



Reynolds Academy Subject on a Page

Science

As one of the core subjects taught in schools, at Reynolds Academy, we give the teaching and learning of science the prominence it requires. A high-quality science education provides the toolkit and foundations for understanding the world through the specific disciplines of biology, chemistry and physics. In developing children's questioning skills, we also grow a key transferable skill used in all subjects.

Intent – What do we aim to deliver?

Science lessons are taught across all year groups, once per week in a double session, facilitating a deep learning of the curriculum across the subject as a whole. This will ensure the children develop a secure understanding of each key block of knowledge and concepts in order to progress to the next stage. Although Science is not explicitly taught in Early Years, a scientific approach is developed from an early age in the topics and provisions children have access to throughout their day. Children look closely at similarities and differences in nature, encourages to ask and respond to questions about the world around them and discuss observable changes. These are all key building blocks which lead into the more explicit teaching of science further down the school.

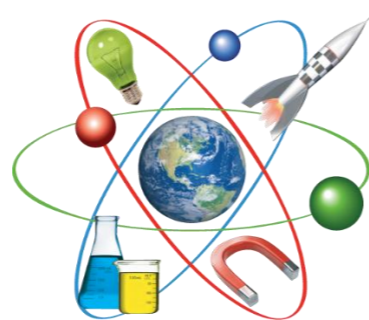
To encourage an understanding of the world's natural phenomena, by teaching methods of enquiry and investigation to stimulate children's natural curiosity into why things happen the way they do.

We strive for children to have an understanding of a wide range of scientific enquiry across the specific disciplines of biology, chemistry and physics.

For children to develop specific scientific vocabulary which they use effectively to articulate and justify their findings/reasons when answering questions about the world around them.

To foster a healthy curiosity in children about our universe, promoting respect for the living and non-living through the acquisition of knowledge, concepts, skills and positive attitudes.

Our children face activities and consequences of science arguably more so than any generations before, from global warming, plastics in the oceans, missions to other planets and threats of pandemics. Our aim is to nurture a willingness for children to confidently enter the pipeline of future scientists, potentially assuring the fragile nature of human's existence on this planet continues for generations to come.



Impact – How will we know when we have delivered it?

Children will be more equipped with the scientific knowledge required to understand the uses and implications of science, today and in their future years.

Children demonstrate respect and show a positive understanding for the world around them.

Children's scientific vocabulary will develop as they progress through school; and be concise in a range of aspects across the specific disciplines of biology, chemistry and physics.

Children will be able to answer age-appropriate scientific questions about the world around them, with an ability to call upon different types of science enquiry.

Implementation – How do we aim to deliver it?



Science is taught across the school in cycles running over a two-year period. Through the use of milestones created by Chris Quigley, the children cover the specific disciplines at set points throughout the year. These are re-visited over the three milestones, ensuring the children deepen their learning of the specific sub-strands within Biology, Chemistry and Physics.

Working Scientifically skills are embedded into lessons to ensure they are being developed throughout the children's school career. New vocabulary and challenging concepts are introduced through the use of science knowledge organisers and direct teaching. This is developed through the years, in-keeping with the long-term plans, following the cycles.

We demonstrate how to use scientific equipment, and the various 'Working Scientifically' skills, in order to embed scientific understanding. We also find opportunities to develop children's understanding of their surroundings by accessing outdoor learning and practical investigations.

We ensure assessments are completed using specific questioning linked to the previous years teaching. This allows us to grow the children's understanding, building upon the knowledge and skill development they already have. We use the Chris Quigley milestones in order to support this. As the children's knowledge and understanding increases, and they become more proficient in selecting, using scientific equipment, collating and interpreting results, they will become increasingly confident in their growing ability to come to conclusions based on real evidence.