


science vision

for the young scientist

5



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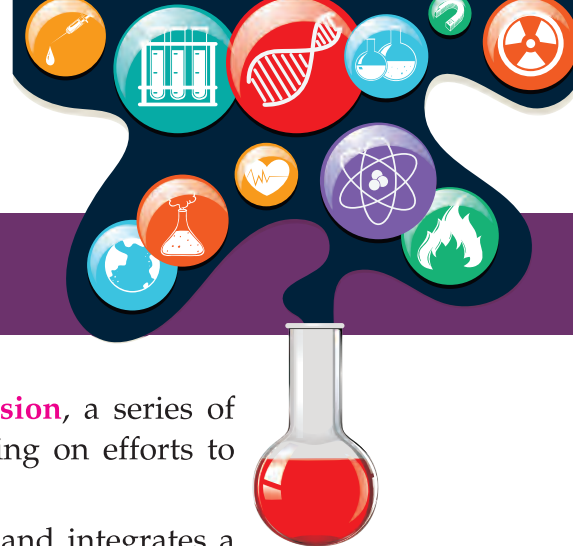
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Preface



Children have an innate curiosity to know and learn. **Science Vision**, a series of books on science from class 1 to 5, has been developed by focusing on efforts to activate this curiosity.

The series conforms to the National Curriculum Framework 2005 and integrates a multi-disciplinary approach. Efforts have been made to provide a solid footing in science to the students. Books 1 and 2 draw their attention to day-to-day occurrences and provide an all-encompassing knowledge of their immediate surroundings, so as to introduce them to the world of science. Book 3 to 5 move a grade further and provide to the students, a subtle yet measured amalgamation of various elements of different streams of science that await them in middle school. The books provide opportunities to the students for a spontaneous learning experience. The unique features of the series are as follows :

- ❖ **Focus On** contains the main objectives of the chapter.
- ❖ **Here We Go** provides warm up activities to students based on their knowledge, thinking and observation.
- ❖ 'Learning by Doing' activities under **Action Time** attempt to reinforce fundamental concepts taught in the lesson, while **Let's Recall** investigate the level of the knowledge mid-chapter.
- ❖ **Hotspot** targets learner's thinking and analysis skill.
- ❖ **Fact Byte** presents interesting bits of information while **Find Out** satiates the longing for knowledge.
- ❖ **Words to Know** makes clear the meanings of important scientific terms and concepts used in the chapter.
- ❖ **Have Some Fun** polishes information organising skills and better remembrance.
- ❖ **For the Teacher** is a nudge to the teacher to offer insights to the students about fundamental approach so as to underline the textual efforts.
- ❖ **A Step Ahead** gives information about milestones in technological discoveries.
- ❖ **Environment Friendly Steps** attracts attention towards the conservation of environment with the help of science.
- ❖ Clearly labelled and accurate diagrams help to explain scientific concepts.
- ❖ **Flash On** is a recap of the salient points taught in the lesson.
- ❖ Term-I and Term-II test papers are completely in tune with NCF guidelines.

Welcome to the world of perfect teaching and learning.

—The Publisher

Salient Features

Tools for Comprehensive Teaching and Learning.

These tools make the learning of science a lovely experience.

7

Human Skeletal System

Focus On

- Human Skeletal System
- Joints
- Muscles and Movements

Teacher's Aid

- A chart or miniature model of skeleton
- Old x-ray reports of various bones.

Feel your bones you move or do

Human Skeletal System

The hard structure made of bones in the human body is called the **skeleton** or the **skeletal system**. It provides a frame for the human body and supports it. Without this framework of bones, our body would be just like a pile of mass—without any shape and without the ability to move! The human skeletal system not only provides the structure to stand up straight to our body but also keeps and protects all the important and delicate organs inside the body.

There are 206 bones in an adult human skeleton. The skeletal system comprise of the backbone, the rib cage and two pairs of limbs that are **forelimbs** or **arms** and **hind limbs** or **legs**.

Fact Byte

❖ The bones of embryos are made of cartilage. They are soft. The process of ossification uses calcium to create bones as the baby grows and matures. Bones slowly become hard and strong. With age, the

Focus On contains the main objectives of the chapter.

Teacher's Aid includes various teaching aids for the teacher.

Fact Byte presents interesting bits of information.

ACTION TIME 1

Objective : To observe presence of air in soil.

Things needed : A flower pot, water, some soil.

Procedure : Keep the soil into flower pot and pour some water over it.

Conclusion : Bubbles begin to form. It means soil has air. Air space in soil filled with water and bubbles appear.

Hands-on and lab activities under **Action Time** attempt to reinforce fundamental concepts taught in the lesson and encourage 'learning by doing' which inculcate a range of scientific skills.

HOTSPOT

1. Who needs more carbohydrate :

(a) a clerk (b) a student

2. Who needs more protein :

(a) teen aged boy (b) An oldman of 80 yrs.

Hotspot quiz aims to grind thinking and analysis skills.

Let's Recall

Match the following

Column A

1. For growth and good health

Let's Recall are the activities that stimulate the boosting up of the concept taught till the point.

For the Teacher

Encourage children to have a discussion

For the Teacher is a nudge to the teacher to offer insights to the students about fundamental approach so as to underline the textual efforts.

Find Out

What was the nutritional value of you

Find Out satiates the longing for knowledge.

A Step Ahead

It was 1747, the people who were on long sea voyages developed a painful, bleeding disorder scurvy. Dr. James Lind, a physician in the British Navy, discovered the cure for scurvy in the field of nutrition.

A Step Ahead focus on landmark scientific and technological discoveries and inventions.

Environment Friendly Steps

Environment friendly packaging of foods does not harm the environment.

Environment Friendly Steps pull attention towards the role of science in environment conservation.

Words to Know

- Seedling** : A baby plant
- Seed coat** : The hard outer covering of the seed
- Cotyledons** : The leaf like parts of a seed which store food
- Germination** : The process of seed growing into a new plant

Words to Know defines the meanings of important terms and concepts.

Flash On

- * Most of the plants grow from their seeds.
- * Some other plants can grow from their stem, leaves and roots.
- * The process by which a seed produces a new plant is called germination.
- * The food for the early stages of a baby plant is stored in the cotyledons.

Flash On is a recap of the salient points taught in the lesson.

Your Turn



If you want the butterflies to visit your plot, you should plant flowers. Butterflies get attracted to colourful flowers for shelter.

Lilac, Zinnias and sunflower are some nectar plants.

Your Turn is a life skill activity that gives students a chance to test their knowledge.

Myth and Truth !

Myth : When a foreign material gets into the eye, it is a myth that it will cause blindness.

Truth : It may cause further injury to our eyes if we do not take proper care.

Right Action : Splash the eyes with tap water immediately.

We should follow safety rules while working in the laboratory.

1. Wear labcoat all the time.

Myth and Truth tries to clear some myths that are spread in our society.

A. Unscramble the letters to name the following :

1. Daily eat SELGETABVE _____
2. Cakes are made with _____
3. In _____, we use NOTOCT _____
4. V _____
5. V _____

Interesting and exhausted worksheets for **Term-I** and **Term-II**.

Have Some Fun **2**

Trees
Name _____

Have Some Fun gives an entertaining experience that also pamper the sense of curiosity of the learner.

Contents

1. How Plants Grow	7
2. Healthy Food to be Healthy	16
3. Staying Safe	25
4. States of Matter	32
5. Rocks and Minerals	42
6. Living Organisms and Their Surroundings	50
7. Human Skeletal System	59
8. Nervous System	66
<i>Have Some Fun-1</i>	73
Term-I	74
9. Measuring Up	76
10. Force and Energy	83
11. Air and Water	95
12. Space	103
13. Light and Shadow	111
14. Natural Disasters	117
15. Environment	126
<i>Have Some Fun-2</i>	134
Term-II	135

