Science at Spring Lane Primary School Respect Resilience Integrity		
Curriculum Intent		British Values
At Spring Lane, science is taught through hands-on, enquiry-based learning that sparks curiosity and builds understanding of the world. Rooted in our principles of relevance, experiences, and collaboration, our science curriculum connects new knowledge to children's lives—making learning meaningful and accessible. From exploring local habitats in Spring Boroughs to investigating materials through real-world challenges, pupils engage in practical experiences that deepen understanding and promote long-term retention. collaborative investigations help pupils develop as expert learners and effective communicators, as they question, predict, observe, and draw conclusions together. Through purposeful exploration and reflection, children grow as aspirational thinkers and caring citizens—learning how science shapes our lives and how they can help shape a better future.		Our science curriculum at Spring Lane actively promotes British Values by encouraging respect for evidence, diverse opinions, and the natural world. Through collaborative investigations and open-ended enquiry, pupils learn to listen to others, take turns, and value different perspectives—supporting mutual respect and tolerance. Democracy is modelled as children make group decisions during experiments, while the rule of law is reinforced through fair testing and understanding scientific rules and principles. Individual liberty is nurtured as pupils express their ideas, explore interests, and take responsibility for their own learning—preparing them to be respectful, curious, and informed citizens in modern Britain.
At the end of EYFS	At the end of Key stage 1	At the end of Key Stage 2
By the end of EYFS, children at Spring Lane will have begun to explore and make sense of the natural world around them through observation, play, and guided discovery. They will talk about what they see, hear, and feel in response to first-hand experiences, laying the foundations for scientific curiosity.	By the end of Key Stage 1, children will be able to ask simple questions and perform basic investigations using their senses. They will observe closely, use simple equipment, and gather information to answer questions about everyday materials, plants, animals, and seasonal changes—developing early enquiry skills and scientific vocabulary.	By the end of Key Stage 2, pupils will confidently plan and carry out a range of scientific enquiries, including comparative and fair tests. They will use scientific language to explain what they observe, take accurate measurements, record data in a range of ways, and draw conclusions. Children will understand key concepts in biology, chemistry, and physics and apply this knowledge to explain phenomena and consider the impact of science on the world.
Curriculum Implementation – How is science taught?		
At Spring Lane, science is implemented through hands-on Learning Quests that ignite curiosity and build a deep understanding of the natural and physical world. Guided by our principles of relevance, we connect scientific concepts to everyday life, the local environment of Spring Boroughs, and global issues—helping children see science as meaningful and purposeful. Through rich experiences such as investigations, outdoor learning, and visits from experts, pupils explore, test, and discover, making memorable links that secure knowledge and understanding. Collaboration is central, with children working together to ask questions, share ideas, and carry out enquiries—developing not only their scientific thinking, but also their skills as Effective Communicators, Expert Learners, and Caring Citizens ready to explore and protect the world around them.		
Substantive Concepts (Big ideas linked to knowledge) Discovery Our children need to see themselves as scientists—curious, brave, and capable of uncovering how the world works. By focusing on discovery, we empower them to ask questions, investigate ideas, and celebrate the wonder of finding things out for themselves. Change Living in a rapidly evolving world, our pupils need to understand how and why change happens. Whether it's the seasons, states of matter, or lifecycles, studying scientific change builds resilience and helps children adapt to the world around them. Cause and Effect To think critically, our children need to grasp the links between actions and outcomes. Through hands-on investigation and exploration, they learn how one thing leads to another—whether it's a chemical reaction or a change in the environment—helping them make sense of complex systems. Sustainability In our diverse, urban community, children need to recognise their role as global citizens. Exploring sustainability in science helps them understand human impact, make informed choices, and see how they can contribute to a healthier future for all.		Disciplinary Concepts (How scientists think and apply knowledge) • Questioning • Observing • Identifying and Classifying • Grouping and sorting objects • Comparative and Fair Testing • Investigating • Research • Prediction • Gathering and Recording Data • Analysing data • Drawing conclusions .

Systems and Cycles Our pupils benefit from understanding how things are connected, both locally and globally. By learning about systems—from the water cycle to the human body—they see the importance of balance, cooperation, and interdependence in science and in life.	

Impact
The impact of our science curriculum at Spring Lane is seen in curious, confident learners who think critically about the world around them. Children ask meaningful scientific questions, carry out investigations, and use evidence to explain how and why things happen. Learning is rooted in relevance—children explore science through hands-on experiences and real-life contexts that connect to their lives and environment, from exploring seasonal changes in Spring Boroughs to investigating how forces affect everyday objects. These immersive experiences ensure that scientific knowledge is remembered and applied meaningfully. Through collaboration, children learn to communicate observations, test ideas, and challenge each other's thinking—building resilience, independence, and responsibility as future problem-solvers and global citizens. Pupils' scientific knowledge and disciplinary thinking are assessed using the following: ● Retrieval practice at the start of each lesson to reinforce key knowledge. ● Formative assessment through targeted questioning, observation, and live feedback. ● Pupil voice to show how confidently children can talk about what they've learned and apply it. ● Summative assessments linked to key scientific questions or end-of-unit investigations.
Equity and inclusion – removing barriers
Spring Lane's science curriculum aligns with our core principles of Relevance, Experiences, and Collaboration to remove barriers and promote equity for all learners. Scientific learning is made meaningful and accessible by rooting it in children's real lives, local environment, and the world they are growing up in (Relevance). Through rich, practical experiences—such as hands-on investigations, outdoor exploration, and STEM-based challenges—children are empowered to think like scientists and develop a deep understanding of key concepts (Experiences). Group tasks and inquiry-based learning encourage collaboration, discussion, and shared discovery, helping children develop not only their scientific thinking but also their ability to listen, question, and work respectfully with others (Collaboration). These approaches ensure that every child, regardless of background or starting point, can succeed and develop the curiosity, confidence, and critical thinking they need to thrive.