

## Science Curriculum Intent



## **Our Curriculum Intent at St Mary's CE School:**

To develop a carefully designed, sequential curriculum, underpinned by progressive knowledge and understanding, equipping our children for their future lives. It is aspirational, providing problem solving, challenge and creativity whilst developing character including responsibility, reliability and perseverance. The curriculum ensures the children are able to celebrate uniqueness and diversity and apply their learning to positively impact the local, national and global community.

In order to achieve our Curriculum Intent, we have designed our curriculum around the following **Principles of design**:

- **Core and Progressive knowledge** – a minimum entitlement that all pupils will be required to know, grounded in the National Curriculum



#### Creativity

We design our curriculum to be as creative as possible, inspiring through first hand experiences which are inclusive and meeting the needs of the individual. We aim to learn and think creatively through a broad curriculum which enables all learners to discover, celebrate and nurture their talents.



#### Challenge

Inclusively, we aim to challenge all pupils through high expectations of behaviour and academic success. Working collectively, supporting one another, our curriculum broadens children's life experiences and enables children to take risks in a supportive environment. Central to this, is building self esteem and encouraging deep thinking, valuing pupil voice and providing rich learning experiences.



#### Community

Not only do we engage the community in learning, but we encourage sharing learning with the community. We aim to provide a curriculum which establishes a good foundation to enable our children to be inspired to make a difference in the world. Outdoor learning and taking responsibility for the environment is central to this as well as contributing meaningfully to our local, national and global community.

### End points of our curriculum:

Principles of design					
<b>Aspiration</b>	PP / SEND / HAPS / EAL	Extended experiences	Subject related careers e.g. how learning is		

			applicable / related to real world situation		
<b>Core Knowledge</b>	Subject based				
<b>Procedural / Powerful Knowledge (skills)</b>	Literacy / numeracy reinforcing opportunities within subjects	Debate / oracy skills and confidence	Opportunities to grapple with big concepts / ideas	<ol style="list-style-type: none"> <li>1. Communication</li> <li>2. Problem solving</li> <li>3. Resilience</li> <li>4. Initiative</li> <li>5. Organisation</li> <li>6. Teamwork</li> <li>7. Digital literacy</li> <li>8. Creativity</li> </ol>	
<b>Developing Cultural capital</b>	Student Entitlements (e.g. trips / out of school clubs / residential)	Vocabulary extension and aspiration	Wider reading (stretch & challenge texts)	Engaging with inspirational visits and visiting speakers	School Values: Trust Responsibility Respect Honesty Perseverance
<b>Developing Character</b>	Values being lived out in practice	Excellent behaviour for learning	Attendance and punctuality	Independent study skills	
<b>Creativity</b>					
<b>Identifying and addressing Context specific need Community</b>	Healthy lifestyles (Healthy relationships)	Rural Engagement with Yorkshire Dales and Lake District	Developing Understanding of Diversity within the country and world		

**Science subject Intent:**

Our intent is comprised of the following 3 sections:

1. Our vision for the subject and the purpose it serves for our pupils
2. Defining what the key concepts and core domains of knowledge are, that pupils will learn about
3. The end points our curriculum is working towards

**1. Our vision**

To develop a sequential science curriculum, planned to build on prior learning to ensure progression of knowledge and understanding of the world through the study of biology, chemistry and physics. Our curriculum is designed to be aspirational - helping pupils to develop a sense of excitement and curiosity about natural phenomena - whilst providing children with both knowledge, methods, processes and uses of science. Our curriculum provides many opportunities for problem solving and creativity, focusing on skills in working scientifically, with children conducting their own investigations relating to the world around them. This helps to develop character including responsibility, reliability and perseverance through experimentation and observations, whilst also celebrating uniqueness and diversity in every aspect of life. Through their scientific study of how the world (and beyond) works, how scientific ideas have changed over time, and their understanding of up to date advances in scientific knowledge, children are able to celebrate uniqueness and diversity in scientific research and researchers to apply their learning of how science is vital to the world's future prosperity within a global context. .

## 2. Our key concepts and core domains of knowledge

- A clear and comprehensive scheme of work in line with the National Curriculum where teaching and learning should show progression across all key stages within the strands of Science.
- Children have access to key language and meanings in order to understand and readily apply to their written, mathematical and verbal communication of their skills.
- Children will use a range of resources to develop their knowledge and understanding that is integral to their learning and develop their understanding of working scientifically.
- Clear and comprehensive scheme of work in line with the National Curriculum where teaching and learning should plan for practical investigative opportunities within Science lessons.
- Children will reflect on previous learning and cross curricular links will be made wherever possible
- Children will be able to build on prior knowledge and link ideas together, enabling them to question and become enquiry based learners. - Attainment will be assessed each half term through related topic assessment tasks
- Where applicable links to Science will be made to develop the children's topical learning.

At Key Stage EYFS, learners will experience a broad a rich curriculum comprising:

- Exploration of the natural world around them, making observations and drawing pictures of animals and plants
- Knowing some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class
- Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.

At Key Stage 1, Over the life of their learning, learners will study:

- Plants
- Animals including humans
- Everyday materials
- Seasonal changes
- Living things and their habitats

At Lower Key Stage 2, learners will study:

- Plants
- Animals including humans
- Rocks

- Light
- Forces and magnets
- living things and their habitats
- sound
- electricity

At Upper Key Stage 2, learners will study:

- Living things and their habitats
- Animals including humans
- properties and changes of materials
- earth and space
- forces
- evolution and inheritance
- light
- electricity

### **3. The end points of our curriculum**

Our learners will be able:

- to achieve age related expectations in Science at the end of their cohort year.
- to retain knowledge that is pertinent to Science with a real life context.
- to question ideas and reflect on knowledge.
- to work collaboratively and practically to investigate and experiment.
- to explain the process they have taken and be able to reason scientifically, using appropriate scientific language and vocabulary - to understand how scientific theories and understanding has developed over time, changing through observations and collection of evidence

Our curriculum is designed to be easily adaptable by professional teachers to ensure appropriate challenge and differentiation to meet the needs of all children, including those Higher attaining pupils, and scaffolding to meet the needs of all children, including those with SEND. Teachers ensure that prior learning for all children is assessed in order to adapt planning for each area of knowledge and investigation, and content is then appropriately adapted to fit the individual needs of the children in each class - for children with SEND, this is done in accordance with their IEPs/EHCP

