



Science at Three Peaks

Learning about science offers pupils the opportunity to understand the world through the specific disciplines of biology, chemistry, physics and earth science. Science has not only had a significant impact on our lives but is fundamental to further developments and improvements in the future. Science is a collaborative process of building models by inquiring about laws of nature based on systematic observation. It allows us to understand different phenomena through underlying principles. A scientific outlook is open to altering ideas when faced with intriguing results. Scientific enquiry enables pupils to: consider ideas, evaluate evidence, plan investigative work, present evidence and findings and consider links.



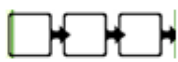
Science skills (Classification and retention)

Collecting and organising data to find a trend or pattern.
Key models within physics, chemistry, biology and earth sciences.
Building models to explain observations - e.g. weather patterns, particle theory of matter and kinetic theory.
Making predictions using laws of nature - e.g. conservation of matter, conservation of energy.
Applying scientific properties to improve the world - structure of materials determines properties, and properties determine uses.
Challenging stereotypes about participation in science.



Working Like a scientist (Retention and application)

Arguments articulated by combining, comparing and contrasting evidence.
Use conditional language to show that conclusions may change based on new evidence.
Data organised, presented and interpreted with mathematical accuracy.
Technical drawing refined to experiment with ideas and communicate.
Improve the human condition and environment by seeking practical applications and make new inferences from unexpected applications.



Sequencing Content (Retention and connection)

Objective overviews provide subject knowledge and purpose.
Learning journeys sequence cross-subject learning
Explanations progress: what → how → why
Physical and mental models developed over time through demonstration and experiment.
Links to *geography curriculum* - teaching physical processes behind weather, climate, rock cycle and land forms, identify flora and fauna of biomes and appreciate the environment when doing biology fieldwork.
Links to *design technology curriculum* teaching properties of materials, electricity and kinetic theory.
Link to *history curriculum* to teach how knowledge developed inventions of the past were created and the impact they have on the modern world.
Links to the *PE curriculum*, physical effect of exercise on the body.
Links to the *music curriculum*, formation of sounds.



Success For All

Learning with the brain in mind
Oracy—explicit teaching of scientific terminology and academic vocabulary.
Literacy—reading scientific non-fiction and history of science texts.
Diagrams, writing frames and sentence structures to scaffold arguments
Pre-learning - prepare vocabulary and associated mental images



Assessment and progress

Retention - diagnostic and summative assessment within a unit.
Retention - Questioning in lesson starter sessions and recall quizzes in early work sessions.
Retention - Summative quizzes.
Application - maths strand to record and interpret data and findings.
Application - writing pieces aligned with English curriculum to apply genres.