

ENDORSED BY CAMBRIDGE International Examinations

Student's Book 2



Contents

Topic 1 Living things in their environment		
1.1	What is an environment?	2
1.2	Comparing natural environments	4
1.3	Plants in different environments	6
1.4	Animals in different environments	8
1.5	Suitable or unsuitable?	10
1.6	Investigate a local environment	12
1.7	Caring for the environment	14
1.8	What can you do?	16
1.9	Making a difference	18
1.10	Weather	20
1.11	Observing the weather	22
1.12	Recording the weather	24
1.13	Play the weather game	26
	Looking back Topic 1	28
Topic 2 Material properties		29
2.1	Different types of rocks	30
2.2	Rocks are useful	32
2.3	Natural materials	34
2.4	Manufactured materials	36
	Looking back Topic 2	38
Topic 3 Material changes		39
3.1	Materials can change shape	40
3.2	Squashing materials	42
3.3	Does it bend?	44

3.4	Twisting and stretching	46
	Heating materials	48
3.6	Cooling materials	50
	Where did it go?	52
3.8	Investigate dissolving	54
	Looking back Topic 3	56
Topic 4 Light and dark		57
4.1	Sources of light	58
4.2	Light and dark	60
4.3	Shadows	62
4.4	Playing with shadows	64
	Looking back Topic 4	66
Topic 5 Electricity		67
5.1	What is a circuit?	68
5.2	How to build a circuit	70
5.3	Switches	72
5.4	Build your own switch	74
	Looking back Topic 5	76
Topic 6 The Earth and beyond		77
6.1	The Earth and the Sun	78
6.2	Does the Sun move?	80
6.3	Changing shadows	82
6.4	Day and night	84
6.5	Modelling day and night	86
	Looking back Topic 6	88
Glossary		89

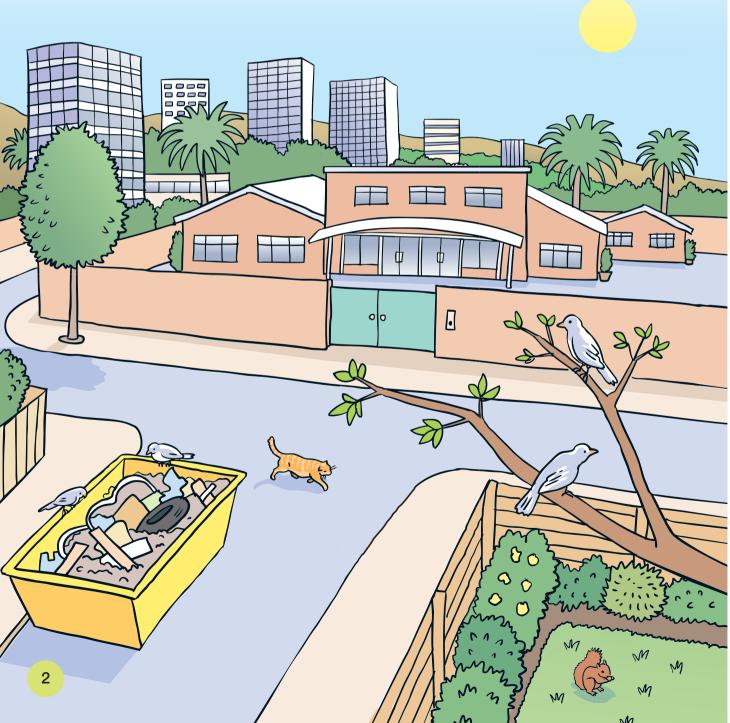
Topic 1 Living things in their environment

In this topic you will learn about your local environment and the plants and animals that live in different environments. You will also learn why it is important to care for our environment and find out how we can do this. Lastly you will observe and learn about the weather.

1.1 What is an environment?

Everything around us forms part of our environment. The air, the ground, the water, the buildings, the plants and the animals around us are all part of our **local** environment.

- Key words
- environment
- local
- natural
- built



A **natural** environment is an area that has not been changed by people. Grasslands, forests, deserts, mountains and oceans are all natural environments.

A **built** environment is an area that contains buildings, roads and other things built by people. Your school and your village or town are built environments. You can find smaller natural environments in most built environments.

Plants and animals are found in both natural and built environments.

- 1 Name four things found in your school environment.
- 2 Where would you find smaller natural environments in or around your school?
- 3 What plants and animals are found in your local environment?

I have learned

- The environment is the name given to our surroundings.
- A natural environment is one that has not been changed by people.
- A built environment is one that contains buildings and other structures.

Draw a picture of your local environment and label the different parts of the environment.

> What plants and animals are found in the built environment around your school?

Choose one plant or animal found in your local environment. Describe it and say why you think it likes to live there.

1.2 Comparing natural environments

There are many different environments in the world, each with its own set of **conditions**. Some environments are **hot**, some are warm, and others are **cold**. Some environments have lots of water while others are very **dry**.

- 1 What are the conditions like in your local environment?
- 2 Describe how your environment changes through the year.



- Key words
- conditions
- hot
- cold
- dry
- wet







The types of plants and animals we find in an environment depends on the conditions found there. Plants and animals that like to live in hot and **wet** places are not often found naturally in cold and dry places. Plants and animals that live in water cannot survive in a dry environment.

- 3 Look at the environments in the photographs. What conditions would you expect to find in each environment?
- 4 Which of these environments are dry?
- 5 Which environment do you think is the coldest? Why?

Activities

 Look at some pictures of environments. Describe what you can see in each environment.

Compare two different environments. Find two similarities and two differences.

Choose an environment that is different to your local environment. What plants and animals would you expect to find there? Why?

I have learned

- There are similarities and differences between local environments.
- Environments can be cold, warm or hot, and wet or dry.
- The conditions found in an environment will affect which plants and animals can live there.

1.3 Plants in different environments

The conditions in an environment affect which plants are found there. Most plants are **suited**, or **adapted**, to their environment.

1 What plants are found in your environment? Make a class list.

Tropical environments are hot and wet. The plants that grow there have large leaves and they grow very tall.

In hot and dry environments the plants have to find ways of storing water. They usually have swollen stems or fleshy leaves. Some cacti have spines instead of leaves.

2 Compare the leaves of plants found in hot and wet environments with those of plants found in hot and dry environments. In what ways are the leaves different?

Grasslands are hot and dry for most of the year, but there is a rainy season. The grasses and other plants that live there have deep roots to help them survive when it is dry. After it rains they grow quickly and make seeds. Key words • suited • adapted





In cold environments it often snows in winter. Pine trees have tough needlelike leaves and springy branches that do not break if snow gathers on them. Smaller plants have tough hairy leaves that grow close to the ground. These plants can survive underneath the snow in winter.

- 3 Which of the plants in the photographs are found in your local environment?
- 4 Why do you think the other plants are not found in your environment?



Activities

- Choose one of the plants found in your local environment. Make a fact sheet about the plant. Your sheet should include a photo or drawing of the plant, its name, details of the conditions in which it grows, and how you think it is well suited to its environment.
- Do your own research to find out how water plants are different to plants that grow on land. Prepare a short presentation on what you discover.

Design a plant that can live in a hot, wet rainforest. Draw and label your plant to show how it is suited to the environment.

I have learned

- The conditions in an environment affect the types of plants found there.
- Plants grow in different ways to suit their environment.

1.4 Animals in different environments

Animals like to live in an environment where they can find **food**, **water** and **shelter**. Some animals need special environments. For example, fish need to live in water, and earthworms need soil because they live underground.

The conditions in the environment affect which animals can live there.

The photograph below shows a river that runs through a hot, dry and rocky environment. Key words • food • water • shelter

frog

goat

8



These are some of the animals found in this environment

- How does this environment 1 provide what each animal needs?
- 2 What other animals would you expect to find in this environment?
- 3 Why is water so important in this environment?



Activities

Choose any animal that you would like to be. Draw a picture of yourself in a suitable environment.

Think about how you are well-suited to your environment. Make a list of at least three ways.

What other plants and animals are found in your environment? Make a list.

I have learned

- The conditions in an environment affect which animals are found there.
- Animals like to live in an environment that provides food, water and shelter.