Our Lady's Catholic Primary School

We aspire that through the love of Jesus everyone should

"have life and have it to the full."

Jn. 10v10

SCIENCE

POLICY

Approved by:	**Date:**
Last reviewed on: December 2021	
Next review date: September 2022	

Rationale

We all live in an age of fast-moving science and design and technology. At Our Lady's School, we understand that this area of learning is fundamental to exploring, understanding and influencing the natural and made worlds in which we live.
It is our intent to offer a wealth of experiences and ideas that encourage children's curiosity and creativity, inspiring awe and wonder. We aim to help children find new ways of looking at the world and to engage with changing explanations about how the world works.
We teach our pupils to value ideas and to see talking, thinking and imagining as essential elements in developing understanding and new processes. Children tackle problems, forming questions, generating and testing ideas and designs and deciding how to seek solutions. They gather and make sense of evidence, test out hypotheses and evaluate processes and outcomes.
Children at Our Lady's School should be inspired to become the scientists, engineers, designers and innovators of the future by learning about real-life scientists.

Intent

We want the children to:

- develop scientific knowledge and understanding
- develop scientific enquiry skills
- ask questions about the world they live in and make simple predictions about what might happen if...
- look carefully at the world around them and use their five senses to say what it is like
- be able to use observations to sort and measure things
- record their findings in drawings, charts, words and tables
- explain how to make their test fair and explain why it is fair
- say what happened and explain trends in their results
- have an everyday working knowledge of Science so they can apply it to their everyday lives
- make use of ICT, Literacy and Numeracy skills
- work safely

The attitudes we want to foster are:

- enjoyment
- always do your best (high expectations)
- independence and confidence
- treat each other with respect (sharing, listening to each other, listening to the teacher)
- cooperation and collaboration
- curiosity and imagination
- treat the world around them with respect (being aware that living things are alive and need care and that the place we live in is important)
- self-motivation and inquisitiveness

Implementation

Teaching and Learning

We use National Curriculum for England and Wales across all year groups from Year 1 to Year 6. EYFS is taught in a cross curricular way focusing on 'Understanding the World'. To ensure a broad and balanced curriculum as well as continuity and progression we set up Science Curriculum Map across all year groups.

We provide a stimulating environment to promote effective learning in Science including the use of our outdoor classroom, gardening area and the pond. We encourage children to observe and explore to generate ideas, define problems and pose questions in order to develop investigations. We use a variety of resources for the children to be taught effectively and try wherever possible to make the learning as practical as we can. We want our pupils to engage safely in practical investigations and experiments, gather, and record evidence by observation and measurement. We give children plenty of opportunities to develop and apply investigative skills, communicate to explain and develop ideas, share findings and conclusions.

In order to support our pupils' learning and to enable them to know more and remember more, a blocked model of teaching is used for foundation subjects such as Science . Students are given frequent opportunities to recall learning from their prior 'blocks'.

In all year groups, we begin each topic by asking pupils what they already know and what they would like to find out and use careful questioning to promote scientific thinking. We ask the children what knowledge and skills learnt in previous year can be used learning about their new topic.

We teach Science this through whole-class teaching, group or partner work and we engage the children in enquiry-based research activities. We encourage the children to ask, as well as answer, scientific questions. They have the opportunity to use a variety of data, such as statistics, graphs, pictures, and photographs. They use computing skills in science lessons where it enhances their learning. In addition, we employ a variety of teaching strategies to allow our pupils to develop their scientific understanding and skills.

We recognise that pupils have different learning styles and we take this into account when planning and delivering a creative science curriculum. Pupils will therefore experience a range of learning activities including:

- Questioning
- Role-play
- Discussion
- Experimentation
- Model making
- Writing
- Drawing
- Problem solving activities
- On – Site activities lead by experts

We pay particular attention to not just teaching scientific knowledge but also scientific thinking and enquiry. Teachers plan for different scientific enquiries and plan a balance of knowledge and enquiry based teaching. Knowledge and working scientifically skills are taught progressively. We use topic vocabulary cards and sentence starters to help pupils

develop their scientific language as well as a variety of online resources to stimulate scientific thinking and communication.

Differentiation

We differentiate by:

- Dialogue
- Giving extra time to some groups
- Setting up one task that has a variety of levels associated with it
- Asking different level questions to match ability
- Giving different tasks to different groups
- Varying the level of adult support given to groups

Teaching science to children with additional needs

Our Lady's School is an inclusive school, and we aim to ensure that every child is offered the opportunity to achieve their full potential, no matter what their needs may be. We believe that all pupils are entitled to a broad and balanced curriculum for an education that enables them to make progress so that they can achieve their best, and become confident individuals living fulfilled lives. 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 needs. Assessment against the National Curriculum allows us to consider each child's attainment and progress against expected levels. When progress falls significantly outside the expected range, the child may have special educational needs. We take action to enable the child to learn more effectively. This ensures that our teaching is matched to the child's needs. This is done through the discussion with SENCo and set in the child's SEN passport which may include Science related targets.

Assessment

Our assessment process looks at a range of factors – classroom organisation, teaching materials, teaching style, and differentiation.

We use a variety of different strategies to assess pupils including formative and summative assessments. We assess by:-

- talking to the pupils and asking questions
- discussing the work with the pupil
- looking at the work and marking against the learning objective
- observing the pupils carrying out practical tasks – use of class ipad to take photos
- pupils self-evaluation of their work at the end of each topic – cover sheet at the start of the topic including – What I know; What I want to find out/ What I learnt

At the end of Foundation stage the children are assessed against the progress descriptors in their Foundation Stage Profile. At the end of KS1 the children are assessed using teacher assessments.

We monitor the pupils' progress in skills by using termly pupil conferencing, work scrutiny and a practical task involving a selection of pupil of different age groups (divided into KS1 and KS2) carried out by Science coordinator. We plan for further development based upon what we have observed.

Success Criteria

- Teachers' planning is in line with Curriculum Framework
- Planning highlights specific scientific skills to be taught as well as the knowledge
- Children are given the opportunities to carry out investigations
- Children's books shows a variety of work, recorded in a range of ways
- Work is marked following the marking policy and to inform teacher assessment
- Pupil achievement in Science is at least in line with National Average (end KS1 and end KS2)

Impact

Our science curriculum facilitates sequential learning and long-term progression of knowledge and skills.

Our children are keen budding scientists, they enjoy talking about science, want to ask questions and know that being a scientist involves making mistakes and learning from them. They understand the importance of careful observation, recording findings and drawing conclusions. They use effective scientific vocabulary and are motivated to find ore through personal research. Our pupils are extremely enthusiastic and always want to do more of science whenever asked. They are able to communicate effectively, share ideas and explain their thinking. Every pupil is proud to share their work with peers, parents and visitors to our school.

Pupils at Our Lady's School are successful learners who enjoy learning, make progress and achieve. They are confident individuals who are able to live safe, healthy and fulfilling lives. As they progress through the school and move on to the next step on their education journey, they have the foundations to become responsible citizens who make a positive contribution to society.