

Science Insight 2

Teacher's Resource Book

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Introduction

Welcome to Science Insight 2: Teacher's Resource Book!

This Teacher's Resource Book serves as a guide to making science education an engaging and impactful experience for young learners. It is designed to complement the **Science Insight 2: Coursebook**, offering essential tools for effective teaching.

This **Science Insight 2: Teacher's Resource Book** contains all the essentials for delivering engaging science lessons. It includes lesson overviews that summarise each chapter, offering a clear structure for planning and reviewing lessons with ease. Detailed plans are included to achieve learning objectives and ensure that key scientific concepts are well understood by students. Answer keys for all coursebook exercises are also provided to save preparation time and maintain consistency in evaluations. These resources work together to support the delivery of meaningful and enjoyable science lessons.

We hope this Teacher's Resource Book becomes an essential companion throughout the teaching journey, offering the necessary support to create meaningful and enjoyable science lessons. Suggestions and constructive feedback are always welcome to help us improve and make this series even better for educators and students.

— The Publishers

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1. Bones and Muscles

Overview of Lesson

This chapter introduces students to the skeleton, muscles, and joints, highlighting their roles in movement and body structure. Students are aware of their body parts and their functions. They may have heard that the strong bones and muscles make a strong body. They can observe and feel the bones of different sizes in their body. They may be consuming certain healthy drinks and food items to make the bones strong. They should know that regular exercises make our muscles strong. Nutritious food items including fruits, vegetables, and milk products are necessary for a healthy body.

Plan for Achieving the Learning Objectives

- Step 1.** Ask the students to name the different parts of their body. Encourage them to tell the specific functions of different parts also.
- Step 2.** Ask the students how they move their legs or arms. Tell them the number and kinds of bones found in an adult human.
- Step 3.** Tell the students about the location and function of muscles in human body.
- Step 4.** Ask the students about the games they play and the exercises they do at home or in the school.
- Step 5.** Show some exercises with the help of two students in front of the class. All the students will learn these exercises to keep their body healthy.
- Step 6.** Tell students about the correct postures of sitting, standing and walking by observing the same in the students.
- Step 7.** Tell the students about the bad effects of wrong postures of sitting, walking, or standing.
- Step 8.** Ask the students to do the exercises after discussing the importance of a healthy body.

Answers to Exercises in Coursebook

Remember and Recall (Page 4)

1. ✗ 2. ✓ 3. ✗ 4. ✓ 5. ✓

Remember and Recall (Page 7)

1. ✓ 2. ✓ 5. ✓

Assess Yourself

- A. 1. b 2. b 3. a 4. a 5. b
- B. 1. JOINT 2. MUSCLE 3. SKELETION
- C. 1. posture 2. straight 3. calcium 4. skeleton 5. bones
- D. 1. ✗ 2. ✓ 3. ✗ 4. ✓

- E.
1. Because milk is rich in calcium, which helps our bones grow strong and healthy.
 2. Sitting and standing upright helps us keep good posture and protects our bones.
 3. No, in order to lift a glass of water from the floor, we need to bend our body to reach it safely.

Life Skills and Subject Integration

- F.
1. Football
 2. Swimming
 3. Cricket

2. Our Surroundings

Overview of Lesson

Students are already familiar with various places and things in their surroundings, which may include public or personal spaces. In this lesson, they will learn about the different elements that make up their environment. They should understand that different people may have different types of surroundings depending on where they live. Students will also learn the importance of keeping their surroundings clean and how to maintain a green environment. The surroundings at home may differ from those at school, but the basic principles of keeping an environment clean and green are similar. They will begin by learning about their home environment, followed by their school surroundings. Students will also learn about proper waste management (organic, non-organic, and hazardous), healthy daily habits, and the concept of reduce, reuse, and recycle.

Plan for Achieving the Learning Objectives

- Step 1.** Take the students to a park or playground. Ask them to name the different things they can observe around them. The students may give a variety of answers such as trees, benches, birds, or other children playing. This helps activate their observational skills and sets the context for understanding surroundings.
- Step 2.** Explain that the things they can see around them form the surroundings of the area. Connect this to their school environment and then extend the concept to their homes. By now, most students will begin to grasp the idea of surroundings in familiar settings.
- Step 3.** Ask students about the different things found in the surroundings of their homes. Help them to answer by giving examples of parks, playgrounds, schools, roads, etc. Encourage them to identify both living and non-living things in their environment.

Step 4. Discuss the harmful effects of dirty surroundings, such as the spread of disease, bad smells, and air pollution. Give practical tips to keep their surroundings clean, such as throwing rubbish in bins, avoiding littering, and not burning waste. Introduce the idea of planting trees and caring for plants as a way to keep their surroundings green, clean, and healthy.

Step 5. Introduce and explain new vocabulary from the chapter, such as surroundings, reduce, reuse, recycle, organic, non-organic, and hazardous waste. End the lesson with creative tasks such as sorting waste into bins, drawing a clean park, or making crafts using recycled materials to reinforce learning through hands-on activities.

Answers to Exercises in Coursebook

Remember and Recall (Page 19)

1. ✗ 2. ✗ 3. ✓ 4. ✓ 5. ✗

Assess Yourself

- A. 1. b 2. c 3. c 4. b 5. a

- B. 1. ✓ 2. ✓ 3. ✗ 4. ✓ 5. ✗

- C. 1. ✓ 2. ✓ 3. ✗ 4. ✗

E. No, I do not think that it was the right thing to do because throwing rubbish under the desk makes the classroom dirty. We should throw rubbish into the bin to keep the classroom clean.

Life Skills and Subject Integration

F. Colour clouds 1, 4, 5, and 6. Do not colour clouds 2 and 3.

3. Healthy Food

Overview of Lesson

In this lesson, students will learn that food is one of our basic needs. This chapter introduces students to the concept of food sources and nutrients. Students will learn about foods we get from different parts of plants and various animal products. They will also be introduced to the main nutrients: carbohydrates, proteins, fats, vitamins, and minerals. The lesson emphasises the importance of a balanced diet, regular mealtimes, and drinking water. Students are encouraged to reflect on their own meal plans and develop good eating habits, including avoiding food waste and composting leftovers.

Plan for Achieving the Learning Objectives

- Step 1.** Begin the lesson by asking the students what they ate that morning. Write the food items on the whiteboard as they speak. Ask them to add to the list until you have a sizeable list of commonly eaten food items.
- Step 2.** Use the list to discuss that all food items are mainly derived from two sources — plants and animals.
- Step 3.** Use the same list to talk about the nutrients in food for our body (carbohydrates, proteins, fats, vitamins, and minerals). Relate each nutrient to its role in the body, such as getting energy for work, helping in growth and repair, and making the body healthy and free from disease.
- Step 4.** Talk about three daily meals and discuss which foods are best for each meal. Encourage students to design their own healthy meal plan using all food groups.
- Step 5.** Discuss healthy food habits, including drinking water, eating on time, not skipping meals, and reducing food waste.
- Step 6.** Ask students to share their favourite meals or snacks that they usually eat at home. Use their responses to introduce the difference between foods that are enjoyed for taste and those that are important for health.

Answers to Exercises in Coursebook

Remember and Recall (Page 30)

1. ✓ 2. ✓ 3. ✓ 4. ✗ 5. ✗

Assess Yourself

- A. 1. a 2. c 3. b 4. b 5. a
- B. 1. grow 2. fish 3. plants 4. energy 5. Protective
- C. 1. Carbohydrates, proteins, fats, vitamins, and minerals.
2. Carbohydrates give us energy to work, play, and stay active.
3. Protein-rich foods such as eggs, fish, and milk help grow and strengthen muscles.

Life Skills and Subject Integration

D.

Place	Food
Jakarta	Kerak telur
Medan	Bika ambon
Padang	Rendang
Palembang	Pempek
Yogyakarta	Gudeg

Note to teacher: Accept other correct answers as long as they match a well-known food and its place of origin.