

St. Ethelbert's Catholic Primary School



Science Policy

"I serve Jesus with my body, heart, mind and soul."

Serviam means 'I serve'. Jesus Christ has taught us that it is more blessed to serve than to be served. At St Ethelbert's school, following our Catholic faith, we serve the whole person – mind, heart, body and soul.

Body – because we care for our wellbeing, our parish neighbourhood and our environment.

Heart – because we teach love and respect for all.

Mind – because we believe in excellent education.

Soul – because we learn to pray and become closer to God as his children.

Rationale

Science is a systematic investigation of the physical, chemical and biological aspects of the world, which relies on first hand experiences and on other sources of information. The scientific process and pupils' problem solving activities will be used to deepen their understanding of the concepts involved. The main aspects of science to be studied will be determined by the programmes of study of the National Curriculum.

Aims

- to develop pupils' enjoyment and interest in science and an appreciation of its contribution to all aspects of everyday life
- to build on pupils' curiosity and sense of awe of the natural world
- to use a planned range of investigations and practical activities to give pupils a greater understanding of the concepts and knowledge of science
- to introduce pupils to the language and vocabulary of science
- to develop pupils' basic practical skills in numeracy and their ability to make accurate and appropriate measurements
- to develop pupils' use of computing in their science studies.

Objectives

The following objectives derived from the above aims will form the basis of our decisions when planning a scheme of work. Assessment will also be related to these objectives:

- to encourage pupils to relate their scientific studies to applications and effects within the real world
- to develop a knowledge of the science contained within the programmes of study of the National Curriculum.

To build on pupils' curiosity and sense of awe of the natural world

- to develop in pupils a general sense of enquiry which encourages them to question and make suggestions
- to encourage pupils to predict the likely outcome of their investigations and practical activities

To use a planned range of investigations and practical activities to give pupils a greater understanding of the concepts and knowledge of science

- to provide pupils with a range of specific investigations and practical work which gives them a worthwhile experience to develop their understanding of science

- to develop progressively pupils' ability to plan, carry out and evaluate simple scientific investigations and to appreciate the meaning of a 'fair test'.

To develop the ability to record results in an appropriate manner including the use of diagrams, graphs, tables and charts

- to introduce pupils to the language and vocabulary of science
- to give pupils regular opportunities to use the scientific terms necessary to communicate ideas about science
- to develop pupils' basic practical skills and their ability to make accurate and appropriate measurements
- within practical activities give pupils opportunities to use a range of simple scientific measuring instruments such as thermometers and forcemeters and develop their skill in being able to read them.

Principles of teaching and learning

Differentiation & Special Needs

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 SEN the task will be adjusted or pupils may be 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. Talented or able children are challenged through more demanding tasks such as more open ended investigative briefs, rigorous testing, carrying out independent research, giving additional responsibilities such as leading a team or acting as a "consultant".

Breadth & Balance

We will ensure that all staff have a clear idea of the concepts and skills to be taught. Medium Term Plans include a new topic for each class over each term – but repetition and teaching some topics throughout the whole year will be planned for. Medium Term Plans are stored on the intranet.

Variety

Pupils will be involved in a variety of structured activities and in more open-ended investigative work:

- activities to develop good observational skills
- practical activities using measuring instruments which develop pupils' ability to read scales accurately
- structured activities to develop understanding of a scientific concept
- open ended investigations.

On some occasions pupils will carry out the whole investigative process themselves or in small groups.

Relevance

Wherever possible science work will be related to the real world and everyday examples will be used.

Cross-curricular skills & links

Science pervades every aspect of our lives and we will relate it to all areas of the curriculum. We will also ensure that pupils realise the positive contribution of both men and women to science and the contribution from those of other cultures. We will not only emphasise the positive effects of science on the world but also include problems, which some human activities can produce.

Continuity & Progression

By careful planning, pupils' scientific skills and knowledge gained at Key Stage 1 will be consolidated and developed during Key Stage 2.

Pupils' in Key Stage 1 will be introduced to science through focused observations and explorations of the world around them. These will be further developed through supportive investigations into more independent work at Key Stage 2.

The knowledge and content prescribed in the National Curriculum will be introduced throughout both key stages in a progressive and coherent way. How this is achieved is indicated in our scheme of work for science.

Equal opportunities

Curriculum planning will ensure that all pupils have an equal opportunity to take part in the full scheme of work and its associated practical activities. Where appropriate, work will be adapted to meet pupils' needs. More able pupils will be given suitably challenging activities. Gender and cultural differences will be reflected positively in the teaching materials used.

Health & Safety

A simple risk assessment will be carried out for all practical activities. The LEA has adopted the ASE book 'Be Safe' as its model risk assessment and therefore this should be consulted when necessary. If an activity is not covered by 'Be Safe' then we will contact CLEAPSS (School Science Service Helpline 01895251496) for further advice.

Assessment, Recording & Reporting

Assessment opportunities will be identified within schemes of work. At Key Stage 1 the only statutory assessment for science is teacher assessment and therefore assessments will be recorded appropriately on Pupil Asset – the online KCSP assessment system

At Key Stage 2 similar arrangements will be followed but assessments will include end of topic checks, which will be used to determine pupils' retention of knowledge and vocabulary. Assessment will rely on a mixture of evidence from pupils' everyday practical work throughout the key stage and other more independent investigations carried out by the pupils. Data will be recorded on Pupil Asset – the online KCSP assessment system.

Management & Administration

An annual staff meeting will be held to review the needs of science. The personal development of staff and training needs will be addressed. The science subject manager will organise and lead these meetings. The subject manager will provide professional leadership and management for science and will ensure that it is managed and organised so that it meets the aims and objectives of the school. The subject leader will monitor teaching and learning within the subject and will initiate reviews of the scheme of work. The subject leader will manage the resources for science and will maintain the stock to meet the needs of the curriculum.

Resourcing

In order to encourage an investigative approach to learning all classrooms have access to sufficient basic equipment to allow simple investigations, observations and measurements to be carried out in small groups. The science subject manager will see that this level of resourcing is maintained and will administer the allocated budget for science.

More specialist pieces of equipment and those posing a potential safety risk will be held centrally and issued to staff when requested. Teaching materials and background information on science are kept in the St Nicholas Room.

Review

The science subject leader will monitor classroom work in all year groups on a yearly basis through work sampling and selected lesson team-teaching and observation. The effectiveness of the science curriculum will be evaluated in discussions with the headteacher and the science subject leader. Priorities for in service support and external review will be established. This evaluation will form the basis for an action plan, which will then inform the school development plan.

Long Term Science Coverage

Year	Autumn Term		Spring term		Summer Term	
Y1	Senses and body shape	Autumn and Winter	Life cycles	Winter and Spring	Materials	Spring and Summer
Y2	All living things	Animals including humans	Plants	Habitats	Uses of everyday materials	Uses of materials and their properties
Y3	Animals and healthy living	Light and shadows	Rocks	Forces and magnets	Plants	
Y4	Living things and their habitats	Animals including humans	Sound	States of matter	Electricity	Moving and growing
Y5	Life cycles	Materials	Earth, Moon and Sun	Irreversible changes	Reproduction	Forces
Y6	Animals including humans	Evolution	Dissolving / Forces in action	Reversible and irreversible changes	Investigating	Investigating

Mr J Letts
To be reviewed December 2018