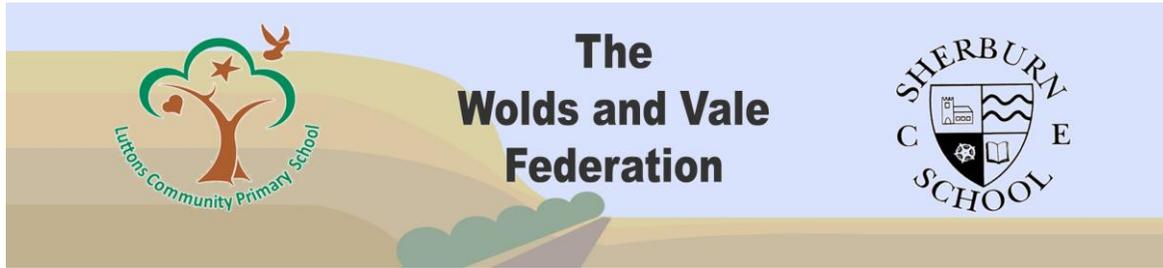


## Science Curriculum Design (2020/2021)

Our intent for science is that every child gains the skills needed to be enthusiastic about and talk knowledgeably about their enjoyment of scientific learning, exploration and discovery, starting with the world around them and beyond. We promote our Wolds and Vale 7B's values throughout all of our science learning and experiences. Children have individual science books, in line with all core subjects and our consistency in the use of working walls, knowledge organisers and key vocabulary across every classroom promotes a scaffolded and supportive approach to developing new scientific ideas and vocabulary as children progress through their journey of new ideas and experiences.

Our intent is for children to:

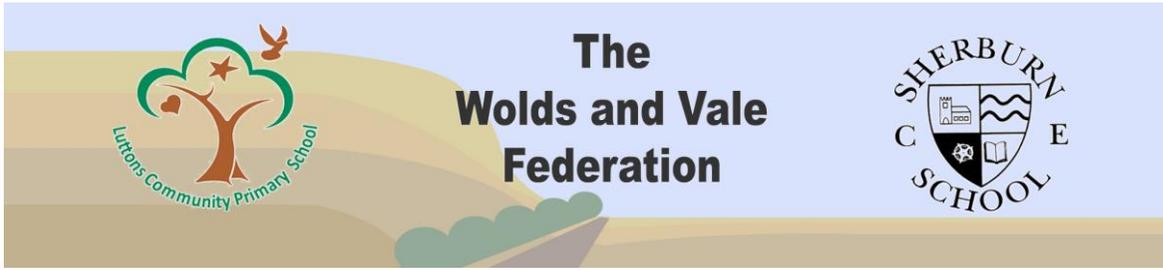
- Be excited by the science curriculum on offer and inspired to further pursue their own interests and aspirations.
- Develop understanding of scientific knowledge, methods, processes and uses over time through the 5 different types of scientific enquiry.
- Be set the highest expectations of learning to enable all to achieve their individual potential.
- Develop the essential scientific enquiry skills through exciting and engaging practical investigation.
- Be confident to ask questions, explain their thinking, make predictions and analyse and reflect on their findings.
- Use a variety of methods effectively to record, communicate and present scientific information.
- Develop respect for scientific materials, equipment and resources with regard to their own, and others' safety and wellbeing.
- Develop the skills of our 7 B's, (to be knowledgeable, curious, positive, creative, collaborative, adventurous and reflective), not only in their knowledge and understanding of the science curriculum in today's world, but to understand the place of science for future inspiration and innovation.



## Science Curriculum Design (2020/2021)

We **implement** our science approach in the following ways:

- In the Early Years, focussed lessons are carefully planned to provide opportunities for children to explore and investigate scientific knowledge and conceptual understanding by growing plants, observing the effects of forces using ramps, investigating floating and sinking; melting and freezing and testing the properties of materials such as 'Which will make the best home, hat or coat for Teddy?' STEM activities and enhanced provision also encourage and promote independent investigation, adopting our 7 B's through engaging and open-ended problem-solving challenges.
- 'Working Scientifically' skills are embedded into every lesson throughout each unit across the year to ensure progression and development.
- One of the 5 types of enquiry drive the focus of each lesson. Where possible/appropriate each type of enquiry is to be taught during each half-termly topic. (Lessons will focus on one of the following areas: observation over time, identify, classify and group, comparative and fair testing, pattern seeking or research). Enquiry posters are displayed on the science working wall in each classroom.
- Excellent teacher subject knowledge and questioning skills driven from high expectations and a creative and inspiring approach to using a range of quality resources and teaching methods.
- Regular practical investigation to develop scientific enquiry with Science taught weekly for one afternoon in mixed Key Stage classes.
- Books display a wide range of high-quality evidence including pupil voice. Pupils can talk confidently about prior learning.
- Where topics lend appropriate links, STEM activities are incorporated to build upon and further develop skills in our 7 B's and to develop and promote the use of scientific language and vocabulary. This is further supported through whole class/school or federation STEM days.
- Clear and appropriate differentiation of objectives, activities and experiences to build upon and develop prior learning and key skills alongside systematic 'revisit/review' activities to begin each lesson.
- Key vocabulary to be included in session plans and highlighted to pupils using the working wall or word banks.
- Secure adult/pupil nurturing relationships to allow opportunities for pupils to draw upon and apply their own knowledge and understanding through deepening activities.
- All lessons are sequentially planned to build upon and develop scientific knowledge using key skills and progression of vocabulary.
- Formative assessments throughout the year track the 5 types of scientific enquiry and key skills in knowledge and understanding of scientific concepts and working scientifically, to ensure a rapid response in supporting children to close any gaps that are quickly identified.



## Science Curriculum Design (2020/2021)

The **impact** of our skills-based science curriculum is we have positive and creative children who are knowledgeable about and can talk confidently about science and show curiosity in wanting to find out how? and why? Our children are adventurous and take risks, posing their own scientific questions and seeking to draw conclusions. They develop skills of working collaboratively to support their own development and that of others whilst being reflective on their own learning and their next steps to progress.

### Pupil Voice:

I enjoyed making the Gruffalo an umbrella to see if we could keep him dry.

My favourite part was science day when we made roller coasters and bridges and tested how to clean up oil spills.

I like predicting and drawing models/ diagrams.

I like doing lots of different experiments.

My favourite part was science day - finding out how much water could fit on a penny.