



Biscovey Primary Academy
Teaching and Learning Principles
Subject: Science

‘Roots to grow, wings to fly’

School Vision:

At Biscovey Primary Academy we aim for every child to flourish in a nurturing environment, demonstrate respect and kindness, whilst building resilience and ambition for the future.

Our curriculum ensures that we deliver a range of topics across the age phases which develops sequential learning where pupils know more and can do more, ensuring that they are ready for their next stage in education.

Our nurturing ethos endeavours to support all children and their families. Through this approach we are able to work together to ensure that we meet the needs of all learners in our school.

We pride ourselves on delivering an ambitious curriculum, focusing beyond the academic curriculum, developing a child’s individual character. Our core values; 'nurture', 'respect' and 'ambition' run through all areas of school life and learning which allows the whole child to develop into a confident and caring young individual. The Biscovey child shows respect, and through ambition, self-belief and courage approaches learning with an inquisitive mind.

‘Roots to grow, wings to fly’

Subject Intent:

At Biscovey Primary Academy, we aim for all children to develop into confident, inquisitive scientists with a secure understanding of the world around them. We prioritise psychological safety through consistent routines, high expectations and strong relationships, ensuring pupils feel confident to ask questions, take risks in their learning and share their ideas.

Our ambitious science curriculum fully covers the National Curriculum and is carefully sequenced to build knowledge and skills progressively from Key Stage 1 onwards, supported by close collaboration with the Infant School to ensure continuity in learning.

Science is made accessible to all pupils through effective scaffolding, adaptive teaching and a wide range of practical investigations and first-hand experiences that bring learning to life.

Children develop a rich scientific vocabulary, which is explicitly taught and embedded through regular use in lessons and discussions. As a result, pupils gain secure scientific knowledge, develop strong enquiry skills and demonstrate curiosity, resilience and independence when working scientifically. They leave Biscovey with the confidence, knowledge and enthusiasm to engage with science in their future education and everyday lives.

Subject Implementation:

At Biscovey Primary Academy, Science is taught through a carefully structured and progressive curriculum that builds systematically on pupils' prior knowledge and skills from Key Stage 1 and develops these throughout Key Stage 2. Learning is sequenced to deepen understanding of key scientific concepts while also introducing pupils to significant scientists and innovators who inspire aspiration and curiosity. Scientific vocabulary is explicitly taught, revisited and applied accurately within lessons to strengthen understanding and communication. Through discussion, enquiry and practical investigations, pupils learn to think critically, ask thoughtful questions and explain their understanding using appropriate scientific language.

Lessons follow an 'I do, we do, you do' approach, enabling teachers to model scientific thinking, investigative techniques and the safe and effective use of equipment before pupils apply these independently. Regular retrieval activities help pupils to know more and remember more by revisiting previously taught concepts and strengthening long-term memory. Formative assessment is embedded throughout lessons, with end-of-lesson assessment questions enabling teachers to identify and address misconceptions promptly, ensuring pupils develop secure knowledge and understanding before moving on to new learning. Through this approach, all pupils are supported to engage successfully with an ambitious science curriculum and make strong progress in both scientific knowledge and enquiry skills.

Subject Impact:

The impact of the science curriculum can be seen in pupils who are curious, knowledgeable and enthusiastic about the world around them. Children develop a secure understanding of scientific concepts through a carefully sequenced curriculum that builds knowledge over time and makes meaningful links between prior learning and new learning. As a result, pupils are able to recall key scientific knowledge, use subject-specific vocabulary accurately and apply their understanding to explain scientific phenomena.

For example, a Year 6 pupil learning about evolution can confidently draw upon prior learning from Year 3 and Year 4 about animals, habitats and adaptation to explain why certain species are better suited to survive in particular environments. Similarly, children investigating electricity in Upper Key Stage 2 can use knowledge developed in previous years about materials and forces to make predictions, solve problems and evaluate the outcomes of their investigations.

The curriculum's impact is also evident in the way pupils work scientifically. Children ask questions, make observations, gather and interpret evidence and communicate their findings using appropriate scientific language. For example, during an investigation into plant growth, pupils can identify variables, make predictions and explain their conclusions using evidence collected over time. This demonstrates their increasing confidence and independence as scientists.

Through strong relationships, psychological safety and consistent classroom routines, pupils feel confident sharing ideas, posing questions and learning from mistakes. This enables all learners, including those with SEND, to participate fully in scientific enquiry and develop resilience when faced with challenges. Learning walks, pupil voice, work scrutiny and assessment information demonstrate that pupils enjoy science, retain key knowledge and are increasingly able to think and work like scientists.

As a result, pupils leave Biscovey Primary Academy with the scientific knowledge, enquiry skills and confidence needed for the next stage of their education, alongside a lasting curiosity about the natural and physical world.

