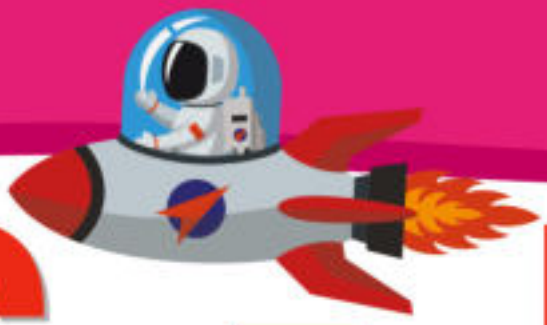

SCIENCE CHAMPION

Hazel T. Victoria • Fatmawaty Munte

2 Student Book

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

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Science Champion – Student Book 2

Preface

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.

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).

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.

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!

Using This Book

SCIENCE CHAMPION has some special features that guide children to understand science concepts through systematic stages. Use them to help you learn as you use this book.

1 **Learning Goal** sets the learning objective of each lesson.

2 **Explore** is designed to access the pupils' prior knowledge.

3 **Science Bank** presents information that enriches the pupils' knowledge and understanding of the concepts in focus.

4

Science at Work enables the pupils to explore, discover, and acquire knowledge and skills through simple yet stimulating exercises that they can do at home.

5

Looking Over allows the pupils to review the concepts presented in the lesson.

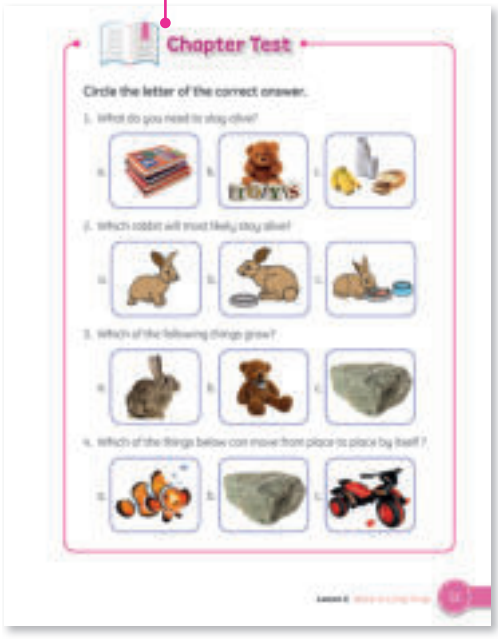
6 **Enhance Your Skills** contains exercises designed to further develop the pupils' science skills.

7 **Everyday Science** offers simple and practical application of science concepts to the pupils' real-life experiences.

8 **Linking Together** presents a visual summary of the science concepts presented in the chapter.

9

Chapter Test allows the pupils to evaluate their understanding and mastery of science concepts and processes.



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Making Connections presents knowledge and issues, and relates them to the role of science in daily life, society, and the environment.

Table of Contents

CHAPTER 1

Your Body

You need energy to do various activities. Energy comes from the food you eat.

Your body needs various types of nutrients. Nutrients are substances in food and very essential for your body. Good nutrition is very important to keep your body healthy.

Lesson 1

The Basic Needs of Your Body

Learning Goal

Know the basic needs of your body

You need food and water to live. Your body uses the energy from the food you eat to do many activities like playing and studying. Also, it uses water to stay healthy and clean.

Explore!

What does your body need to do many activities every day?

Your Body Needs Food

Food has nutrients that help you to become strong and healthy. Some of those nutrients are **carbohydrates**, **proteins**, **fats**, **vitamins,** and **minerals**.

Food rich in carbohydrates

The food below are rich in carbohydrates. They give your body energy.

			
rice	bread	cereal	noodles
			
corn	potatoes	cassava	crackers

Food rich in proteins

Proteins help your body build muscles. They also help repair body parts that break down. Below are some foods rich in proteins.

			
beef	chicken	fish	shrimp
			
milk	cheese	eggs	beans

Food rich in fats

Fats help your body store energy. Also, they help keep your body warm. Below are some foods rich in fats.

			
coconut	eggs	milk	cheese
			
avocado	sausages	ice cream	meat

Food rich in vitamins and minerals

Fruits and vegetables have vitamins and minerals. These nutrients help your body stay healthy and work properly.

Below are some foods rich in **vitamin A**. This vitamin is good for your eyes.

			
carrots	squash	tomatoes	mangoes

Below are some foods that contain **vitamin C**. This vitamin is good for your skin. Also, it keeps you from getting sick.

			
oranges	strawberries	broccoli	avocado

Below are some foods rich in **calcium**. This mineral makes your bones and teeth strong.

			
milk	spinach	almond	salmon

Below are foods rich in **potassium**. This mineral helps your body grow.

			
banana	sweet potato	kiwi	avocado

Science Bank

Two-thirds of the human body is made up of water.

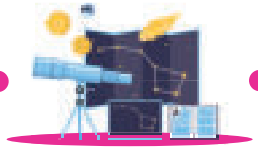
Your Body Needs Water

Your body needs water to stay healthy. Water makes it possible for your body to function properly.

Water helps your body break down the food you eat into smaller pieces. Also, it helps your body take nutrients from food.

Your body needs water to remove waste. Waste leaves your body in the form of sweat, urine, and feces.

Every day, your body loses some water through activities like playing sports and doing household chores. You should drink eight to ten glasses of water a day to replace the water your body has lost.



Looking Over

- Your body needs food and water to live and get energy.
- Food has nutrients that help you to become strong and healthy.
- The nutrients the body needs are carbohydrates, proteins, fats, vitamins, and minerals.

Enhance Your Skills

A. Name the nutrient that each food has. Choose your answer from the box.

calcium	carbohydrates	fats
proteins	vitamin A	vitamin C

B. Which activities require more energy? Check the box ☑.

☐

☐

☐

☐

☐

☐

Everyday Science

What should you do if you sweat a lot?

_____

_____

_____

Lesson 2

Changes as You Grow

Learning Goal

Know that changes happen as you grow

Explore!

What changes happen as you grow?

As you grow, your body changes. You become bigger and taller. You also become heavier.

Get a picture of you taken when you were one year old. Then, look at yourself in the mirror. Compare how you looked before with how you look now. Write your answers below.

Before	Now

Describe how you look now. Check the box ☑ of your answer.

☐ I look the same.

☐ I look different.

Your old clothes and shoes no longer fit you. Now, you have longer legs and arms. You wear bigger clothes and shoes.

Before, your parents could carry you in their arms. Now, you are heavier. They may find it hard to carry you.

Your likes change as you grow. Now, you play games that are different from the ones you played before.

As you grow, you meet new people. You make new friends.

You can do more activities on your own. What activities can you do on your own?

Check the box ☑ beside each activity that you can do on your own.

- ☐ I can draw, read, and write.
- ☐ I can solve simple problems in mathematics.
- ☐ I can change clothes and tie my shoelaces.
- ☐ I can sleep in my room alone.
- ☐ I can wash my face and brush my teeth.
- ☐ I can play with my friends.
- ☐ I can go to the restroom alone.
- ☐ I can help with chores at home.
- ☐ I can clean my room.
- ☐ I can walk to school alone.

How Do You Change as You Grow?

What You Need

pictures of you taken when you were one year old, five years old, and at present

What You Need to Do

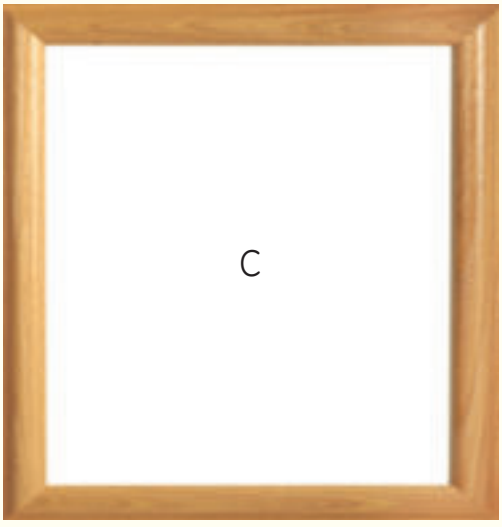
1. Paste your picture when you were one year old in box A.
2. Paste your picture when you were five years old in box B.
3. Paste your most recent picture in box C.
4. Think how you would look like after five years. Then, draw a picture of that person in the fourth box.

A

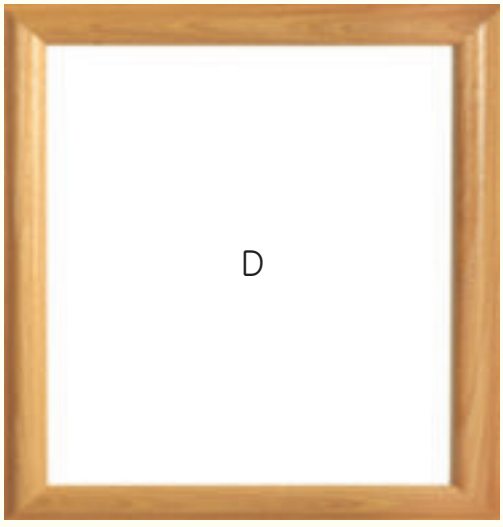
This is how I looked when I was one year old.

B

This is how I looked when I was five years old.



This is how I look now.



This is how I would look like five years from now.

Looking Over

- Your body changes as you grow.
- You become bigger and taller as you grow. You become heavier.
- Your likes change as you grow.

Enhance Your Skills

Arrange the stages in the correct order. Number the pictures from 1 to 4.

☐

☐

☐

☐

Everyday Science

Do all children like you grow in the same way? Check the box ☑ of your answer.

☐ Yes ☐ No

Why? _____