



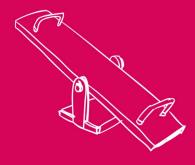
NATURAL SCIENCE 5

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WELCOME TO CAMBRIDGE NATURAL SCIENCE

Cambridge Natural Science Second Edition follows the new Primary Natural Science curricula with complete coverage of the Science competencies.

- An enquiry-based approach with Big Questions promotes critical thinking around relevant Science topics.
- Hands-on experiments and manual activities engage students with the content in a child-friendly, memorable way.
- Three competency-based projects with posters and assessments encourage pupils to deepen their exploration of new concepts while strengthening their collaboration and presentation skills.
- A new content review section on every spread ensures that students have enough practice with new concepts to effectively consolidate their knowledge.

- English speaking, listening, reading and writing skills are developed while grammar structures presented in Cambridge Primary courses are systematically reinforced.
- Exam vocabulary and practice for Cambridge English Qualifications for young learners are featured in every level:

Level 1: Pre A1 Starters

Level 2: A1 Movers

Level 3: A1 Movers and A2 Flyers

Level 4: A2 Flyers

Level 5: A2 Key for Schools and B1
Preliminary for Schools

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Level 6: B1 Preliminary for Schools

Cambridge Natural Science Second Edition has been developed around the key Science competencies stipulated in the new curriculum. For every lesson you teach, the competencies covered by the content are listed on the corresponding Teacher's Book spread. In addition, the three level projects are supported by competency-based assessments.



Sci C1 Digital competency

Use digital devices and resources in a safe, responsible and efficient way



Sci C4 Competency in self-awareness and empathy

Develop awareness of one's own and others' physical, emotional and social well-beina.



Sci C7 Competency in historical awareness

Understand continuity and change in society and culture.



Sci C2 Scientific thinking competency

Use different techniques, instruments and modes of scientific thought to interpret and explain facts and phenomena occurring in their own natural, social



Sci C5 Competency in preservation of natural and cultural heritage

Identify and understand relationships between systems in the natural, social and cultural environment to appreciate the value of cultural and natural heritage and presence it.



Sci C8 Competency in cultural and social awareness and empathy

Value plurality and respect other cultures to build a more harmonious society that integrates EU values.



Sci C3 Problem-solving competency

Use design projects and computational thinking to cooperatively solve problems in interdisciplinary projects.



Sci C6 Competency in environmental sustainability

Develop awareness of human impact on the environment, including sustainable practices.



Sci C9 Citizenship competency

values, human and child rights and the principles of the Spanish Constitution and the EU.







Course Components

Pupil's Book with eBook: Each unit includes hands-on experiments, manual activities, mixed-ability assessment and practice of the Cambridge English Qualifications for young learners. There are three competency-based projects per level: each Our Project includes an accompanying Project Poster, Project Worksheet and Project Assessment Grid. Pupils can find their eBook access code on the inside front cover of their Pupil's Book.



Activity Book with Digital Pack: Each unit features activities that consolidate the concepts introduced in the Pupil's Book and practise the Cambridge English Qualifications for young learners. Self- or peer-assessments are included on the Activity Book project pages. The Digital Pack access code is on the inside front cover of the Activity Book.



Teacher's Book with Digital Pack:

Teaching ideas are offered at each stage of the lesson and competencies are flagged. Each unit highlights Cambridge English Qualifications vocabulary and practice activities, as well as links to digital components. Teachers can access digital content using a unique code found on the inside front cover of the Teacher's Book.



Flashcards: Digital flashcards are available for all levels.



Digital components on Cambridge One platform

The digital components for **Cambridge Natural Science Second Edition** are available on our new **Cambridge One** online learning platform.



Presentation Plus: Digital front-of-class presentation with interactive versions of the Pupil's Book and Activity Book and a variety of features to help pupils cement their understanding of key concepts.

- interactive Pupil's Book and Activity Book activities
- documentary videos for every Pupil's book unit
- animations to support the meaning of core concepts
- digital flashcards
- class audio with scripts

Test Generator: Features downloadable readymade mixed-ability tests and allows teachers to build their own exams.

Teacher's Resource Bank: Includes teacher training videos; *Our Project* assessment grids, worksheets, posters, and self- and peer-evaluations; revision worksheets; concept maps; letters to parents; and downloadable class audios and videos.

Kahoot! online quizzes (Levels 5 and 6): Liven up classes through fun competition.



Practice Extra: Teachers can set homework and track each pupil's progress. Provides extra practice in a way that rewards and motivates young learners.

WELCOME UNIT

PAGES 4-5

Objective:

Pupils will learn the phases of scientific investigation and the importance of trial and error.

Key vocabulary

conclusion, experiment, hypothesis, prediction, problem, question, result, science, scientific method, scientist, solve, trial and error



Warm up

Elicit answers to the question: What is scientific investigation? Create a word cloud on the board.

Main concepts

- Read about the scientific method.
 Elicit questions pupils wonder about.
 Question examples: I wonder how we could keep the classroom warmer?
 How does an eraser work? What would happen if there was no sunlight?
- Choose a question to work through the scientific method together, explaining each step.
- Ask pupils what scientists do when they make a mistake. Elicit examples of what each student has learnt after facing a mistake.

Scientific investigation is the process of finding the answer to a question using research methods. It begins when someone observes the world and asks a question about their surroundings. From there, they make more observations or develop an experiment to test a hypothesis.



Pupils' own answers



Learn more

Refer to the table of contents in the Pupil's Book. Pupils think of a question they want answered during the school year. They write it on a piece of paper and decorate it. Display the questions around the classroom. At the end of the year, allow pupils to reflect on their question and write the answer.

Tip

Introduce concepts over one or two lessons. Spend time getting pupils excited about science and the upcoming experiments. Emphasise the omnipresence of science in our daily lives.

Track 02

Page 4, What is scientific investigation? Listening activity

- 1 Bungee jumping applying the laws of physics for safety
- 2 Rock band using sound energy to entertain people
- **3** Architect applying the laws of physics and engineering
- 4 Chef using chemistry to make tasty food
- **5** Scientist using knowledge of biology and ecosystems
- **6** Children playing using mechanical energy and physics to score goals
- **7** TV set using technological inventions to provide entertainment
- 8 Hairdresser using chemistry to dye hair

5

9 Sailboat – using wind energy to move



WHAT DOES IT MEAN TO BE A LIVING THING?

Learning objectives

By the end of this unit, pupils will have achieved a greater understanding of the following concepts:

- the characteristics of living things
- the internal organisation of living things
- how living things are classified into kingdoms

Competencies

This unit covers the following competencies:

• Sci C2: Scientific thinking competency ()



• Sci C3: Problem-solving competency



Key vocabulary

Cell structure: animal cell, cell membrane, cell wall, chloroplast, cytoplasm, nucleus, plant cell, rigid, structure, vacuole

Organisation: cell, function, individual, multicellular, organ, organism, structural, system, tissue, unicellular

Classification: alga, Animal, bacteria, bacterium, classifu, dichotomous key, Fungus, living, identify, invertebrate, kingdom, Monera, Plant, Protist, protozoon, taxonomist,

Other: hypothesis, nutrition, specialised

Cambridge English Qualifications practice

You will find A2 Key for Schools activity types in the following exercises.

Pupil's Book, Page 13 – Listening Part 2

Pupil's Book, Page 17, Activity 1 – Reading and Writing Part 4

Activity Book, Page 3, Activity 4 – Reading and Writing Part 4

Activity Book, Page 6, Activity 8 - Reading and Writing Part 1

Activity Book, Page 7, Activity 10 – Reading and Writing Part 5

Throughout this unit, you will find the following A2 Key for Schools vocabulary: animal, believe, bird, belong, blood, body, collect, dangerous, heart, improve, interesting, scientist, wild, wonderful

Throughout this unit, you will find the following **B1 Preliminary for Schools** vocabulary: avoid, disease, energy, exception, individual, ordinary, provide, support





Digital Resources on Cambridge One

- Song: Cells, tissues, organs, systems
- Video documentary: *Living or non-living?*
- Presentation Plus with interactive activities
- Practice Extra with interactive activities
- Test Generator

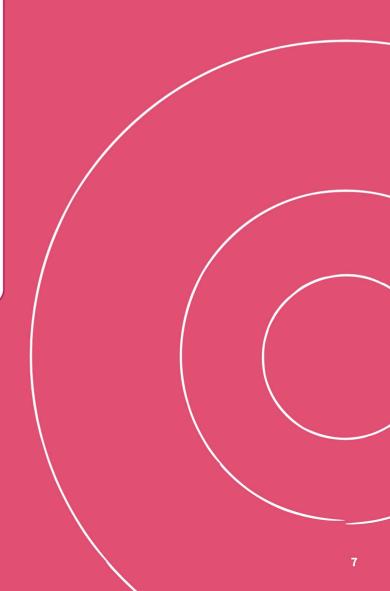
- Resource Bank:
- Flashcards: 1-12
- Revision worksheets
- Concept mar
- Letter to parents
- Practice Extra answer keys
- Oracy talking points worksheet and cue cards
- Programaciones
- Downloadable class audios and videos

Materials needed for Find out more

- balloons
- shoe boxes

Materials needed for other activities

- · modelling clay
- art supplies
- · sticky notes
- cards with pictures of body organisation from different species with words (cell, tissue, etc.) written on the back
- photos of different organisms



UNIT 1 PAGES 6-7

Objective:

Pupils will be introduced to the five kingdoms of classification and prior knowledge of living and non-living things will be activated.

Key vocabulary

Animal, bacteria, Fungus, kingdom, living, Monera, organism, Plant, Protist

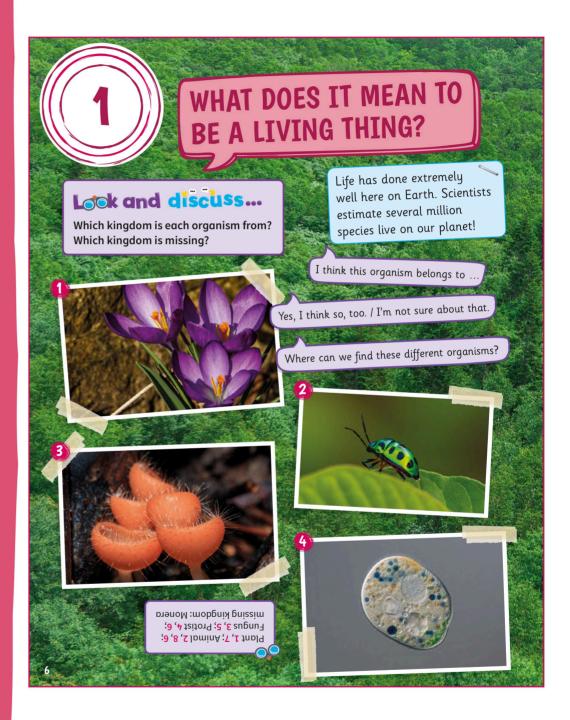


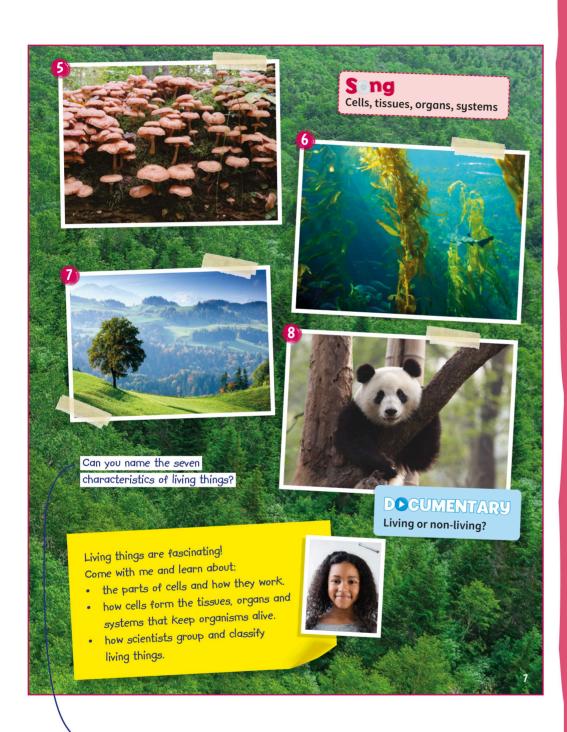
Warm up

- On the board write: bread mould, elephant, grass, green algae and rock. Compare and contrast these items as a class. Ask: Which ones are living? Which ones are non-living? How do we know?
- In teams of four, pupils list as many living and non-living things as they can in three minutes.

Main concepts

- Stimulate previous knowledge
 by asking pupils to name the five
 kingdoms of living things, if they
 can, and give examples. Write the
 kingdoms on the board. Pupils ask and
 answer the questions in pairs. Refer
 to the linguistic support in the speech
 bubbles and explain that they will be
 looking at kingdoms later in the unit.
- Discuss and identify the characteristics of living things.
 Check understanding by asking pupils to classify photos and give reasons for choices.





Movement; respiration; reproduction; growth; sensitivity (or response); nutrition (or use of energy); excretion

For next lesson ... modelling clay, art supplies for cell structures

Learn more

- The Search for Life game: Pupils are extra-terrestrials who must find living food to eat. Pupils move in small groups through different stations, correctly identifying living things from non-living things. They should review the seven characteristics and focus on properly forming questions with the auxiliary verb do / does.
- Refer back to the warm-up activity and the list of living and non-living things on the board. Did pupils classify them correctly? Can they classify them into kingdoms?

Song

This song focuses on body organisation. It can be used on page 11. You could try using an action activity with the song.

Documentary

The documentary explores the characteristics of living and non-living things. It can be used after discussing the seven characteristics of living things. You could try having pupils call out *living* or *non-living*, and the characteristic with the video.

Tip

Show different non-living objects that have characteristics of living things and discuss these as a class (for example, melting ice and moving toys).