SHAKE UP SCIENCE 1

STUDENT BOOK

ALWAYS LEARNING

PEARSON

Contents

Unit 1

The Nature of Science

What is science?

I will learn

- that scientists ask questions to learn.
- ways scientists observe things.
- ways scientists collect and record data.

1 **Circle what you can use to see things.**



2 **Circle the part of your body you can use to observe the color of a bird.**





3 **Mark (✓) the birds that look alike. How do they look alike? Say as a class.**



Lesson 1 · What questions do scientists ask?

Key Words

- scientist
- science
- observe
- objects
- questions
- answers

1 **Read. What does a scientist do? Say as a class.**

Science and Scientists

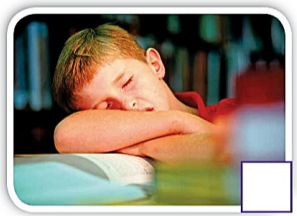
A **scientist** uses **science** to learn about the world around us. A scientist can work with other scientists. They learn new things together. You can use science to learn, too.

2 **Do scientists work together? Say with a partner.**

3 **Read. Mark (✓) the scientists who observe things.**

Observe

Scientists observe. **Observe** means to find out about things. You can observe the size, shape, and color of **objects**. You can observe other things, too.


Lesson 2 • How do scientists observe?

Key Words

- senses
- tools
- measure
- compare
- group

1 **Read. Look at the fish. What colors do you see?**

Senses

Scientists use their **senses** to observe. You can use your senses, too. You look to observe things like size, shape, and color. You listen to observe sounds.

2 **Point to the big fish. Point to the small fish. What fish do you like more? Why?**

3 **Look around the classroom. Say three objects you see.**

4 **Circle the things you can hear.**


bird


dog

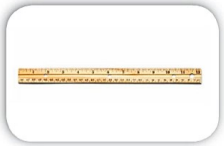

sandwich


frog

5 **Read. Circle the tools.**

Tools

Scientists can use **tools** to observe. A hand lens is a tool. It can help you see things. A ruler can help you measure how long an object is. A balance can help you measure how much there is. **Measure** means to tell things like how much, how long, and how tall.


ruler


hand lens


sandwich


balance

6 **Say as a class. Match the tools to the questions.**

ruler

balance

hand lens

7 **Circle *T* (true) or *F* (false).**

1. Scientists use tools to observe. **T / F**
2. You can observe how big or small something is. **T / F**
3. You only have three senses. **T / F**

8 **Read. Look at the picture. How are the fish alike? Say with a partner.**

Compare

Scientists say how things are alike. They say how things are different. **Compare** means to say how things are alike and different.

9 **Look at the butterflies. Compare. Say as a class.**

10 **Read. Circle the things that are alike.**

Group

Scientists **group** things, too. You can group objects by how they are alike. You put objects that are alike in a group!

At-Home Lab

Group Objects

Find five objects at home. Say how they are alike. Say how they are different. Put the things that are alike in a group.

11 **Read. Circle the things that help you stay safe.**

Safety

You follow rules in science to stay safe. Some tools help you stay safe, too.

safety goggles

hand lens

Rules
1. Listen.
2. Wear goggles.
3. Wash your hands.

list of rules

Lesson 3 • How do scientists collect and record data?

Key Words
- collect
- data
- record
- chart

1 **Read. What do scientists use to record data? Say as a class.**

Scientists Collect and Record Data

Scientists **collect** information. In science, information is called **data**. Scientists **record** data. They can use words, pictures, numbers, or **charts**.

2 **Look at the picture. Draw the animal the girl is observing.**

3 **Read. What can a mark in a chart show? Say with a partner.**

Collect and Record Data

You can collect data by asking questions. You can record data in a chart. For example, one mark in a chart can record one person's answer to a question.

4 **Ask five friends, "Do you like dogs, cats, or birds best?" Mark (✓) each answer in the chart.**

Favorite Animals

	cats					
	dogs					
	birds					

5 **Count the marks for each animal. Which is your friends' favorite animal? Compare with other groups.**