

Science

Big Ideas

Science In Action



- o **KS1** Science is about looking closely at the world around us, making observations, asking questions, and thinking about how we could find the answers.
- o **KS1** We can affect the things around us.
- o **KS1** If we look closely at the world around us, we can often find explanations for what we see.
- o **LKS2** Our scientific understanding is not fixed. It evolves and changes as new evidence comes to light.
- o **UKS2** Science is about working objectively, modifying explanations to take account of new evidence and ideas and subjecting results to peer review.

Biology



- o **KS1** Living things find what they need to stay healthy in the environment around them.
- o **KS1** Different living things need different things to stay healthy and survive.
- o **LKS2** Living organisms are special collections of matter that make copies of themselves, use energy and grow.
- o **LKS2** Living organisms on Earth come in a huge variety of different forms that are all related.
- o **UKS2** The fundamental units of living organisms are cells, which may be part of highly adapted structures.
- o **UKS2** Living organisms are interdependent and show adaptations to their environment
- o **UKS2** The different kinds of life, animals, plants and microorganisms, have evolved over millions of generations into different forms in order to survive in the environments in which they live.

Physics



- o **LKS2** The Earth comprises of physical laws.
- o **UKS2** Energy, which cannot be created or destroyed, comes in many different forms.
- o **UKS2** The universe is vast.
- o **UKS2** The universe follows unbreakable rules that are all about forces, matter and energy.

Chemistry



- o **KS1** Materials have different properties and these affect what they are used for.
- o **LKS2** Everyday materials can be grouped together on the basis of their properties.
- o **UKS2** All matter in the universe is made up of tiny particles called atoms. These are the building blocks of life.
- o **UKS2** Matter can change if the arrangement of these building blocks changes.

KS1 Science in Action Outcomes



Ask simple questions and recognise that they can be answered in different ways.



Observe closely, using simple equipment.



Identify and classify.



Perform simple tests.



Gather and record data.



Use observations, ideas and data recorded to help answer questions.

LKS2 Science in Action Outcomes



Ask relevant questions which lead to using different types of scientific enquiries to answer them.



Set up simple practical enquiries, comparative and fair tests.



Make systematic and careful observations. Take accurate measurements using standard units, including data loggers.



Gather, record, classify and present data in a variety of ways to help answer questions.



Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables.
Use results to look for patterns, draw simple conclusions, suggest improvements, and to predict and raise further questions.



Report findings and conclusions from enquiries, including oral and written explanations, displays and presentations.



Discuss straightforward scientific evidence and use this to support and provide explanation for their own findings.

UKS2 Science in Action Outcomes



Plan different types of scientific enquiry to answer questions, including recognising and controlling variables where necessary.



Take increasingly accurate measurements, using a range of scientific equipment, taking repeat readings where appropriate.



Record more complex data using scientific diagrams, classification keys, tables, scatter graphs, bar and line graphs.



Interpret test results and patterns to make predictions to set up further comparative and fair tests.



Report and present findings, including conclusions from enquiries using oral and written presentations. Suggest whether test results are trustworthy.



Identify scientific evidence that has been used to support or refute ideas or arguments.