

CAMBRIDGE

Teacher's Book

# Science Path 2



Better  
Learning



# WELCOME TO CAMBRIDGE SCIENCE PATH

## Course objectives

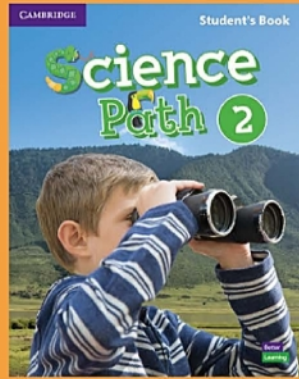
- *Cambridge Science Path* takes students on a journey as they discover the wonders of biology, chemistry, and physics. Students are introduced to topics at a manageable pace, so they can engage with, enjoy, and fully assimilate new concepts.
- Students learn about and cement their understanding of new concepts through **projects**. There is an *Investigate* project that runs through each unit, in which students review and expand upon the concepts presented in the unit. Each individual stage of the *Investigate* project feeds into the project finale, in which students present or produce something to demonstrate their understanding of the topic.
- Students also engage with Science in a **hands-on** way by conducting **experiments**. This practices **critical-thinking skills** and promotes collaborative learning.
- Students learn about new concepts through discovery. In *Cambridge Science Skills*, **learner autonomy** is encouraged through the inclusion of interesting facts and thought-provoking questions. Our aim is for students to be inspired by the fun and wondrous world of Science.
- **Collaborative learning** is also encouraged through the *Investigate* projects that students carry out in pairs, in groups, and as a class.
- The course provides students with the **linguistic support** that they require to study Science in a second language. The course helps students develop their speaking, listening, reading, and writing skills. The unit projects give students practice of a range of skills and sub-skills.
- *Cambridge Science Skills* provides students with practice of the **Cambridge English Qualifications for young learners**. Level 2 provides practice of *Pre-A1 Starters* question types.
- **Mixed-ability assessment** provides teachers with support for students of different levels within the same class. They focus on lower- and higher- order thinking skills, as well as critical thinking.
- *Cambridge Science Path* aims to help students develop the following key competences: linguistic competence; mathematical competence and basic competences in science and technology; digital competence; learning to learn; social and civic competences; initiative and entrepreneurship; and cultural awareness and expression.





## Course components

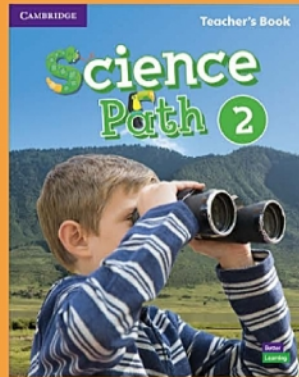
**Student's Book:** each unit includes a project, experiments, mixed-ability assessment and practice of the Cambridge English Qualifications for young learners.



**Class audio:** provided through Presentation Plus, as well as being available to download at [www.cambridge.org/scienceaudio](http://www.cambridge.org/scienceaudio).

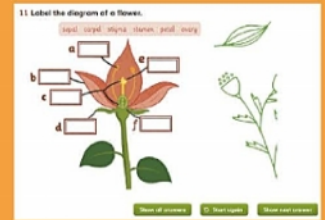


**Teacher's Book:** includes useful suggestions for activities at each stage of the lesson, answer keys, audio scripts, and track numbers for the audio.

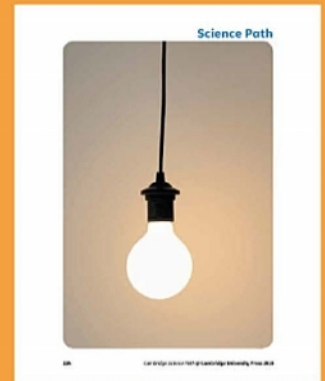


**Science Path Presentation Plus:** includes an interactive, digital version of the Student's Book with a variety of features to help students cement their understanding of key concepts:

- flashcards in digital format
- answer keys
- audio with scripts available
- mixed-ability tests
- documentary videos for each unit to engage students in a visual way and allow them to see Natural Science in action!



**Classroom materials:** include posters and a full bank of flashcards to be used across levels. The posters consolidate learning by helping students engage with Science vocabulary and concepts in the classroom.



# HERE WE GO AGAIN!

## PAGES 4-5

### Objective:

Students will meet the main characters and will become familiar with the topics that they will learn throughout this book. They will also have their first introduction to the scientific method.

### Key vocabulary

animals, machines, materials, plants, senses, the human body

### Warm up

Write the vocabulary words on the board. Read them aloud and encourage students to read with you. Make sure they all understand the meaning. Ask students to raise their hands if they like animals, or plants, or machines, and so on. Explain that these are the key topics for the year.

### Main concepts

- Play a ball game. Ask the students to stand in a circle. Start by saying *My name is (say your name) I like plants.* Throw the ball to a student, who will repeat. Play until everyone has had a turn.
- Ask students to look at the picture and say what they can see. Read the name labels and ask students if they know any of these famous people. This will help them make connections with previous knowledge.

**HERE WE GO AGAIN!**

I love flying!

Little Earhart

I like reading books.

Little Braille

I like studying the human body and painting!

Little da Vinci

I love being with chimpanzees.

Little Goodall

**Scientist card**

Name: \_\_\_\_\_

Age: \_\_\_\_\_

Print your finger here when you complete a unit.

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8
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I know a lot about plants and books.

I am interested in buildings and materials.

Little Potter

Little Eiffel

I like space and the planets!

I love boats and the sea.

Little Armstrong

Little MacArthur

I can think, predict, experiment, observe, and conclude.

**Scientific method:**

- 1 Predict
- 2 Experiment
- 3 Observe and conclude



- Ask volunteers to read the name labels. In pairs, students connect each person with the key topics on the board.
- Ask students to look at the picture of a girl. Ask the class to read aloud together. Then ask *Do you like experiments? Which was your favorite experiment from last year?* Explain that they are going to do lots of experiments. Point out the Scientist card for them to complete after each experiment.
- Finally, read the activity about favorite topics. Make sure everyone understands what to do. They can talk with a partner or in a small group about what they like.

**Learn more**

Ask students to share examples of things we can learn by using the scientific method.

# 1

## DO THE LOCOMOTION!

### Learning objectives

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

- personal body image
- personal safety habits
- the main characteristics and functions of bones, muscles, and joints

### Competences

This unit covers the following competences:

- Linguistic competence
- Learning to learn
- Mathematical competence and basic competences in science and technology
- Initiative and entrepreneurship
- Digital competence
- Cultural awareness and expressions

### Key vocabulary

**Body image:** head, lower limbs, torso, upper limbs

**Bones:** femur, hard, humerus, pelvis, protect, ribs, rigid, skull, support

**Muscles:** abdominals, biceps, calf muscles, flexible, gluteus, pectorals, soft

**Joints:** ankle, bend, connect, contract, elbow, hip, jaw, knee, neck, relax, shoulder, wrist

### Cambridge English Qualifications practice

You will find **A1 Movers** activity types in the following exercises:

Student's Book, Page 17, Activity 1 – Listening, Part 2

Student's Book, Page 102, Activity 1 – Listening, Part 5

Throughout this unit, you will find the following **A1 Movers** vocabulary:

circle, how, neck, shoulder, why





## Materials needed for *Mini-projects*:

- a roll of paper to draw body outlines
- black card and white paint, brushes
- red modeling clay, worksheet (download from Digital resource bank)
- cardboard, cord, straws

## Other Resources

Interactive activities

Flashcards: bones, muscles, joints

Song: *With or without*

Chant: *Ready, steady, go!*

Video documentary: *Train your muscles*

# UNIT 1

## PAGES 6-7

### Objective:

Students will learn about the external parts of the body, sports and how to be safe at sports, using the setting of a gym. They will connect previous knowledge with new concepts.

### Key vocabulary

arms, hands, head, helmet, legs, muscles, yoga

### Warm up

Ask students to read the unit title and look at the picture. Ask them what they think they will learn about in this unit. You may like to have a class discussion about the importance of learning about our body parts and how to do sports safely.

### Main concepts

- Ask students *What do you think we are going to learn in this unit?* Ask individual students to describe what they can see in the picture. As some children are doing sports in the picture, ask students which body parts they are using.
- Ask students if they do any sports and what their favorite sports are. Ask individual students to read out the questions on the page and elicit their answers.

(Little Earhart's) arm muscle. /  
(Little Earhart's) biceps.



## Learn more

- Play the song and ask students to do actions, e.g. *bend*, *dance*, *be robots*.

### Song

The song focuses on our bones, muscles, and joints, and the movements we can do with each of them.

### Documentary

The documentary focuses on parts of the body and specific muscles.

By practicing sports.

**Song** 103  
With or without

## Investigate

In this unit, you will learn more about the body. To do this, you will:

- make an X-ray.
- make a modeling clay bicep.
- create a moveable hand model.

## DOCUMENTARY

Train your muscles

Are all the children being careful?

No, one of them is playing on the gym bars without any protection.

Unit 1 7

# UNIT 1

## PAGE 8

### Objective:

Students will think about how their body is structured. They will be able to identify upper and lower limbs.

### Key vocabulary

arm, body, foot, hand, head, leg, lower limbs, torso, upper limbs

### Warm up

Draw a torso on the board. Draw a head, two arms, and two legs, but in the wrong places. Ask volunteers to come up and draw the body properly. Ask students *What are the lower limbs?*

### Main concepts

- Ask students to read the texts and say the names of the body parts. Ask one or two students to come to the board and circle the upper and the lower limbs. Ask if they can now identify the lower limbs. Ask students to do the activity on the Student's Book page.
- Read the Fun Fact. Explain as necessary.

### Learn more

- Encourage students to think more about the topic by asking *What's the name of the bone in your forearm? Are there one or more than one?*

The legs.

**Find out**

**WHAT ARE THE LOWER LIMBS?**

Label the arms and legs.

head

upper limbs

torso

lower limbs

**FUN FACT**

Your foot is the same length as your forearm! Try to measure it at home!

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### Mini-project



Let's discover parts of the body.

- 1 Work in groups. Choose a friend and draw their outline.



- 2 Label the body parts.



Show it to your class.

### Investigate AND COMPLETE

My body has three parts:  
 h \_\_\_\_\_, t \_\_\_\_\_,  
 and limbs.  
 My arms are u \_\_\_\_\_ limbs and my legs  
 are lower l \_\_\_\_\_.

By the end of this lesson, you will know more about the structure of your body.

#### KEY WORDS



body



head



torso



lower limbs



upper limbs

### Objective:

Students will reinforce the concept of upper and lower limbs and think about their body structure.

### Key vocabulary

arm, body, foot, hand, head, leg, lower limbs, torso, upper limbs

### Warm up

Show a picture of a body. Ask students to identify the different parts of the body.

### Main concepts

- Organize the class for group work. Read the instructions for the Mini-project together. Say *Let's make some space!* Give out the materials and ensure that there is room for students to draw the outlines. You may have to let groups take turns.
- Read *My dictionary* as a class. Ask students to trace the words.
- Ask students to read and complete the *Investigate and complete* box individually.

### Learn more

- Ask students to label all the body parts they know on the body outlines made in the Mini-project. They can present their completed work to the class.

My body has three parts: **head**, **torso**, and **limbs**.  
 My arms are **upper** limbs and my legs are **lower** limbs.

**Objective:**

Students will learn the functions and characteristics of bones.

**Key vocabulary**

backbone, bone, femur, hard, humerus, pelvis, protect, ribs, rigid, skull, support

**Warm up**

Show X-rays of different human bones to the class. Ask students to say where are they located (*head, torso, upper limbs, or lower limbs*).

**Main concepts**

- Read the lesson title as a class. Ask students to read the questions on the page individually and think about their answers.

Read the text as a class and check understanding. Then point to the lesson title and the questions. Ask *Can you answer the questions now?*

- Ask students to look at the picture to find and circle the longest bone.

Read the Fun Fact. Ask students why they think there are a lot of bones in this area.

Point out and read the hidden feature instruction. Students find the skull.

**Learn more**

- Say *Move your fingers. We have joints on them. What's the name of your finger joints?* Ask students to find out the answer.

Because they support our body and protect our organs.

We have 206 bones.



**HOW MANY BONES DO YOU HAVE?**



Circle the longest bone.

Our body is made up of bones. Bones are **hard** and **rigid**. They support our body and protect our organs.

Why do we have bones?

backbone

femur

skull

humerus

ribs

pelvis

Can bones break?

Find the skull hidden in the unit!

**FUN FACT**

There are 54 bones in your hand, fingers, and wrist!

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It's on page 12.

Yes, they can.

