

Y6 SCIENCE: KEY PERFORMANCE INDICATORS

Age Related Expectations (ARE)	Working at Greater Depth (GD)
A student is achieving the standards expected for their age. This includes: • Understanding key scientific ideas: Can describe processes such as simple circuits, light, and changes in materials. • Using basic scientific vocabulary correctly. • Carrying out simple investigations with guidance, including fair tests. • Recording observations and results using tables, diagrams, and simple graphs. • Drawing conclusions based on observations and identifying simple patterns. • Applying knowledge to familiar, real-world contexts.	A student shows deeper understanding and more advanced reasoning. This includes: • Demonstrating secure understanding of key concepts and making links between topics (e.g. materials and changes, circuits and conductors). • Explaining scientific ideas clearly, using appropriate vocabulary. • Applying knowledge to less familiar contexts and simple problem-solving situations. • Identifying patterns and relationships in data and suggesting reasons for them. • Making simple predictions and explaining them using scientific ideas. • Evaluating investigations and suggesting improvements independently.

Biology KPIs	Chemistry KPIs	Physics KPIs	Working Scientifically KPIs
• describe how living things have changed over time using evidence from fossils • explain variation between offspring and how adaptation leads to evolution • describe how living things are classified into groups based on similarities and differences • identify parts of the human circulatory system and describe the functions of the heart, blood vessels and blood • explain how diet, exercise and lifestyle affect the human body and how nutrients are transported • group living things based on observable characteristics • use classification keys to identify organisms • describe microorganisms and their role in ecosystems • explain how environmental changes can affect living organisms • apply knowledge of adaptation and classification to unfamiliar examples	• compare and group materials based on properties such as hardness, solubility and conductivity • describe how some materials dissolve in liquids to form solutions • describe how to separate mixtures using filtering, sieving and evaporation • explain the difference between reversible and irreversible changes • identify simple chemical changes where new substances are formed (e.g. burning or reactions with acids)	• construct simple series circuits and use recognised symbols in circuit diagrams • explain how the number and voltage of cells affects brightness and volume • compare and explain how components function in a circuit (e.g. bulbs, buzzers, switches) • identify conductors and insulators and explain their uses • recognise the importance of a complete circuit for components to work • describe how light travels in straight lines • explain how we see objects using reflection and light entering the eye • describe reflection and how light behaves when it hits surfaces • explain how shadows are formed and why they have the same shape as objects • use ray diagrams to represent how light travels	• plan scientific enquiries, identifying variables and fair tests • take accurate measurements using appropriate equipment • record results using tables, diagrams and graphs • draw conclusions using evidence and identify patterns in data • evaluate investigations and suggest improvements • use results to make predictions and set up further investigations • report findings clearly using scientific language and evidence • explain relationships between variables using data • identify scientific evidence that supports or refutes ideas • apply scientific knowledge to explain real-world phenomena