

Science Curriculum Intent

"The important thing is not to stop questioning. Curiosity has its own reason for existence. One cannot help but be in awe when he contemplates the mysteries of eternity, of life, of the marvelous structure of reality".

"Old Man's Advice to Youth: 'Never Lose a Holy Curiosity.'" *LIFE Magazine* (2 May 1955) p. 64" Albert Einstein

Science is the pursuit of knowledge and understanding of the structure and behaviour of the physical and natural world around us. Here at Colmers we believe our students should be curious, knowledgeable and be able to think critically, rationally and objectively enabling them to make informed decisions every day.

Curiosity has been the key driver for discovery throughout human history. **'Curiosity is the spark behind the spark of every great idea. The future belongs to the curious'**. We want our students to be curious and to ask questions. Our role as experts is to inform them so that they can apply their knowledge to a range of different contexts, some of which we may not have even considered yet. The pursuit of scientific knowledge is itself a noble cause, it has its own intrinsic value educating students about how scientific knowledge is applied in the real world and in different contexts.

The sequence in which knowledge is taught is essential for building understanding and reducing misconceptions. Our curriculum is designed and sequenced in such a way that knowledge is revisited and built upon incrementally so that pupils **know more** at every step throughout the curriculum. There are many opportunities for retrieval of previous learning. This will enable our students to apply their knowledge and understanding in a variety of different contexts so that they can **do more**. As future citizens, our students will face many challenges and see many amazing advancements in climate control, health care and energy. We want to equip them with the knowledge and skills to navigate the unknown.

A 'hands on' practical experience is essential for all students. All practical work at Colmers has a purpose, either identifying phenomena, learning a concept, relationship, or model. Key to this is the scientific method where students take a logical and methodical approach to problem solving, make careful observations safely, collect accurate data, and then draw valid conclusions.

There is a rich local history of car manufacturing and engineering at Longbridge as well as a new Science Park. Our aim is to inspire our pupils to **be more** through STEM. Students take part in many opportunities which allow them to develop scientific curiosity and resilience. These include 'Tomorrow's Engineers Week', 'British Science Week', Smallpeice day, science club and various trips. At Colmers we actively challenge all stereotypes in science in terms of gender and race. We promote work of all scientists, and our female STEM and Physics leads are amazing role models for our students. This can be seen in the number of students especially girls who go on to study the A level sciences and follow STEM pathways post 18. We want our student to **'be more'** and realise their full potential.

