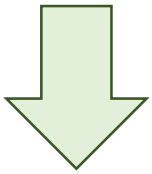
Science Rationale

Our aim at Lacewood Primary School is to enable pupils to develop investigation, enquiry and questioning skills about the world around us in an interesting and exciting way. We intend to build a Science curriculum which develops learning and results in the acquisition of knowledge and key vocabulary, enabling children to become enquiry based learners. Within our Science curriculum, we aim to create the awe and wonder that will inspire our children to become scientists.



At Lacewood, staff plan a structure and sequence of lessons to ensure they have developed the skills detailed in our Science knowledge and skills progression document, required to meet the aims of the national curriculum. Our science curriculum develops children's interest, awe and wonder through a range of activities including experiments, research and cross curricular tasks.

Early Years Foundation Stage
In the Foundation Stage, children are taught Science through the key areas of learning set out within the EYFS Statutory Framework. Through a broad range of teacher-led, child-initiated and continuous learning opportunities, children will be taught to:

- Use their senses to investigate a range of objects and materials
- Find out about, identify and observe the different features of living things, objects and worldly events
- Look closely at similarities, differences, patterns and change
- Ask questions about why things happen and why things work
- Develop their communication and co-operation skills
- Talk about their findings, sometimes recording them
- Identify and find out about features of the place they live and in the natural world around them.

Key Stage 1 and 2
In Key Stage 1 and 2, Science will be taught in planned and arranged topic blocks by the class teacher, these are, where appropriate linked to the Year group's overall Topic theme. This ensures that all topics are covered and enables progression through the year groups. Children have weekly Science lessons, with teachers following the scheme of work, but adapting lessons where necessary to suit the needs of their class.

The following topics are covered throughout **Key Stage 1:**

- Animals, including Humans
- Everyday Materials
- Plants
- Seasonal Changes
- Living Things & their Habitats

The following topics are covered throughout **Key Stage 2:**

- Plants
- Living Things & their Habitats
- Animals, including Humans
- Rocks
- Light

- Electricity
- Sound
- Properties and Changes of Materials
- Earth & Space
- Evolution & Inheritance
- Forces & Magnets

At the beginning of each lesson, teachers plan opportunities for pupils to recall prior learning. This enables pupils to consolidate their previous learning, while also preparing them for future learning, in line with the sequence of lessons. This is particularly important for our EAL and SEND children, who may need more opportunities to retain and embed scientific vocabulary and concepts.

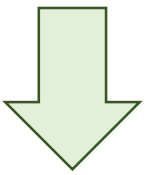
Through our planning, we involve problem solving opportunities that allow children to apply their knowledge, and find out answers for themselves. Children are encouraged to ask their own questions and be given opportunities to use their scientific skills and research to discover the answers. This curiosity is celebrated within the classroom. Planning involves teachers creating engaging lessons, often involving high-quality resources to aid understanding of conceptual knowledge. Teachers use precise questioning in class to test conceptual knowledge and skills, and assess pupils regularly to identify those children with gaps in learning, so that all pupils keep up. Tasks are selected and designed to provide appropriate challenge to all learners, in line with the school's commitment to inclusion.

Teachers encourage children to use a range of scientific vocabulary as they progress through each year group. Time is spent during lessons introducing and reinforcing age-appropriate scientific vocabulary and children are given opportunities to consolidate their use of vocabulary as they move through the year groups.

Working Scientifically skills are embedded into lessons to ensure that skills are systematically developed throughout the children's school journey and new vocabulary and challenging concepts are introduced through direct teaching. This is developed through the years, in-keeping with the topics.

Teachers demonstrate how to use scientific equipment, and the various Working Scientifically skills in order to embed and develop scientific understanding. Teachers find opportunities to develop children's understanding of their surroundings by accessing outdoor learning and using the local environment eg: The local RSPB Wetland's Centre

Regular events, such as Science Week, allow all pupils to come off-timetable, to provide broader provision and help develop the children's Science Capital. These events often involve families and the wider community.



Science monitoring takes various forms. A key component of this is pupil voice; school leaders use pupil voice as an effective tool to ascertain the pupils' knowledge and understanding, as well as their enthusiasm and interest in scientific study. Teachers take photographs of practical activities and experiments to provide evidence of learning and to help pupils to remember what they have already done, therefore building on prior experiences and making links across different scientific areas. Pupil comments and questions can also be collected and recorded. This evidence is then used to inform future planning. Copies of photographs and written activities such as diagrams and data recordings

are filed in a monitoring folder which is also used to show the progression of Science through school and to identify any learning gaps which may require more of a focus in future.