Curriculum Intent for Science
Vision:
Building a Hopeful Future through Kindness, Learning and Trust

At Kirkby la Thorpe, we strive to ensure that each person is empowered to flourish and contribute positively to society. We seek to equip our pupils with the knowledge, skills and qualities necessary to navigate the complexities of our world, rooting this in Christian love.

We are inspired by the life of St Thomas in all that we do so that we can:

- **Be Positive and Active Citizens**: "Let your light shine before others, that they may see your good deeds and glorify your Father in heaven." (Matthew 5:16) We strive for our pupils to communicate clearly, embracing tolerance and respect for the diverse beliefs and aspirations of others.
- **Be Curious and Independent Members of Society**: "Ask and it will be given to you; seek and you will find; knock and the door will be opened to you." (Matthew 7:7) We encourage curiosity and a thirst for knowledge, instilling a longing for justice and an empathy for those in need.
- **Have Confidence and Perseverance**: "For God gave us a spirit not of fear but of power and love and self-control." (2 Timothy 1:7) We empower everyone to embrace challenges with confidence and perseverance, striving to achieve their full potential in all aspects of life.
- **Have the Courage to Respectfully Challenge** : "Instead, speaking the truth in love, we will grow to become in every respect the mature body of him who is the head, that is, Christ." (Ephesians 4:15) We foster an environment where respectful dialogue and critical thinking are encouraged, empowering pupils to voice their opinions with courage and integrity.
- **Know their heritage**: "Remember the days of old; consider the generations long past. Ask your father and he will tell you, your elders, and they will explain to you." (Deuteronomy 32:7) We cultivate an appreciation for both local and national heritage, helping pupils understand their roots and identity within the broader context of history.

Kindness	Learning	Trust
Fostering a respectful, collaborative, and supportive environment **Encourage learning, discovery, and the ethical application of scientific knowledge** **Using equipement with care and repect**	**Asking inquiry-based questions about the world around you** **Being hands on with experiments** **Persevering when facing challenges and setbacks**	**Children feel safe when using equipment or around others who are using equipment** **Chidren feel safe to explore, experiment and enquire** **Accurate data recording and respecting living organisms**

Intent	Implementation	Impact

We intend that our Science curriculum will:
 	
At Kirkby la Thorpe Primary school, we encourage children to be inquisitive about the world around them. We believe science encompasses the acquisition of knowledge, concepts, skills and positive attitudes. Learning is woven into cross curricular projects based on the Cornerstones topics that we deliver, using Curriculum Maestro. National Curriculum programmes of study, allow children to acquire and develop the key knowledge that has been identified within each unit and across each year group. Progression documents are used to map the learning journey through each year group and are progressive throughout the school. The curriculum is designed to ensure that children are able to acquire key scientific knowledge through practical experiences; using equipment, conducting experiments, building arguments and explaining concepts confidently. Children are encouraged to ask questions and be curious about their surroundings and a
	<u>Curriculum Content</u>
	
	At KLT, science curriculum subjects are not assigned to single year groups, instead a two year rolling learning cycle has been designed in KS1 and at KS2; a single year overview has been designed for Year 6. The topics within each module are mapped to ensure that pupils have access to all relevant learning by the end of each Key Stage. Topics and lessons are designed with their particular year group in mind, for example where KS2 learn at the same time, lesson content is adapted and delivered in a differentiated way across all year groups, to appropriately support, stretch and challenge pupils according to their developmental age.
	
	A range of tools are used to deliver each topic; these include:
	• Baseline assessments for the module;
	• Assessment activities, which can be completed
	  ○ individually, in pairs, or as a whole class activity; and
	  ○ as baseline and end of topic assessments;
	• Lesson guides, with suggested activities to ensure that learning is inclusive and accessible for all;
	• Videos and documentaries for pupils to view; and
	• A range of activities for pupils to apply their learning.
	
	Assessment is built into the programme using the Headstart science programme and can be gathered in a number of effective ways, including: student self-assessment journeys, baseline, formative, and summative assessments, discussion notes etc.
		By the time pupils leave Kirkby la Thorpe at the end of Y6, they will:
		We believe that a broad and balanced science education, where cross curricular links can be made to other subjects, is the entitlement of all children within our school. We aim to prepare our children for life in an increasingly scientific and technological world; broaden their understanding of the scientific concept of their world; develop their skills of investigation – including observing, measuring, predicting, hypothesising, experimenting, communicating, interpreting, explaining and evaluating; encourage their use of scientific vocabulary and enable them to become effective communicators of scientific ideas, facts and data.

love of science is nurtured through a varied science curriculum.	We build upon the learning and skill development of the previous years. As the children's knowledge and understanding increases, and they become more proficient in selecting, using scientific equipment, collating and interpreting results, they become increasingly confident in their growing ability to come to conclusions based on real evidence. Working scientifically, skills are embedded into lessons to ensure these skills are being developed throughout the children's school career and new vocabulary and challenging concepts are introduced through direct teaching. This is developed through the years, in-keeping with the topics. Children are offered a wide range of extra-curricular activities, visits, trips and visitors to complement and broaden the curriculum. These are purposeful and link with the knowledge being taught in class.	

Research links

OFSTED, Finding the optimum: the science subject report, 2023

Science helps us to answer our biggest questions and to meet our most basic needs: from explaining the deepest mysteries of the universe to the structure of elementary particles that form atoms. The findings of science have fundamentally shaped every aspect of our world. Science drives innovation, creating new knowledge to help us solve current and future problems. All young people are entitled to a high-quality science education, to the curiosity it engenders and the understanding and the opportunity it brings.

National curriculum in England: science programmes of study, 2015

A high-quality science education provides the foundations for understanding the world through the specific disciplines of biology, chemistry and physics. Science has changed our lives and is vital to the world's future prosperity, and all pupils should be taught essential aspects of the knowledge, methods, processes and uses of science.

Improving Primary Science guidance report, EEF, 2023

Primary science teaching is also about ensuring that opportunities in science remain accessible to pupils from all backgrounds—should they wish to take them—now, and as they get older. We are all—in the broadest sense— scientists, but high-quality teaching at an early age does much to support pupil attainment that can facilitate a pathway towards further study in science, and foster aspirations to be scientists.

Cornerstones, Curriculum Maestro, 2024

The science projects are sequenced to develop both children's substantive and declarative knowledge, and if possible, make meaningful links to other projects ... These links allow for children to embed their substantive knowledge in new and often real-life contexts. The sequencing of projects ensures that children have the substantive knowledge and vocabulary to comprehend subsequent projects fully. Each project's place in the year has also been carefully considered ... Within all the science projects, disciplinary knowledge is embedded within substantive content.