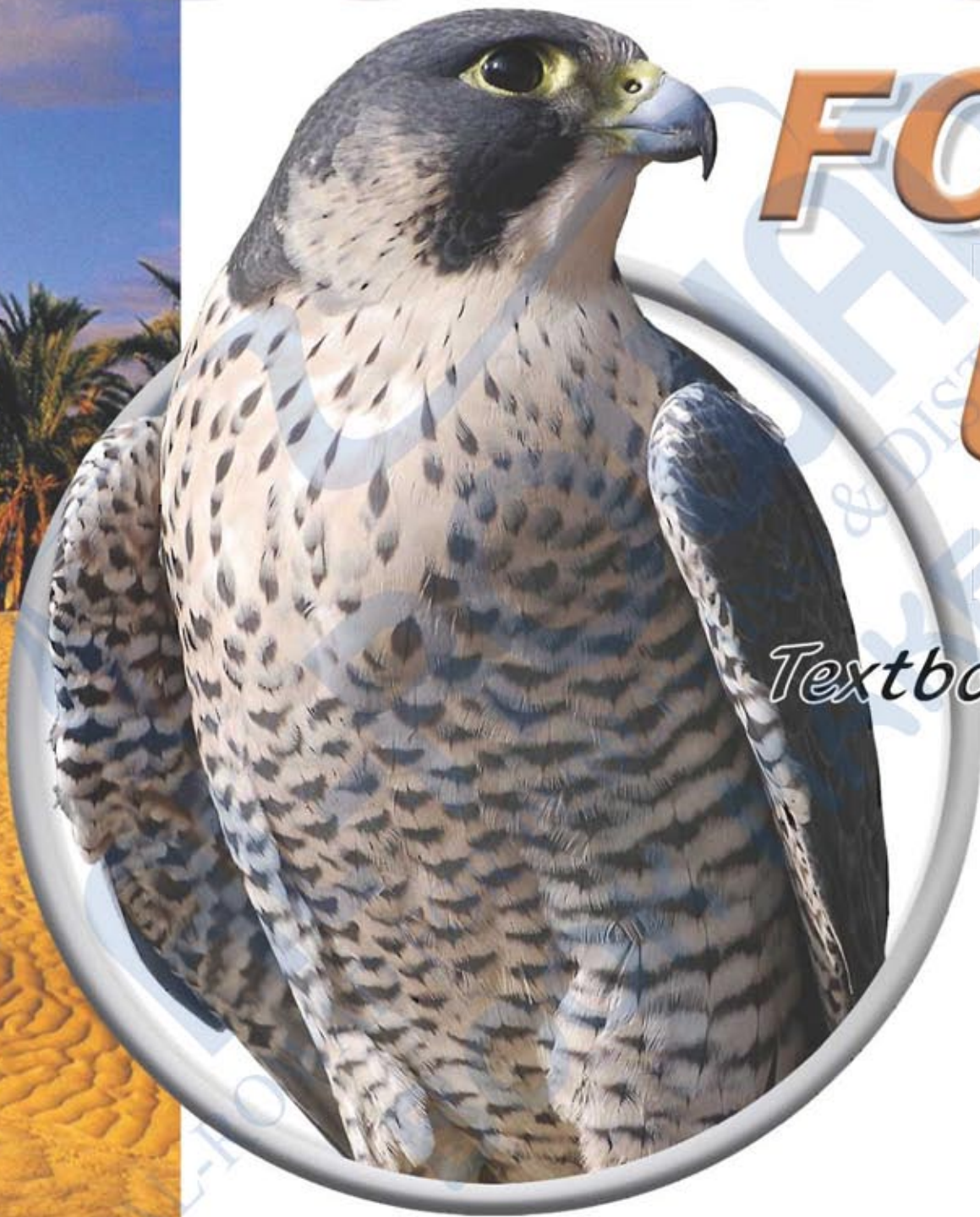# SCIENCE FOR US

Textbook 4

Introduction

This is the fourth book of the "Science For Us" series. It consists of eight units.

Each unit begins with a summary of the main learning outcomes for students.

Each unit consists of investigation activities, keywords and simple information presented along with pictures to support the student's understanding of the concepts.

Some pages have a link to the workbook to give students an opportunity to apply what they have learnt.

This book is designed to meet the needs of schools that choose to teach Science in English, and aim for a high level student understanding.

Contents

When you see this →
go to the workbook. W.B

Young Scientist

By the end of the unit, learners will be able to:
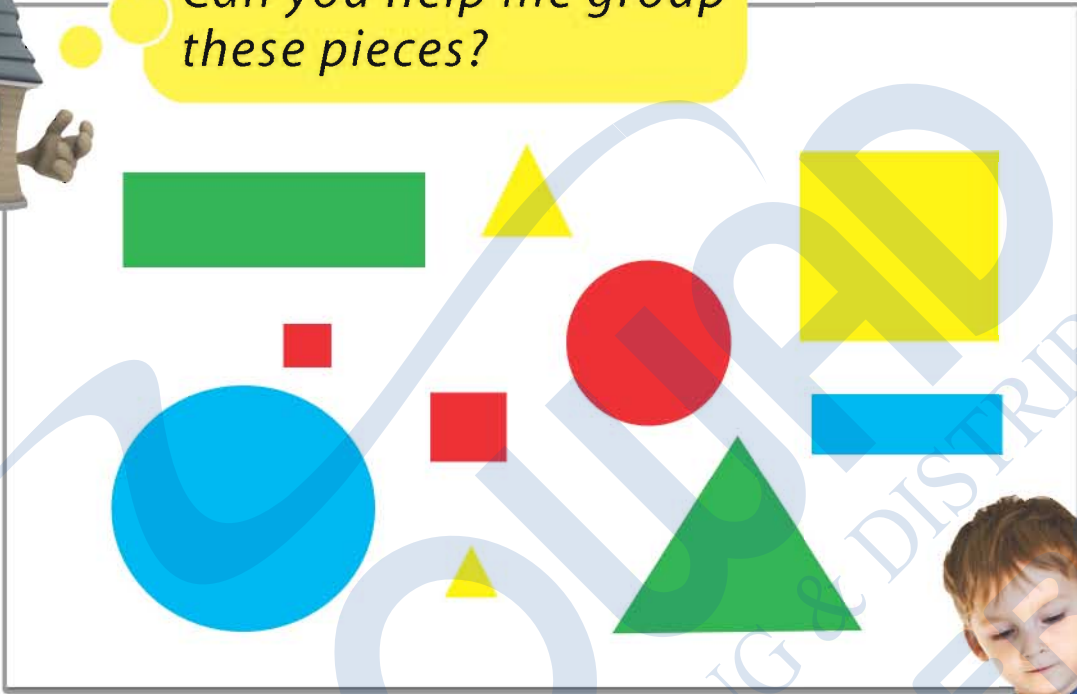
* develop skills of estimation of quantities such as length.
* express results in the form of bar charts.
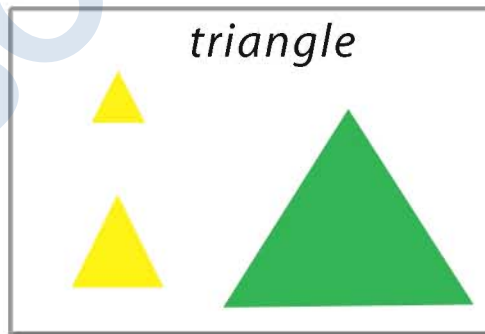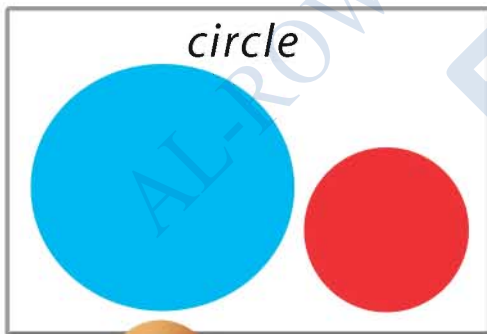* classify data and observations, and draw conclusions from classification.

Observing + Classifying

Can you help me group these pieces?

Hello! I have grouped the pieces by shape.

square	rectangle

circle	triangle
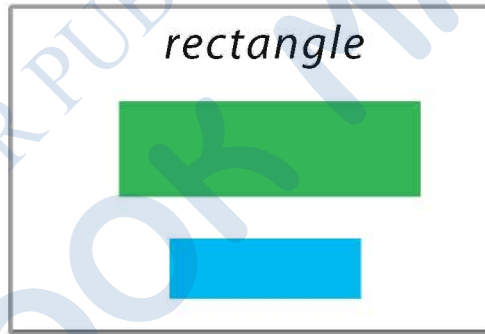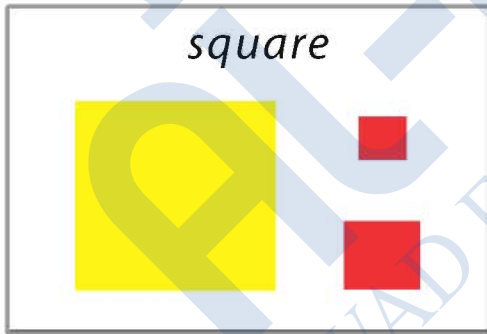
Oh really! I have grouped them by size.

small

big

red

green

Hmm, I'm better than both of you. I have grouped them by colour.

blue

yellow

Hmm, ok let me think about other ways that I can group them. Can anyone help me please?

Now let's express our results in bar charts. Can you help me?

Ok! Here is my bar chart.

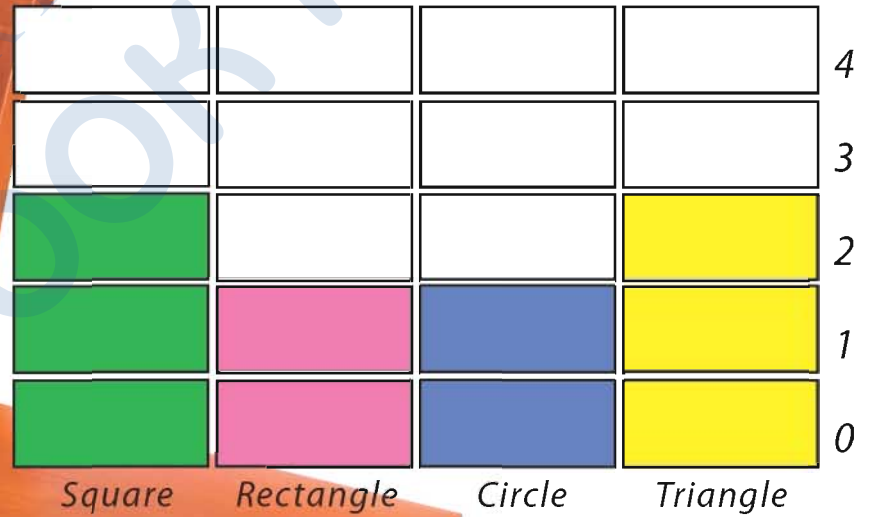|				
				4
				3
				2
				1
				0
Square	Rectangle	Circle	Triangle	

	6		
	5		
	4		
	3		
	2		
	1		
	0		
		Small	Big

What a great job. Now come and check mine.

				3
				2
				1
				0
Red	Green	Yellow	Blue	

Thank you. You have helped me so much.

Put on your thinking cap.

What five senses did we use to classify these shapes?

Measuring + Estimating

Which bed belongs to my baby? Why?

Comparing Length

The giraffe is taller than the zebra.

I am tall

I am taller

My pencil is short , but my paper clip is shorter.
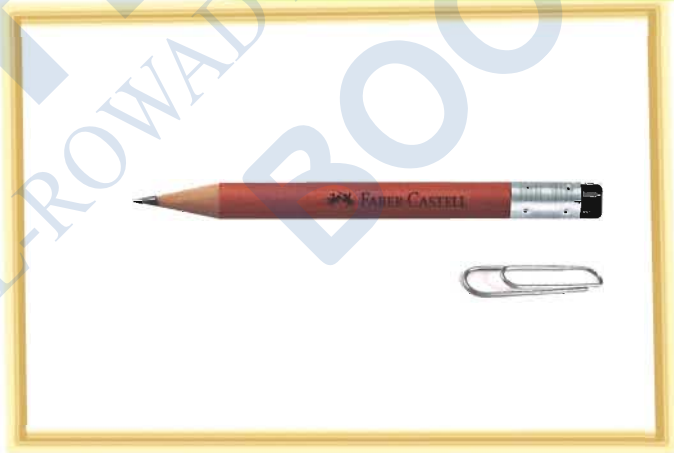
Let's measure this pencil.

The pencil is 6 🔗 long.

Put on your thinking cap.

Can you measure this pencil in any other way?

Workbook page:13 Activity 4

Measuring and Estimating

Sometimes we don't need to know the exact measurement of an object. For example, if a group of students want to ride on a lift that cannot carry more than 1,100 kg., it isn't necessary for them to measure the mass of everyone. In this case the students only need to estimate (make an educated guess) their combined masses.

However, sometimes it is important to have more accurate measurements. If, for example, a group of students want to build a bird house, they need accurate measurements for the length of wood they will use. This means that they will have to measure the wood.

Let's practice our measuring and estimating skills!

1- Choose three objects from around your classroom. Estimate their masses, and record them in the data table.
2- Use a pan balance and standard masses to measure their masses. Record the measurements in the data table.
3- Compare the measured masses to the estimated masses. How good were your estimations?

| Object	Estimated Mass	Measured Mass

Habitats

By the end of the unit, learners will be able to:

* recognise that habitats and the organisms that live in them are diverse.

* recognise similarities and differences in terrestrial, marine, and fresh water habitats.

* recognise how differences in habitats can determine the organisms that live there.

* identify that there is a need to protect habitats, as a change in habitats can affect the numbers and types of organisms that live there.

What is a habitat?
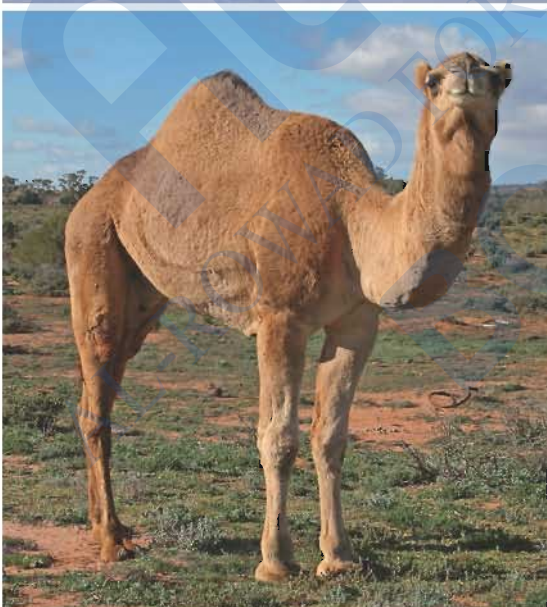
A habitat is a place in an environment where a certain type of animal or plant lives. A living organism (plant or animal) can find all of its needs (food, water, and shelter) within its habitat. Sometimes many different organisms can share the same habitat. A tree is a good example of this. Many different types of birds may live in the same tree. Hundreds of species of bugs can share this tree as well. There could even be different kinds of plants growing on the tree. The birds, bugs and plants are all inhabitants of the tree.