



We live, love and learn together
joyfully in Jesus' name.

St.Jude's Catholic Primary School

Science Policy

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Statement of intent

St. Jude's Catholic Primary School recognises the importance of science education in teaching pupils about the world around them.

Our intent for our Science curriculum is for the children to have:

- an experience of a high quality science education.
- the ability to think independently by building on their substantive and disciplinary knowledge, making links between prior learning and new learning, and by working scientifically.
- confidence and competence in the full range of practical skills, taking the initiative in, for example, planning and carrying out scientific investigations.
- excellent scientific knowledge and understanding which is demonstrated in written and verbal explanations, solving challenging problems and reporting scientific findings.
- the ability to enquire, research, ask questions and use challenging vocabulary correctly.
- opportunities to undertake practical work in a variety of contexts, including fieldwork.
- an understanding of the application of science in past and present technologies that prepares them for life in an increasingly scientific and technological world today and in the future.
- a passion for science that increases their science capital and inspires them to consider a future career in science.

This policy will ensure the school complies with the national curriculum and help pupils to have a solid grounding in science, a positive attitude towards scientific knowledge, and a strong understanding of experimental processes.

1. Legal framework

This policy has due regard to all relevant legislation and statutory guidance including, but not limited to, the following:

- The Control of Substances Hazardous to Health Regulations (COSHH) 2002
- The Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) 2013
- DfE (2013) 'Science programmes of study: key stages 1 and 2'
- DfE (2023) 'Early years foundation stage statutory framework: For group and school-based providers'

This policy operates in conjunction with the following school policies:

- Health and Safety Policy
- COSHH Policy
- Teaching and Learning Policy

2. Roles and responsibilities

The governing board is responsible for:

- Ensuring a broad and balanced science curriculum is implemented in the school.
- Ensuring the school's science curriculum is accessible to all pupils.

The headteacher is responsible for:

- The overall implementation of this policy.
- Ensuring the school's science curriculum is implemented consistently.
- Ensuring appropriate resources are allocated to the science curriculum.
- Ensuring all pupils are appropriately supported.
- Appointing a member of staff to lead on the school's approach to teaching science.

The science lead is responsible for:

- Preparing policy documents, curriculum plans and schemes of work for science.
- Reviewing changes to the national curriculum and advising on their implementation.
- Monitoring the learning and teaching of science, providing support for staff where necessary.
- Organising the deployment of resources and carrying out an annual audit of all science resources.
- Leading staff meetings and providing relevant staff with the appropriate training.
- Advising on the contribution of science to other curriculum areas.

Teachers are responsible for:

- Acting in accordance with this policy.
- Ensuring that lessons are taught in line with the school's Health and Safety Policy at all times.

- Liaising with the science lead about key topics, resources and support for individual pupils if required.
- Ensuring that all relevant statutory content is covered within the school year.
- Monitoring the progress of pupils in their class and reporting this on a termly basis via the school assessment system.
- Reporting to parents on an annual basis.
- Undertaking any training that is necessary to teach the subject effectively.

3. The national curriculum

The national curriculum will be followed for all science teaching. Learning sequences are carefully planned and can be found in Appendix A of this policy. The long term plan (App. A) sets out the disciplinary and substantive knowledge taught in each year group.

During Nursery and Reception, in accordance with the 'Early years foundation stage statutory framework: For group and school-based providers', focus will be put on the seven early learning goals (ELGs), with the scientific aspect of pupils' work relating to the objectives set out within the framework. The ELGs cover:

1. Communication and language: listening, attention and understanding; and speaking.
2. Personal, social and emotional development: self-regulation, managing self, and building relationships.
3. Physical development: gross motor skills and fine motor skills.
4. Literacy: comprehension, word reading, and writing.
5. Mathematics: number and numerical patterns.
6. Understanding the world: past and present; people, culture and communities; and the natural world.
7. Expressive arts and design: creating with materials; and being imaginative and expressive.

Across all year groups, there are specific aims to ensure that pupils are able to work scientifically. There are three aims in the English primary science curriculum, to ensure that all pupils:

- 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
- are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future

Specific aims for working scientifically across phases are set out below. A more detailed plan of how working scientifically across school can be found in Appendix B.

During Years 1 and 2, pupils will be taught to:

Working scientifically

- Ask simple questions and recognise that they can be answered in different ways.

- Observe closely, using simple equipment.
- Perform simple tests.
- Identify and classify.
- Use their observations and ideas to suggest answers to questions.
- Gather and record data to help in answering questions.
- Identify and name a variety of plants and animals in their habitats, including microhabitats.
- Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.
- Notice that animals, including humans, have offspring which grow into adults.
- Find out about and describe the basic needs of animals, including humans, for survival, i.e. water, food and air.
- Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.

During Years 3 and 4, pupils will be taught to:

Working scientifically

- Ask relevant questions and use different types of scientific enquiries to answer them.
- Set up simple practical enquiries, comparative and fair tests.
- Make systematic and careful observations and, where appropriate, take accurate measurements using standard units and a range of equipment, including thermometers and data loggers.
- Gather, record, classify and present data in a variety of ways to help answer questions.
- Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables.
- Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.
- Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.
- Identify differences, similarities or changes related to simple scientific ideas and processes.
- Use straightforward scientific evidence to answer questions or to support their findings.
- Describe magnets as having two poles.
- Predict whether two magnets will attract or repel each other, depending on which poles are facing.
- Recognise that a switch opens and closes a circuit and associate this with whether a lamp lights in a simple series circuit.
- Recognise some common conductors and insulators, and associate metals with being good conductors.

During Years 5 and 6, pupils will be taught to:

Working scientifically

- Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.

- Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.
- Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.
- Use test results to make predictions to set up further comparative and fair tests.
- Report and present findings from enquiries, including conclusions, causal relationships, and explanations of the results and the degree of trust in them, in oral and written forms such as displays and other presentations.
- Identify scientific evidence that has been used to support or refute ideas or arguments.

4. Cross-curricular links

Where possible, the science curriculum will provide opportunities to establish links with other curriculum areas. This includes:

English

- Pupils' writing skills are developed through recording their planning, what they observe and what they found out. Pupils should be taught to: describe the process of their scientific thinking; describe differences - for instance between animals' habitats; draw simple conclusions; use scientific language and write about what they have found out. They should also learn to read and spell scientific vocabulary correctly and with confidence.

Maths

- Pupils use their knowledge and understanding of measurement and data handling, including through recording their findings on charts, tables and graphs.

PSHE

- Health education is taught as part of the science units about humans, including information about healthy lifestyles, growth, age, and reproduction.

5. Teaching and assessment

Lesson planning

All relevant staff are briefed on the school's lesson planning procedures as part of staff training.

Throughout the school, science is taught as a discrete lesson and as part of cross-curricular teaching when appropriate. The statutory national curriculum content from the DfE's 'Science programmes of study: key stages 1 and 2', as outlined above, as the starting point for their planning.

Lesson plans will balance visual, auditory and kinaesthetic elements used in teaching, ensuring that all pupils with different learning styles can access the learning experience. All lessons will have clear learning objectives, which are shared and reviewed with pupils.

Long-term planning will be used to outline the units to be taught within each year group. Medium-term planning will be used to outline the vocabulary and skills that will be taught in each unit of work, as well as highlighting the opportunities for assessment, identifying learning objectives, main learning activities and differentiation. Short-term planning will be used flexibly to reflect the objective of the lesson, the success criteria and the aim of the next lesson, building on medium-term planning and taking into account pupils' needs.

Teaching

Pupils will be taught to describe associated processes and key characteristics in common language, as well as understand and use technical terminology and specialist vocabulary. Lessons will allow for a wide range of scientific enquiry, including the following:

- Questioning, predicting and interpreting
- Pattern seeking
- Practical experiences
- Collaborative work
- Carrying out investigations
- Carrying out time-controlled observations
- Classifying and grouping
- Undertaking comparative and fair testing
- Researching using secondary sources

Opportunities for outdoor learning will be provided where possible. Each year group will have the opportunity to undertake science-based external educational visits where relevant.

Assessment

Pupils will be assessed and their progression recorded in line with the school's Assessment Policy. Assessment in science will be based upon scientific knowledge and understanding.

Pupils will be assessed continually throughout the year. Formative assessment will be carried out informally throughout the year. This will enable teachers to identify pupils' understanding of subjects and inform their immediate lesson planning. The results of end-of-year summative assessments will be passed to relevant members of staff, such as the pupil's future science teacher.

Assessment will take various forms, including the following:

- Talking to pupils and asking questions
- Discussing pupils' work with them
- Marking work against learning objectives
- Specific assignments for individual pupils
- Observing practical tasks and activities
- Pupils' self-evaluation of their work
- Classroom tests

Parents will be provided with a written report about their child's progress during the Summer term every year. Verbal reports will be provided at parent-teacher meetings during the Autumn and Spring terms.

6. Equipment and resources

Science resources are stored in the maths and science cupboard opposite the staffroom.

The science lead is responsible for ensuring that all resources and equipment are sufficiently maintained, and for maintaining an inventory of resources. The science lead will carry out an annual audit of the science resources, reordering any consumables when necessary.

Equipment will be checked by the relevant teacher prior to each use and any damages or defects will be reported to the science lead immediately. Staff will also inform the science lead of any changes regarding science resources, such as when supplies of resources have run out or new resources are required. The science lead is responsible for negotiating requests from staff and ensuring resources are bought within the amount allocated in the annual budget.

7. Health and safety

Staff will act in accordance with the school's Health and Safety Policy at all times.

A risk assessment will be carried out by teachers before higher-risk science-related activities, e.g. conducting an experiment or undertaking practical activities.

All teachers and other relevant staff will be shown how to correctly use science equipment as part of their induction training. Staff will also be made aware of the COSHH regulations as part of their induction training and will act in accordance with these whilst undertaking activities.

All pupils will be shown how to correctly use equipment prior to use and will be monitored by staff whilst using equipment. Pupils will also be made aware of how they are expected to behave, ensuring that they show respect to other people and the environment, and the personal safety protocols and protective equipment needed when using equipment or carrying out tasks, e.g. goggles.

At the beginning of any experiment, the teacher will outline the purpose of the experiment to the class, and all hazards and safety precautions will be thoroughly outlined. Any experiments or activities not previously conducted by the science teacher will be trialled prior to being undertaken with pupils.

Accidents and near-misses will be reported following the school's reporting procedures.

8. Equal opportunities

All pupils will be given equal access to the entire science curriculum, including practical experiments.

Where required, pupils with SEND will be provided with additional support in order to fully engage with the science curriculum.

Where it is inappropriate for a pupil to participate in a specific lesson because of reasons related to any protected characteristics, the lesson will be adapted to meet the pupil's needs and alternative arrangements involving extra support will be provided where necessary.

The school aims to provide more academically able pupils with the opportunity to extend their scientific thinking through extension activities such as problem solving, investigative work and scientific research.

9. Monitoring and review

This policy will be reviewed every two years by the science lead, in collaboration with the headteacher. The next scheduled review for this policy is July 2026.

Any changes made to this policy will be communicated to teachers and other relevant staff.