



Learning for Life

Science at St. Luke's CE, Salford

Subject Intent

Our Science Aims – 'An enquiry led approach'

- To develop knowledge and conceptual understanding in our '**enquiries**' through the specific disciplines of **Biology, Chemistry and Physics**.
- To support our children to question and discover through *enquiry* and develop a sound understanding of methodology and the process of '**Scientific Investigation**'.

Our Science Curriculum

We have developed a clear, sequential approach to the teaching of Science at St Luke's CE. Scientific enquiries have been carefully planned to build on prior learning and develop the skills & knowledge they need to become scientists. We want children to understand the diversity of the people and careers in Science and Engineering

At the heart of our progressive science curriculum is scientific investigation. Wherever possible, we intend to deliver lessons where children learn through varied systematic investigations, leading to them being equipped for life, encouraging them to ask and answer scientific questions about the world around them. We believe science encompasses the acquisition of knowledge, concepts, skills and positive attitudes. Throughout their time at St Luke's, pupils will acquire and develop the key knowledge that has been identified within each unit and across each year group, as well as the application of scientific skills. These scientific skills are taught through investigation and enquiry. In each year, children will have experience of each enquiry type, which will develop a better understanding of the fundamentals of science. We use the enquiry types recommended by the Primary Science Teaching Trust (shown below).



Teaching & Learning Pedagogy

At St Luke's, our Science lessons focus on both scientific knowledge and skills. We provide knowledge organisers to enable children to learn and retain the important, useful and powerful vocabulary and knowledge contained within each unit. The progression of skills for working scientifically are developed through the year groups and scientific enquiry skills are of key importance within lessons. At St Luke's, teachers create a positive attitude to Science learning within their classrooms and reinforce an expectation that all children are capable of achieving high standards in Science. Our whole school approach to the teaching and learning of science involves the following;

- Science is taught in planned and sequenced, weekly lessons by the class teacher. Our strategy is to enable all children to be catered for through adapted planning suited to their abilities.
- We plan for problem solving and real-life opportunities that enable children to find out for themselves. Children are encouraged to ask their own questions and are given opportunities to use their scientific skills and research to discover the answers. This curiosity is celebrated within the classroom.
- Our curriculum is progressive. We build upon the learning and skill development of the previous years, which is tested through our 'pre-learning quizzes' where teachers can identify misconceptions that need addressing.
- Working Scientifically skills are embedded into lessons to ensure these skills are being developed throughout the children's school career, and new vocabulary and challenging concepts are introduced through direct teaching.
- Teachers demonstrate how to use scientific equipment, and the various Working Scientifically skills in order to embed scientific understanding. Teachers find opportunities to develop children's understanding of their surroundings by accessing outdoor learning and workshops with experts.
- In each topic, children are introduced to a key scientist to develop an understanding of the diversity of the people and careers in science and engineering.
- Through enrichment days, such as 'Science Week', we promote the profile of Science and allow time for the children to freely explore scientific topics.

Intended Impact

The successful approach to the teaching of Science at St Luke's results in a fun, engaging, high-quality Science education.

Observation of teaching and learning and pupil voice will show:

- Teachers have a good level of subject knowledge.
- Confident children developing their independence in their learning, often posing their own questions and hypotheses for investigation (Y5&6).
- Formative assessment through questioning during lessons and investigations.
- Confident and curious children who can eagerly talk about their Science lessons and discoveries they have made.
- Children are able to use and explain the meaning of scientific vocabulary.
- Teachers use a range of questioning to explore children's understanding.
- Children's misconceptions are addressed through oral and written feedback
- Children are prepared to take risks.

Developing Reading Skills through Science

The use of a range of key texts (*fiction & non-fiction*) are carefully selected and give children opportunities to apply reading skills in each enquiry and support the children on their journey as lifelong readers.

Developing Maths Skills through Science

We have used guidance from the STEM organisation to ensure that our Science sequencing is in line with our Mathematics curriculum, and our scheme of work takes into account the developmental stage at which children are able to complete certain Maths tasks within Science.

Inclusive Provision in Science (Disadvantaged Pupils, SEND, EAL)

Science provision is accessible to all children and lessons / content is differentiated to ensure that all children can access the learning outcomes and intentions of our ambitious curriculum. We believe that every child is a scientist and should be given the chance to question, investigate, evaluate, learn and flourish through our science curriculum.