

CAMBRIDGE PRIMARY Science

Learner's Book

4



Fiona Baxter, Liz Dilley,
Alan Cross and Jon Board

Completely **Cambridge**
Cambridge resources
for
Cambridge qualifications

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**Fiona Baxter, Liz Dilley,
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References to Activities contained in these resources are provided 'as is' and information provided is on the understanding that teachers and technicians shall undertake a thorough and appropriate risk assessment before undertaking any of the Activities listed. Cambridge University Press makes no warranties, representations or claims of any kind concerning the Activities. To the extent permitted by law, Cambridge University Press will not be liable for any loss, injury, claim, liability or damage of any kind resulting from the use of the Activities.



Introduction

The *Cambridge Primary Science* series has been developed to match the Cambridge International Examinations Primary Science curriculum framework. It is a fun, flexible and easy to use course that gives both learners and teachers the support they need. In keeping with the aims of the curriculum itself, it encourages learners to be actively engaged with the content, and develop enquiry skills as well as subject knowledge.

This Learner's Book for Stage 4 covers all the content from Stage 4 of the curriculum framework. The topics are covered in the order in which they are presented in the curriculum for easy navigation, but can be taught in any order that is appropriate to you.

Throughout the book you will find ideas for practical activities, which will help learners to develop their Scientific Enquiry skills as well as introduce them to the thrill of scientific discovery.

The 'Talk about it!' question in each topic can be used as a starting point for classroom discussion, encouraging learners to use the scientific vocabulary and develop their understanding.

'Check your progress' questions at the end of each unit can be used to assess learners' understanding. Learners who will be taking the Cambridge Primary Progression test for Stage 4 will find these questions useful preparation.

We strongly advise you to use the Teacher's Resource for Stage 4, ISBN 978-1-107-66151-6, alongside this book. This resource contains extensive guidance on all the topics, ideas for classroom activities, and guidance notes on all the activities presented in this Learner's Book. You will also find a large collection of worksheets, and answers to all the questions from the Stage 4 products.

Also available is the Activity Book for Stage 4, ISBN 978-1-107-65665-9. This book offers a variety of exercises to help learners consolidate understanding, practise vocabulary, apply knowledge to new situations and develop enquiry skills. Learners can complete the exercises in class or be given them as homework.

We hope you enjoy using this series.

With best wishes,
the Cambridge Primary Science team.



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1 Humans and animals

1.1 Skeletons

Sometimes skeletons look scary. Skeletons are not scary. People, and many animals, have a **skeleton** inside their bodies. A skeleton is a hard, strong **frame** that supports our bodies from the inside.

Words to learn

skeleton	frame
bone	skull
spine	vertebra



Have you seen a skeleton before? There are skeletons in some museums of animals such as dinosaurs that lived long ago.

What are skeletons made of?

Skeletons are made of **bone**. Bone is very hard and strong.

You can feel the bones of your skeleton through your skin.



Our skeletons are made of many different bones. These bones are different sizes and shapes.

Activity 1.1

Finding your bones

Feel your head. How many **skull** bones can you feel?

Hold your hands on the sides of your chest. Can you find your ribs?

How many ribs can you feel?

Now feel your back. The bumps you can feel are the bones of your **spine**. These bones are called vertebrae. One bone is called a **vertebra**.

Stand up and put your hands on your hips. Can you feel your hip bones?

Feel your hand bones. Why do you think there are so many bones in your hand?

Did all the bones in your hand feel the same size and shape?

Questions

- 1 What are skeletons made of?
- 2 Why must skeletons be hard and strong?
- 3 Why do you think the bones of your skeleton are different shapes and sizes?
- 4 Bones are not very heavy. How do you think this helps animals?
- 5 Draw a picture of what you think a person without a skeleton might look like.



Animal skeletons have bones that are different shapes and sizes.

What you have learnt

- ☞ People and many other animals have a skeleton inside their bodies.
- ☞ Our skeletons support our bodies from the inside.
- ☞ Our skeletons are made of many different bones.
- ☞ Bones are different sizes and shapes.

Talk about it!

Are all skeletons made of bones?

1.2 The human skeleton

We have 206 bones in our skeletons.
There are different kinds of bones in the skeleton:

- Long bones, like the bones in our legs and arms. The **thigh** bone is the long bone in your leg.
- Short bones, like those in our fingers.
- Flat bones, like those that make up our skull.
- **Irregular** bones, like the bones in our spine.

Words to learn

thigh **irregular**



Activity 1.2

Making a skeleton

Look at the human skeleton on the opposite page.

Notice the sizes and shapes of the bones and how they are arranged.

Plan how you will make a skeleton from different pasta shapes.

Arrange the pasta shapes on the paper to make your skeleton.

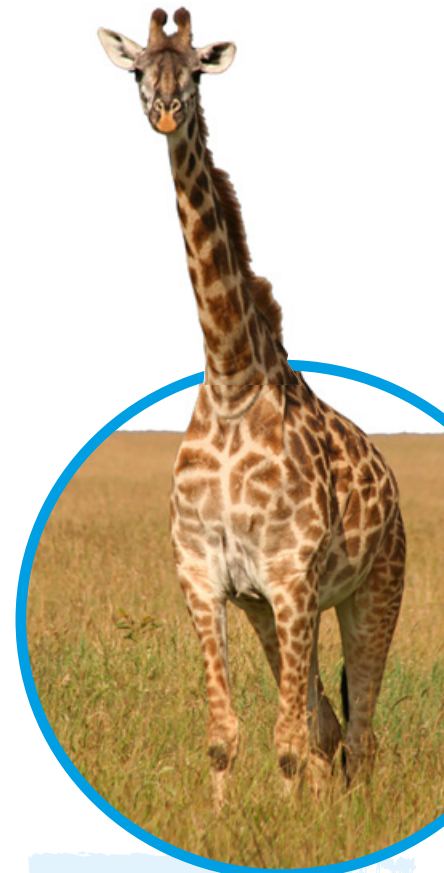
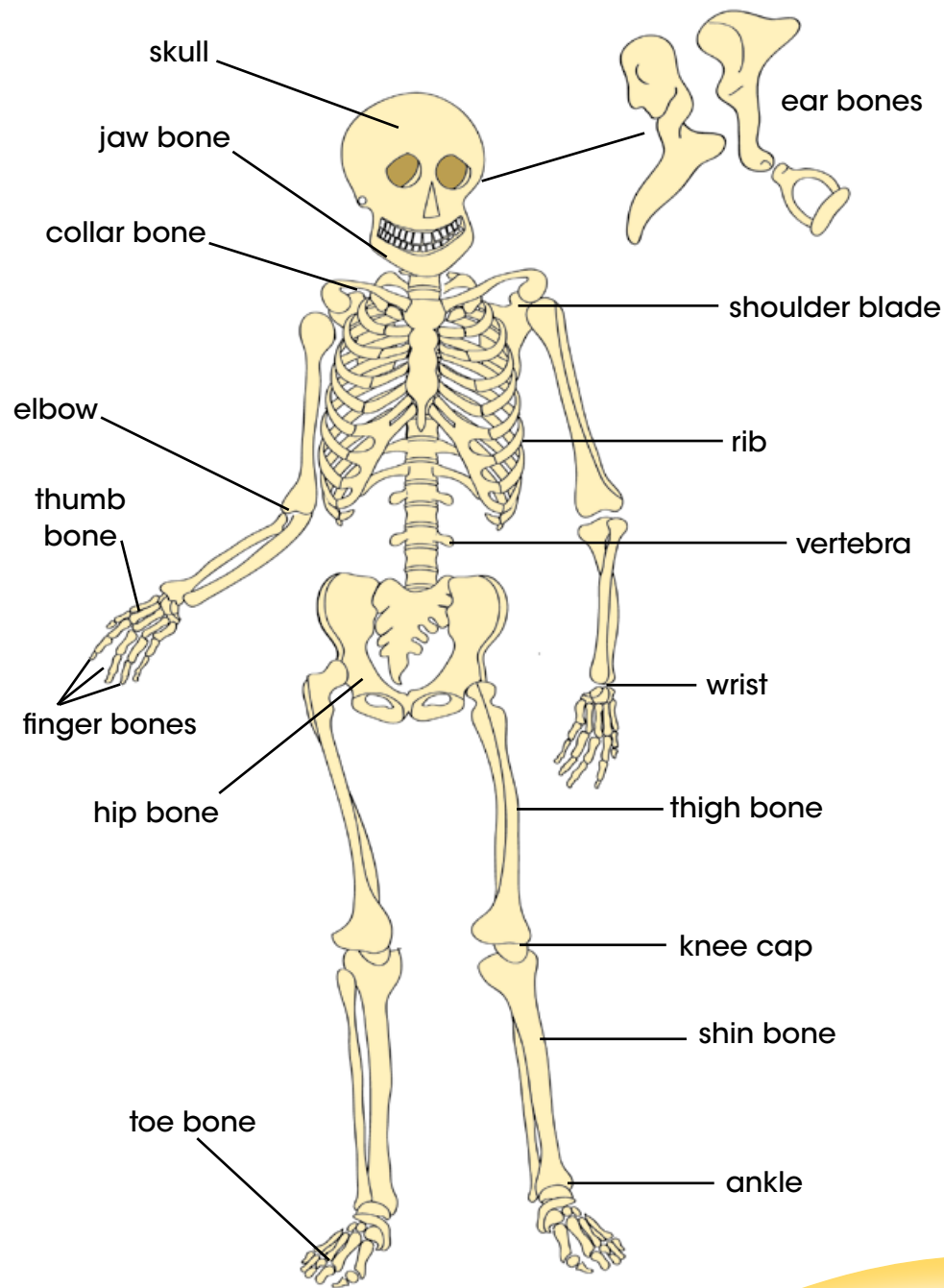
When you are happy with your skeleton, glue the shapes onto the paper.

You will need:

different shapes of pasta • black construction paper • paper glue

Questions

- 1 Is the skull made of one bone or many bones?
- 2 Why do you think the skull is important?
- 3 Which is the biggest bone in the body? Why do you think this is so?
- 4 Which are the smallest bones in the body?
- 5 What parts of your body do you think the ribs surround? Why do you think the ribs are there?
- 6 Women usually have wider hip bones than men. Why do you think this is so?



A giraffe's neck can be up to 2m long.

What you have learnt

- Our skeletons are made of long bones, short bones, flat bones and irregular bones.
- The skull is made of different flat bones joined together.

Talk about it!

How many neck bones does a giraffe have?