Primary Science Intent, Implement, Impact Statement

Intent

At Larkspur Community Primary School, we intend to provide a high-quality Science education that nurtures curiosity, fosters critical thinking and encourages lifelong learning. Our vision is to enable our pupils to develop and understanding of scientific concepts and principles, equipping them with the skills to navigate and contribute positively to the world around them.

We aim to:

- **Cultivate Scientific Inquiry:** Inspire students to ask questions, formulate hypotheses, conduct investigations, and draw conclusions based on evidence.
- **Stimulate Curiosity:** Encourage pupils to ask questions, explore ideas, and think critically about the world around them.
- **Deepen Understanding:** Provide a comprehensive understanding of key scientific concepts and principles across the disciplines of biology, chemistry, and physics.
- **Promote Environmental Awareness:** Instil a sense of responsibility towards the environment and understanding of the relevance of Science in everyday life, particularly in topics such as climate change and sustainability.
- **Provide Full and Progressive Coverage of the National Curriculum:** Ensure that our curriculum comprehensively covers all aspects of the National Curriculum for Science, allowing pupils to acquire a solid foundation of knowledge and skills that build progressively as they advance through year groups.
- **Encourage Collaborative Learning:** Facilitate experiences where pupils work together to share ideas and findings, enhancing their communication and teamwork skills.
- **Implement Retrieval Practice:** Employ strategies for retrieval practice in every lesson to reinforce knowledge retention, aiding pupils in recalling previously learned content and applying it to new concepts.
- **Emphasise Hands-On Learning:** Highlight the importance of practical activities and varied approaches to help pupils acquire and develop their scientific knowledge and skills effectively.

Implementation

To achieve our intent, we implement a comprehensive and engaging Science curriculum rooted in both the National Curriculum requirements and current educational best practices. Key components of our implementation strategy include:

- **Structured Curriculum Framework:** Our science curriculum is designed to provide full and progressive coverage of the National Curriculum, ensuring that each year group builds on prior learning with a clear focus on age expectations and depth of understanding.
- **Incorporation of the Five Lines of Scientific Enquiry:** Throughout the topics taught, we cover the five lines of scientific enquiry:
    - **Fair Testing:** Teaching pupils to design controlled experiments that test their hypotheses while considering variables.
    - **Sorting and Classifying:** Encouraging students to group and categorise objects or information based on shared characteristics.
    - **Observation Over Time:** Developing skills in monitoring changes and recording data across a set period.
    - **Research:** Guiding pupils to conduct research, gather information, and deepen their understanding of scientific concepts.
    - **Pattern Seeking:** Encouraging students to identify patterns in data that support their scientific understanding.
- **Hands-On Learning Experiences:** We employ a range of practical and investigatory activities, such as experiments and exploring the outdoors, enabling pupils to engage actively with scientific concepts. Emphasising hands-on learning enriches their understanding and fosters a genuine interest in the subject. We provide opportunities for pupils to use scientific equipment and tools safely, reinforcing the inquiry-based learning approach.
- **Cross-Curricular Opportunities:** Science learning is integrated with other subjects, such as Maths and Geography, to enhance students' contextual understanding. This thematic approach allows pupils to see the relevance of Science in various aspects of life.
- **Inclusive Learning:** Lessons are designed with adaptability in mind, ensuring that all learners can access the curriculum. We provide varied resources, scaffolding, and

support tailored to meet the diverse needs of our pupils, including those with special educational needs and disabilities (SEND), enabling everyone to participate fully in lessons.

- **Retrieval Practice Strategies:** Each lesson incorporates retrieval practice techniques, such as quizzes, through a lesson starter power-point, to help reinforce prior learning and support long-term retention of scientific knowledge.
- **Assessment and Feedback:** We utilise formative assessments, including observations, questioning and practical tasks, to monitor student progress regularly. Feedback is provided in a timely manner, allowing pupils to reflect on their understanding and improve continuously. At the beginning of each topic children are asked to record any knowledge they have on the subject prior to beginning their learning journey then will be asked to repeat this task again at the end of the topic to allow assessment of the knowledge they have retained. This is used to make RAG assessments on our topic objectives at the beginning and end of the topic.

Impact

The impact of our science curriculum is evident in the academic achievements and overall development of our pupils. We measure the success of our intent and implementation by:

- **Pupil Engagement and Attainment:** High levels of pupil engagement in science lessons are evidenced through observations and pupil surveys. Our end-of-topic assessments show that a significant percentage of pupils meet age-related expectations in science.
- **Strong Topic Knowledge:** Pupils demonstrate a thorough understanding of key scientific concepts and are able to articulate their knowledge and apply it across different contexts. They show independence in their learning and a deep connection to the subject matter.
- **Skills Development:** Pupils exhibit enhanced scientific skills, such as critical thinking, problem-solving, and independent inquiry. They are able to design experiments, analyse data, and articulate their findings effectively.
- **Positive Attitudes Towards Science:** We foster a positive attitude towards science, as indicated by pupil feedback. Increased interest in STEM subjects among pupils demonstrates the success of our curriculum.

- **Parental Involvement and Community Engagement:** Our Science days and events promote community engagement, with parents expressing enthusiasm for their children's education in Science through participation and support.

In conclusion, the Science curriculum at Larkspur ensures our children leave primary school with the scientific knowledge and skills they need to succeed in secondary education and beyond.