



## The 'Science' Curriculum at North Nibley C of E Primary: A statement of intent



### School Values

As a community, including staff, governors, parents and children we have created a vision and set of principles for Science at North Nibley.

**L**

Children can connect their existing knowledge with what they are learning and real life contexts.

Lessons are fully planned and delivered confidently due to good teacher subject knowledge.

Children are inquisitive and are encouraged to ask questions.

**Science Boom!**

**a**

Children are confident using a range of enquiry types and skills to plan and carry out investigations.

Children's successes in Science are recognised.

**g**

Children explore the awe and wonder of the natural world.

Science learning enhances children's understanding of and improves the world we live in.

**Our vision in Science is to LAFF! To inspire Learning, Achievement, Faith and Fun in Science. Adult Voice.**

**F**

Children learn from science professionals.

Lessons are interactive and practical and make use of the local area.

Children are engaged and excited and exciting and children want to find out more.

Illustrations by \*\*\*\*\* . Class 3

### At North Nibley school, our science curriculum ensures children have the opportunity to;

- develop scientific knowledge and conceptual understanding through the specific disciplines of Biology, Chemistry and Physics;
- develop understanding of the nature, processes and methods of Science through different types of science enquiries that help them to answer scientific questions about the world around them;
- be equipped with the scientific knowledge required to understand the uses and implications of Science, today and for the future.
- develop the essential scientific enquiry skills to deepen their scientific knowledge.
- Use a range of methods to communicate their scientific information and present it in a systematic, scientific manner, including I.C.T., diagrams, graphs and charts.
- Develop a respect for the materials and equipment they handle with regard to their own, and other children's safety.
- Develop an enthusiasm and enjoyment of scientific learning and discovery.

We have used the Early Years Framework to create our Reception curriculum. We have used the programme of study to ensure children experience a breath of opportunities which increases their knowledge and sense of the natural world and helps prepare them for the transition into Year 1. Children's understanding is fostered through play-based learning, where children have the opportunity to explore the world around them. Some of these opportunities will be child initiated and some adult initiated to ensure a progressive and ambitious curriculum for all.

The outdoors is used regularly to facilitate learning including the school grounds and local area. For example, we regularly use the church garden for nature walks to observe seasonal changes and local wildlife.

The teaching of age appropriate scientific vocabulary is prioritised, we do this through repetition, hands on experiences, stories and non-fiction books. We share a range of carefully selected fiction and non-fiction books, poems and rhymes to support children's understanding of early scientific concepts.

We have used The National Curriculum to design a coherently planned science curriculum for years 1-6, which is well structured and ensures progressive development of substantive and disciplinary knowledge. Our science curriculum is ambitious for all children and provides them with the knowledge and cultural science capital they need to succeed in the next stage of their learning and future life.

Our spiral curriculum ensures that links are made with prior learning supporting children to know more and remember more in science. In Science, we make strong curricular links between subjects, especially with Maths and English. Science enquiry-based learning has been prioritised and our curriculum ensures that children experience the full range of enquiry types throughout the year and that working scientifically skills are taught progressively. Children are challenged to use their enquiry skills to answer their own and other's questions.

We to use our locality to enhance and personalise our Science curriculum further. This includes studying local scientists such as Sir Peter Scott and using our school grounds and local area, including Slimbridge WWT to support with science learning.

To further enhance children's learning, additional opportunities are provided such as termly science in the news assemblies, STEM workshops, outdoor learning and visitors to the school who are 'experts' in a particular area of Science. We also prioritise visits from members of our local community to strengthen the children's science capital, such as visits from parents who are vets, radiologists and dentists. We celebrate British Science week by having a whole school science day where children experience a range of enquiries outside of the national curriculum. Children are encouraged to take part in external science competitions such as the area nature quiz and 'Logo Lift Off' to make links between their learning in school and the wider world.

We ensure that the Science curriculum we provide will give children the confidence and motivation to continue to further develop their skills into the next stage of their education and life experiences.

## Implementation

Science is valued as a core subject at North Nibley. The Science subject leader is leading the improvement of science through gaining the Primary Science Quality Mark award. Science is now taught as a weekly, one-hour lesson in every class to ensure children are accessing science regularly. The regularity helps children to know more and remember more of what they have learnt in science. The science subject leader accesses regular CPD to ensure they are aware of updates and best

practice in the teaching of science. Teachers have good subject knowledge in science and the subject leader has ensured staff know how to access science CPD when necessary.

Teachers have an understanding of misconceptions in science and know the importance of identifying and correcting pupils' misconceptions quickly. In each science topic, we have identified possible misconceptions to ensure that these can be assessed and corrected early on in a new unit. A range of elicitation activities are used to assess children's science understanding throughout teaching, this allows teachers to adapt their teaching appropriately and quickly to close gaps in children's learning. This has been especially important where science learning has been lost due to COVID school closures.

Where appropriate, we plan for cross curricular links in science where children have the opportunity to apply skills they have learnt in other curricular areas in real life scientific situations, such as using computing skills to record data from investigations, maths skills to support with reading measures or interpreting data and reading and spelling skills whilst learning to read and understand new scientific vocabulary. These links help children to know more and remember more about what they have previously learnt in other subjects.

Our medium term science plans ensure that there is progression throughout a unit through a sequence of lessons which build upon each other. Disciplinary knowledge is closely linked to, and helps children understand the substantive knowledge being taught. Working scientifically skills are carefully mapped out to ensure there is progression for the early years through to year 6. We have ensured this by carefully planning our enquiries to ensure that the full range of enquiry types are taught throughout each year and working scientifically skills are carefully and progressively mapped against these.

Teachers have a solid understanding of the prior learning which has taken place in each science unit. This is regularly recapped to help children to remember more over the long term but to also support children to understand new knowledge and larger concepts being taught.

At the end of each term, teachers use our in-school tracking system 'Insight' to assess children against the objectives which have been taught, at the end of the year, this is passed on to the next teacher so that they have a good understanding of children's science understanding.

## Impact

As a result of our Science curriculum, children at North Nibley school receive a high quality, hands on and engaging science education. Children achieve well in science and this is reflected in our results. Children leave North Nibley with the knowledge, skills and science capital needed to ensure success in the next stage of their education and future life. We endeavour to inspire children to have a strong interest in science and aspirations to continue to be life long learners in Science.