links.

4. Staffing

The role of the co-ordinator can be summarized as follows:

- To monitor the effectiveness of the teaching of science, both in the planning stage and in its delivery.

- To be available to support colleagues and to purchase and organize resources.
- To be available to support colleagues in the teaching and delivery of science.
- To liaise with other teaching staff regarding opportunities for children to participate in activities outside of the classroom.

5. Recording and Assessment

Pupil achievement is recorded in the Foundation Stage Profile, which is passed to KS1 teachers for formative planning. In KS1 and KS2, formative assessment is completed in the following ways:

- Teacher questioning
- Marking in books
- Observation of Pupils
- Pre and Post learning tasks before during and after a unit of work.

Pupil Self Assessment

Pupils self assess their own understanding of the science curriculum taught in the following ways:

- Thumbs up/thumbs visual assessment during the lesson
- Assessing their learning linked to the success criteria for the lesson.
- The use of pre and post learning assessments
- The use of Concept Cartoons to assess their own understanding.

6. Health and Safety

All teachers, children and other adults in school are expected to be aware of the need for safe working at all times. If any of these groups are unsure of anything, then they should consult with the co-ordinator for extra help and advice.

The Engaging Science units point out specific health and safety issues in relation to each lesson and investigation which teacher can use for guidance.

Teachers are responsible to undertake their own specific risk assessment, in line with the investigation and lesson being taught, this information should be detailed on planning when necessary.

7. Planning for Differentiation across the Key Stages

Planning for differentiation should incorporate:

- Pupil groupings, e.g. ability or mixed ability groups; or group work, paired or individual activities.
- Resources, e.g. different equipment for different levels of ability across the key stages.
- Pupil activity, e.g. different task, different roles and responsibilities, different allocations of time and variations of pace within the lesson to meet needs of different levels of ability.
- Other opportunities, e.g. extracurricular activities, club links and interest groups, for the development of excellence.

Types of Differentiation:

- Differentiation by task may be achieved when the children who are pursuing the same part of the Programme of Study are given a range of different but related tasks according to their levels of ability.
- Differentiation by outcome may be achieved by setting tasks, which are suitable, and appropriate for all the children's starting level and which allow the more able children to be challenged.
- Differentiation by support may be achieved when children of low ability are given constant reassurance to help improve their confidence.

8. Resources

Resources for science are kept in a labelled cupboard split into topic units.

9. Equal Opportunities/ Disability Equality Duty

We teach science to all children, whatever their ability or need. 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.

Children with special needs will be included in any science lesson. If a programme needs to be adapted then the teacher in charge will do this in consultation with the coordinator and SENCO.

We enable children to have access to the full range of activities involved in learning science. Where children are to participate in activities outside our school, for example, a workshop or science day at another school, we carry out a risk assessment prior to a visit.

10. Gifted and Talented

We believe in creating opportunities and experiences to extend and develop our most gifted scientifically minded children. Activities will be offered to these children to give them opportunities to excel further.

Differentiation within these lessons should take into account their individual needs using the methods stated previously, children can also be used as demonstrators in the areas where their skills lie.

11. Teaching of Children with Special Educational Needs / Inclusion

Wherever practicable, provision will be made for children with special educational needs where it affects their performance in science lessons. They may have sensory difficulties, physical difficulties, cognitive limitations, and/or emotional and behavioural disorders.

It is important to concentrate on children's abilities and needs, not on their disabilities and handicaps. This emphasis aims to improve their movement skills and to help change feelings of disaffection, under-achievement and low self-esteem.

Everything should be done to avoid highlighting the disabilities of any particular child.

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