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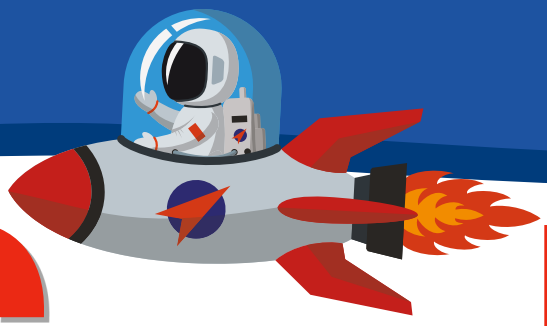

SCIENCE CHAMPION

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1 Student Book

Builds conceptual understanding, reasoning skills, and critical thinking through science learning

Published in Indonesia by:
PT ASTA ILMU SUKSES (member of Mentari Group)
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First published: 2022

Science Champion – Student Book 1

Preface

Science Champion is a science learning book specially designed to help pupils acquire scientific knowledge and understanding, develop skills, values, and attitudes. The scope of topics discussed at each level is arranged according to the science syllabus at the elementary level.

Science Champion uses a very systematic learning method through the Inquiry approach that has been tested and proven to be an effective approach at improving student's competences in mastering science. The inquiry approach is used by Singapore to improve students' competences which is proven through their consistency as the top rank at PISA (Program for International Student Assessment) and TIMSS (Trends in Mathematics & Science Studies). The development of material for each topic is arranged in stages, starting from the easiest material to more complex material (spiral progression).

Science Champion gives special emphasis on developing conceptual understanding and critical thinking skills to build a firm foundation in science. After the introduction of new concepts, students are invited to apply what they have learned in collaborative science activities. This book is equipped with a number of activities that will stimulate students' interest in the topic and consolidate their knowledge and understanding.

Science Champion makes science learning meaningful and fosters a love of science learning in children with the use of colorful and engaging visuals as well as age-appropriate language.

Be a science champion!

Table of Contents

CHAPTER 2

Living Things and Nonliving Things

There are many things around you. Some of them are **alive**. Others are **not alive**. How do you group the things that are alive? How about the things that are not alive?

Lesson 1

Learning Goal:

Group things into living things and nonliving things

Things Around Us

Everywhere you go, you see things that are alive and things that are not alive.

Explore!

Name the things that you see in the park. Which of these are alive? Which are not alive?

Living Things

People, animals, and plants are alive. They are called **living things**.

People are living things.

Animals are living things.

Plants are living things.

Science Bank

Corals are found in water. They look like plants, but they are actually animals. They are alive and they serve as home to many small fish.

Nonliving Things

Soil, air, water, and toys are not alive. They are called **nonliving things**.

Soil is a nonliving thing.

Air is a nonliving thing.

Water is a nonliving thing.

Toys are nonliving things.

Science at Work

Living Things and Nonliving Things in Different Places

What You Need to Do

1. Look around the classroom. Find two living things and two nonliving things.
2. Go to the school garden. Find two living things and two nonliving things.
3. List them in the table below.

Place	Living Things	Nonliving Things
Classroom	1 _____ 2 _____	1 _____ 2 _____
Garden	1 _____ 2 _____	1 _____ 2 _____

Question

Do you agree that living things and nonliving things are found in all places?

☐ Yes ☐ No

Looking Over

- Living things and nonliving things are everywhere.
- People, animals, and plants are living things.

people

animals

plants

- Soil, water, air, and toys are nonliving things.

soil

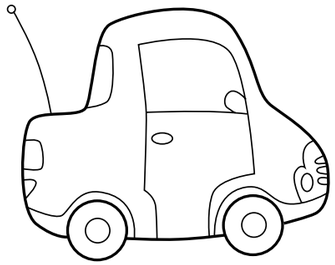
water

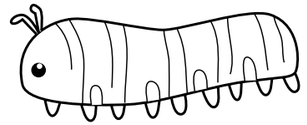
air

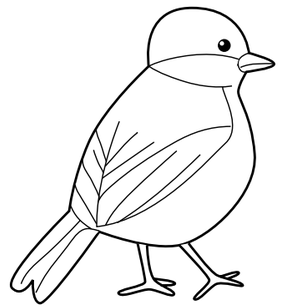
toys

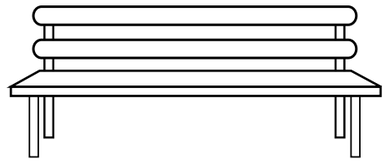
Enhance Your Skills

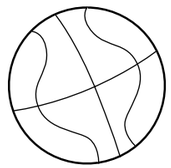
A. Color the things that are **alive**.

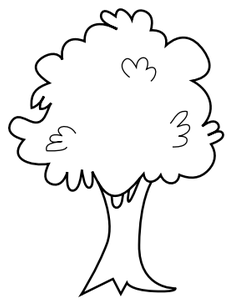


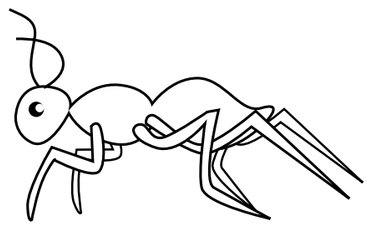












B. Color the things that are **not alive**.

Everyday Science

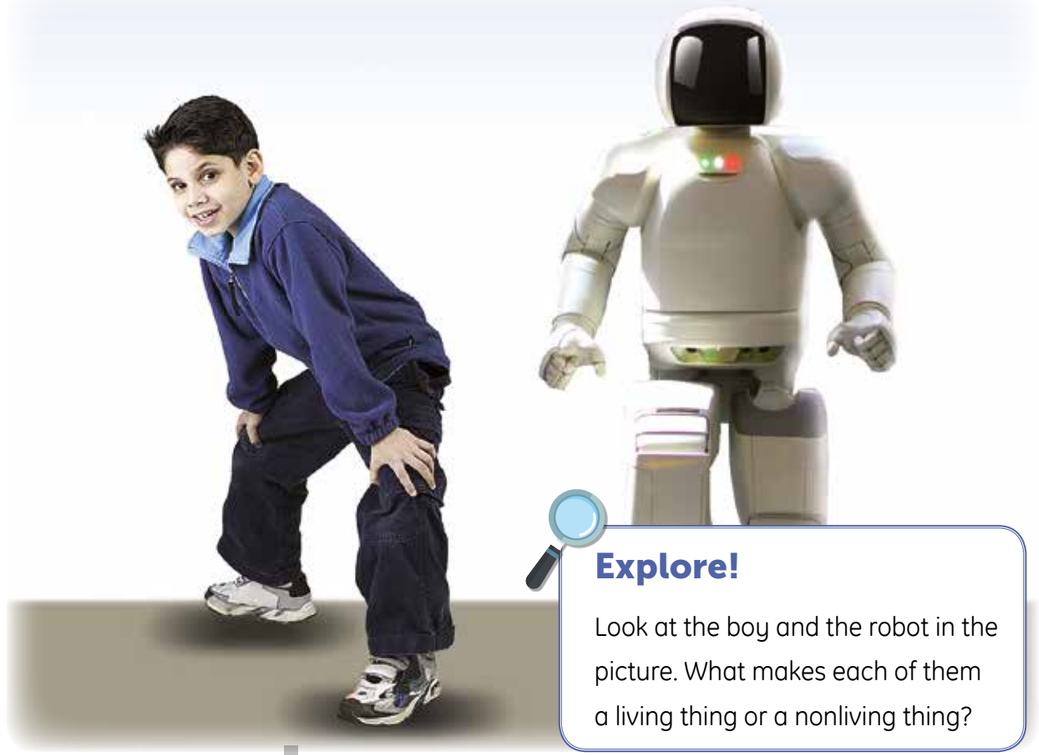
Is a teddy bear a living thing or a nonliving thing?
Why do you think so?

Lesson 2

Learning Goal:
Give the characteristics of living things

Characteristics of Living Things and Nonliving Things

The boy can move just like the robot. On the other hand, the robot cannot eat, breathe, and grow.



Explore!

Look at the boy and the robot in the picture. What makes each of them a living thing or a nonliving thing?

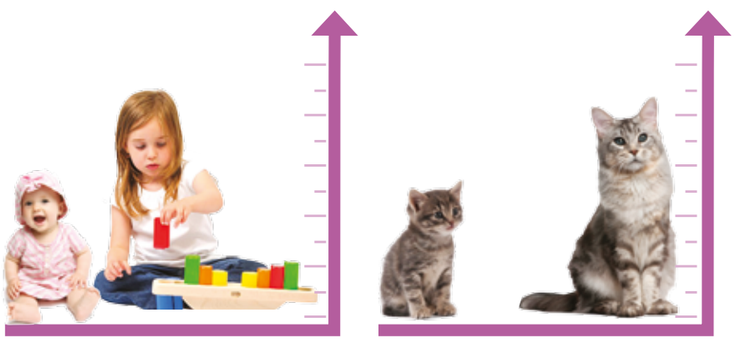
Characteristics of Living Things

Living things breathe air

Living things breathe air. People, animals, and plants need air to stay alive.

Living things grow

All living things grow. People, animals, and plants grow. When they grow, changes in their bodies happen.



A baby grows into a child.

A kitten grows into a cat.

Science Bank

Rafflesia Arnoldii is the largest flower in the world. When it blooms, the flower will smell bad because it is also called corpse flower.

Explore!

Can you tell the changes that happen in the pictures?

Living things move

People and animals move from one place to another. They walk, run, or hop.

A child walks.

A kangaroo hops.

An ostrich runs.

Some animals crawl, climb, or fly.

A snail crawls.

A tarsier climbs.

A bird flies.

Some animals swim.

A dolphin swims.

A clownfish swims.

A shark swims.

A whale swims.

A turtle swims.

Plants move too.

Some plants move upward or sideward.

Some plants crawl on the ground as they grow.

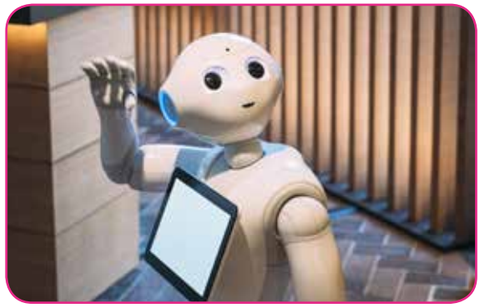
Some plants climb walls.

Science Bank

Some plants are sensitive to touch. The **mimosa** plant closes its leaves when touched.

Characteristics of Nonliving Things

Nonliving things do not eat, breathe, grow, and move.



Robots can move. But robots cannot eat, breathe, and grow. Robots are nonliving things.

Toys cannot move on their own. They cannot eat, breathe, and grow. Toys are nonliving things.

Air does not eat, breathe, and grow. Air is a nonliving thing.

Water does not eat, breathe, and grow. Water is a nonliving thing.

Sunlight does not eat, breathe, and grow. Sunlight is a nonliving thing.

Soil does not eat, breathe, and grow. Soil is a nonliving thing.

Needs of Living Things

What can you say about the living things in the picture? Living things have needs to grow and to stay alive.

Science Bank

Foods rich in **carbohydrates** give energy to people and animals. Some of those foods are rice, bread, and potatoes.

Living things need food and water

Living things need food and water to grow and to stay alive.

Food and water give energy to people and animals. Energy allows people to do many activities.

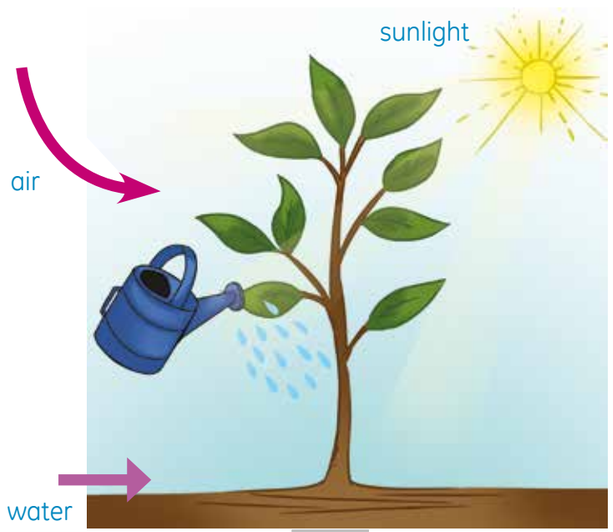
The boy eats food.

The cat drinks water.

Plants also need food and water. They need sunlight, air, and water to make their own food. They also need soil. They get nutrients from the soil.

Explore!

What will happen if you do not eat food and drink water?



Science at Work

A Plant is a Living Thing

What You Need

- onion
- 3 toothpicks
- glass
- water

What You Need to Do

1. Using the toothpicks as support, place the onion on the rim of a glass.
2. Pour water into the glass until it reaches the bottom of the onion.
3. Observe the onion for five days.

Questions

Draw a ☑ in the box of your answer to each question below.

1. What happened to the onion after five days?
   - ☐ Roots appeared at the bottom of the onion.
   - ☐ Green leaves appeared at the upper part of the onion.
2. What characteristics of living things have you observed?
   - ☐ The onion absorbed water and made its own food.
   - ☐ The onion moved.
   - ☐ The onion grew.

Looking Over

- Living things need food and water.
- Living things breathe air.
- Living things grow.
- Living things move.

people

animals

plants

Enhance Your Skills

A. Draw a ☑ in the box if the sentence is correct.
Draw a ☒ if it is incorrect.

1. Plants make their own food.
2. Animals eat food to get energy.
3. Plants move upward or sideward when they grow.
4. Living things like animals and people grow.
5. People and animals breathe air.

B. Circle all things that eat, breathe, grow, and move.








Everyday Science

Is a rock a living thing or a nonliving thing? Why do you think so?

Linking Together

Things around us

Alive

Not alive

Living things

Nonliving things

They eat, breathe, grow, and move.

They do not eat, breathe, grow, or move.

People, animals, and plants

Soil, air, water, and toys

Chapter Test

Circle the letter of each correct answer.

1. Which of the following is a living thing?

a.  b.  c. 

2. Which of the following is a nonliving thing?

a.  b.  c. 

3. Which of these things breathe air?

a.  b.  c. 

4. Which of the following shows that a living thing moves?
   a. A bird flies.
   b. A boy walks to school.
   c. All of the above.

5. Which of the following needs sunlight to make its own food?

a.  b.  c. 

6. A cat runs toward its owner. What characteristic of living things does it show?
   a. Living things eat.
   b. Living things grow.
   c. Living things move.

7. Is an airplane a living thing?
   a. Yes, because it moves.
   b. Yes, because it needs air.
   c. No, because it does not eat.

8. What do you think would happen to an insect inside a closed jar?
   a. It would die.
   b. It would escape.
   c. It would need water to grow.

9. Which of the following describes a rock?
   a. It breathes air.
   b. It does not move.
   c. It needs water to grow.

10. Which thing can grow and move?

a.  b.  c. 

Making Connections

Your body is mostly made up of water. This is why you need to drink eight to ten glasses of water daily.

Animals need water too, in order to stay alive.

They drink water in different ways. Some get water from the food they eat. Others take in water through their skin.