# Science

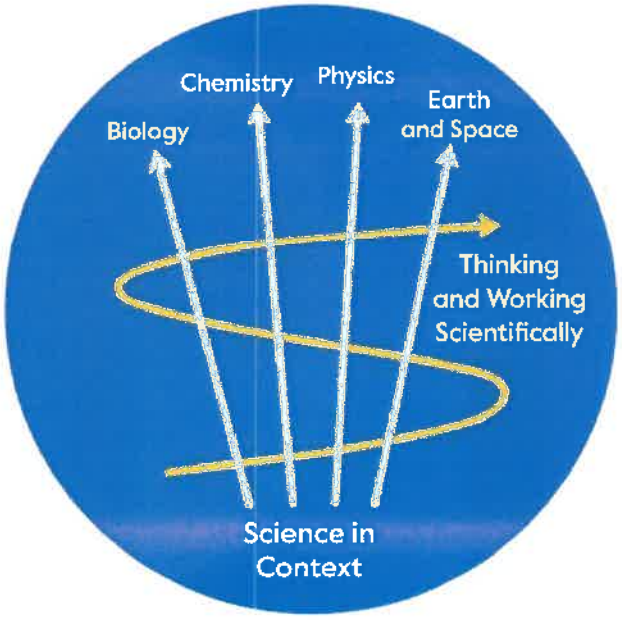
**Cambridge Primary Science (0097) helps learners develop a lifelong curiosity about the natural world and helps them to seek scientific explanations of the phenomena around them.**

**Students develop a holistic approach to science by considering scientific thinking and practical skills alongside knowledge and understanding, which is vital for explaining the world around us. This approach provides them with the knowledge and skills they need to excel at science in later stages of education. It also helps them to make informed choices, including considering sustainability issues and meeting the challenges facing our environment.**

## What will students learn?

This curriculum covers six strands that work together so that you can teach science holistically:

- **Biology** – living things and how they interact.
- **Chemistry** – properties and changes of materials and substances.
- **Physics** – the interactions of matter and energy.
- **Earth and Space** – planet Earth, the wider Solar System and beyond.
- **Thinking and Working Scientifically** – develops understanding and skills of scientific models and representations, scientific enquiry and practical work.
- **Science in Context** – helps teachers demonstrate the relevance of science to learners and is unique to our Science curriculum.




## The curriculum and progression

Due to the nature of developing science, some learning objectives are developed over multiple years, for example in Thinking and Working Scientifically, to support mastery of a skill.

Other scientific concepts are introduced in one year and then further developed after a gap, for example introducing food chains in Stage 3 and further developing it in Stage 4 then Stage 6. This gives you time to cover the breadth of scientific content as well as developing learners' depth of understanding over the whole curriculum.

# Learning objective examples

| Strand | Stage 1 | Stage 2 | Stage 3 | Stage 4 | Stage 5 | Stage 6 |
|---|---|---|---|---|---|---|
| Thinking and Working Scientifically | Make predictions about what they think will happen. | | Make a prediction describing some possible outcomes of an enquiry. | | Make predictions, referring to relevant scientific knowledge and understanding within familiar and unfamiliar contexts. | |
| Biology | Recognise and name the major external parts of the human body. | Identify the different types of human teeth, explain how they are suited to their functions and describe how to care for teeth. | Identify some of the important organs in humans (limited to brain, heart, stomach, intestine and lungs) and describe their functions. | Identify some of the important bones in the human body (limited to skull, jaw, rib cage, hip, spine, leg bones and arm bones). | Describe the human digestive system, including the functions of the organs involved (limited to mouth, oesophagus, stomach, small intestine, large intestine and anus), and know that many vertebrates have a similar digestive system. | Describe the human circulatory system in terms of the heart pumping blood through arteries, capillaries and veins, describe its function (limited to transporting oxygen, nutrients and waste) and know that many vertebrates have a similar circulatory system. |
| Chemistry | Understand that all materials have a variety of properties. | Describe a property as a characteristic of a material and understand that materials can have more than one property. | Describe differences in the properties of solids and liquids. | Use the particle model to explain the properties of solids and liquids. | (No learning objective example in the progression sequence.) | Know that gases have properties, including mass. |
| Physics | (No learning objective example in the progression sequence.) | Explore the construction of simple series circuits (limited to cells, wires and lamps). | (No learning objective example in the progression sequence.) | Describe how changing the number or type of components in a series circuit can make a lamp brighter or dimmer. | (No learning objective example in the progression sequence.) | Make simple circuits and compare the brightness of lamps in series and parallel circuits. |
| Earth and Space | (No learning objective example in the progression sequence.) | (No learning objective example in the progression sequence.) | Describe the relative movement of the Earth and Moon. | Explain why the spinning of the Earth on its axis leads to the apparent movement of the Sun, night and day, and changes in shadows. | Describe the orbit of the Earth around the Sun (limited to slight ellipse, anticlockwise direction and the duration). | Describe the relative position and movement of the planets, the Moon and the Sun in the Solar System. |
| Science in Context | Talk about how science helps us understand our effect on the world around us. | | | Discuss how the use of science and technology can have positive and negative environmental effects on their local area. | | |