

Cambridge Primary Science Curriculum outline

Cambridge Primary combines a world-class curriculum with high-quality support for teachers and integrated assessment. The curriculum is dedicated to helping schools develop learners who are confident, responsible, reflective, innovative and engaged. Cambridge Primary has curriculum frameworks for English (including English as a Second Language), Mathematics and Science which have been designed to engage learners in an active and creative learning journey.

The curriculum frameworks for each subject for Cambridge Primary are organised into six stages. They reflect the teaching target for each year group and provide comprehensive learning objectives. For Cambridge Primary Science, the curriculum is presented in four content areas or 'strands'. These are further subdivided into 'substrands'. The four strands and substrands are:

Scientific enquiry

- Ideas and evidence
- Plan investigative work
- Obtain and present evidence
- Consider evidence and approach

Biology

- Plants
- Living things in their environment (from stage 2)
- Humans and animals

Chemistry

- Material properties
- Material changes (from stage 2)
- States of matter (from stage 4)

Physics

- Forces (forces and motion from stage 3)
- Light and dark (from stage 2)
- Electricity (from stage 2, Electricity and magnetism from stage 4)
- The Earth and beyond (from stage 2)
- Sound

Scientific enquiry is about considering ideas, evaluating evidence, planning investigative work and recording and analysing data. The **Scientific enquiry** objectives underpin **Biology**, **Chemistry** and **Physics**, which are focused on developing confidence and interest in scientific knowledge. Environmental awareness and some history of science are also incorporated.



The Cambridge Primary Science curriculum framework provides a solid foundation upon which the later stages of education can be built.

Cambridge Primary offers an optional testing structure to assess learner performance and report progress for both learners and parents. These assessments provide an international benchmark that enables teachers to identify learner strengths and weaknesses within individuals and class groups and develop further teaching and learning support using the information from the test results.

Cambridge Primary Progression Tests are available to schools registered for Cambridge Primary for stages 3–6. These tests are marked by teachers and come with full mark schemes and marking guidance. At the end of Cambridge Primary, schools can also offer Cambridge Primary Checkpoint, a diagnostic test which offers comprehensive feedback at the end of the Cambridge Primary stage.

On the following pages, you will find some examples from the Biology strand and the substrands for stages 1, 3, 5 and 6 of the Cambridge Primary Science curriculum.



Stage 1

Strand: Biology

Substrand: Plants

- Know that plants are living things
- Know that there are living things and things that have never been alive
- Explore ways that different animals and plants inhabit local environments
- Name the major parts of a plant, looking at real plants and models
- Know that plants need light and water to grow
- Explore how seeds grow into flowering plants.

Substrand: Humans and animals

- Recognise the similarities and differences between each other
- Recognise and name the main external parts of the body
- Know about the need for a healthy diet, including the right types of food and water
- Explore how senses enable humans and animals to be aware of the world around them
- Know that humans and animals produce offspring which grow into adults.



Stage 3

Strand: Biology

Substrand: Plants

- Know that plants have roots, leaves, stems and flowers
- Explain observations that plants need water and light to grow
- Know that water is taken in through the roots and transported through the stem
- Know that plants need healthy roots, leaves and stems to grow well
- Know that plant growth is affected by temperature.

Substrand: Humans and animals

- Know life processes common to humans and animals include nutrition (water and food), movement, growth and reproduction
- Describe differences between living and non-living things using knowledge of life processes
- Explore and research exercise and the adequate, varied diet needed to keep healthy
- Know that some foods can be damaging to health, e.g. very sweet and fatty foods
- Explore human senses and the ways we use them to learn about our world
- Sort living things into groups, using simple features and describe rationale for groupings.



Stage 5

Strand: Biology

Substrand: Plants

- Know that plants need energy from light for growth
- Know that plants reproduce
- Observe how seeds can be dispersed in a variety of ways
- Investigate how seeds need water and warmth for germination, but not light
- Know that insects pollinate some flowers
- Observe that plants produce flowers which have male and female organs; seeds are formed when pollen from the male organ fertilises the ovum (female)
- Recognise that flowering plants have a life cycle including pollination, fertilisation, seed production, seed dispersal and germination.



Stage 6

Strand: Biology

Substrand: Humans and animals

- Use scientific names for some major organs of body systems
- Identify the position of major organs in the body
- Describe the main functions of the major organs of the body
- Explain how the functions of the major organs are essential.

How can I access the full curriculum framework?

Only schools offering Cambridge Primary can access the full curriculum frameworks.

- If you are a Cambridge Primary school you can download the full curriculum framework from our password protected *Cambridge Primary site*
- If you are a Cambridge school and would like to offer Cambridge Primary complete and return our *Additional Qualification Types* form
- If you are not a Cambridge school and would like to find out more about Cambridge Primary complete our *Expression of interest* form.

Learn more! For details of Cambridge Primary, go to www.cie.org.uk/primary or contact our Customer Services team at info@cie.org.uk or call them on +44 1223 553554.

