Based on CURIOSITY New NCERT Textbook

Sanjiv® Refresher

SCIENCE

CURIOSITY

For the Student of Class 7

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₹ Price 270.00

Publisher :

Sanjiv Prakashan, Jaipur

Publisher :
Sanjiv Prakashan
Dhamani Market, Chaura Rasta, Jaipur-3
email : sanjeevprakashanjaipur@gmail.com
website : www.sanjivprakashan.com

Laser Typesetting :
Sanjiv Prakashan (DTP Department),
Jaipur

★★★★★★

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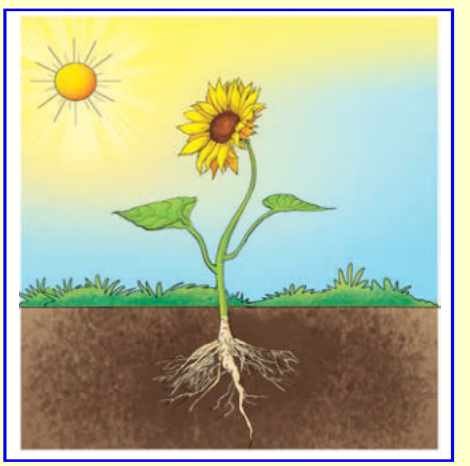
CHAPTER 1

The Ever-Evolving World of Science

Summary

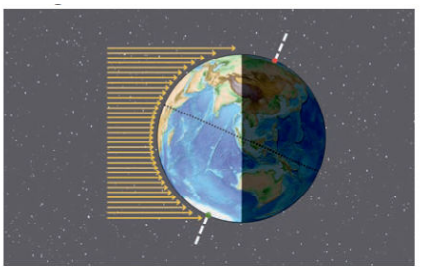
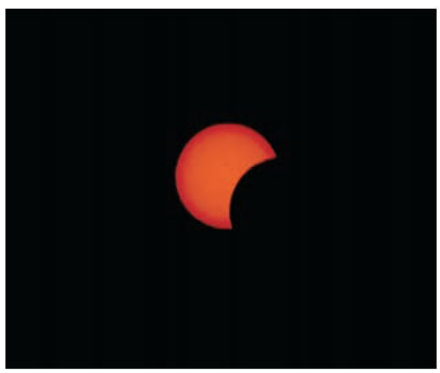
- Studying science is an exciting journey which leads us to become an explorer and making discoveries from things around us.
- Science is a process that uses experimentation and observation to obtain knowledge.
- Science helps us understand everything—from the smallest cell in a leaf to the movement of stars. It includes exploring everyday materials and natural processes like underground water flow. As we study science, we go on exciting journeys that grow our thinking and help us discover new things on our own.



- Science is a way of thinking that involves curiosity, asking deeper questions, and learning through real-world activities and experiments beyond the classroom.
- Science connects us to the environment and society, helping us to understand our role in the world and encouraging us to solve problems for a more sustainable future.
- A science learner follows some steps to find the answers of his or her questions or to solve the problem or to find new things. The process for experimentation used to explore observations and answer questions through logical steps is called scientific method.
- Concepts such as properties of material, classification in metals and non-metals, reversible

and irreversible changes, heat transfer, the water cycle, and electricity are explored through hands-on activities.

- This textbook highlights the importance of understanding life processes like breathing, circulation, and growth in both humans and plants. As students grow, they'll learn how their own bodies change and function. Additionally, the book introduces fascinating topics like light and shadows, measurement of time, the movement of the Earth and the Moon, and how these movements affect life on the Earth.

- Learning science is not only about knowledge but also about responsibility. It encourages them to connect scientific understanding with real-world challenges, like protecting the environment and making our world more sustainable.
- Science is presented as an on-going process of discovery—where every answer leads to new questions.
- Science is a never ending journey. Experiments leads us to questions and questions pushes us towards experiments and more questions.

Keywords

1. **Exploring new ideas :** Thinking about different questions, trying to understand how things work, and being curious about the world around us.
2. **Discovering wonders :** Finding amazing things in nature or science that surprise or inspire us, like how plants grow or how stars shine.
3. **Experiments :** A way to test ideas by doing planned activities or observations to learn something or see what happens.
4. **Imagination :** It is the ability to form ideas, images, or thoughts in your mind that are not present in reality. It allows you to dream, create stories, think of new inventions, or picture something that doesn't exist yet.
5. **Science :** It is a systematic approach to observe the world, to understand what we discover and to experiment to explore new knowledge.

6. **Scientists :** A person who follows the scientific methods, gathers information, conducts research, forms hypothesis, runs experiments and shares findings.
7. **Investigation :** A formal or systematic examination or research.
8. **Experimentation :** It is the process of performing a scientific procedure.
9. **Sustainable :** That can continue for a long time.
10. **Material :** Substance used for making something.
11. **Evaporation :** To change into steam or gas.
12. **Eclipses :** An occassion when the sun or the moon disappear completely or partly.
13. **Observation :** The act of watching something carefully.

In-Text Questions

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Q. 1. How do things work?

Ans. In science, understanding "how things work" is primarily achieved through :

- Observation
- Experimentation
- Laws
- Formulating Hypotheses
- Developing Theories
- Models

Q. 2. What can we learn from the patterns we see in the nature?

Ans. We can learn many important things from the patterns in nature, such as :

- Natural patterns show how things are connected and how they function together, like food chains or water cycles.
- Nature often solves problems in smart ways, like how birds fly or how plants grow towards sunlight.
- By observing natural patterns, scientists can predict events like weather changes, animal migrations or even natural disasters.
- Patterns in nature show us how living things stay in balance with each other and their environment.

Q. 3. Why are some fruits sour?

Ans. Some fruits are sour because they contain natural acids, like citric acid and malic acid. These acids give the fruit its sharp, tangy taste. Examples of sour fruits include lemons, limes, tamarinds and unripe mangoes.

Q. 4. What happens when we wash a haldi stain on our school uniform?

Ans. When a school uniform stain from haldi (turmeric) is washed with soap, the stain will temporarily turn red.

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Q. 5. What kind of materials do we need to make a lamp glow?

Ans. To make a lamp glow, we need the following materials :

(a) **Bulb** – This is the part that produces light when electricity flows through it.

(b) **Battery or Power Source** – To provide the electricity needed to light the bulb.

(c) **Wires** – To connect the bulb to the power source so that electricity can flow.

(d) **Switch (optional but useful)** – To turn the lamp on and off easily.

These materials together complete an electric circuit, which is necessary for the lamp to glow.

Q. 6. Batteries run out, ice melts into water, fruits ripen, rocks break into pebbles… what kind of changes are these?

Ans. Batteries running out, ice melting into water, fruits ripening and rocks breaking into pebbles are all examples of changes that happen over time.

Some of these changes are fast-like ice melting and some are slow, like rocks breaking into pebbles. These changes can happen naturally or due to used by human, and they show how things around us are always changing in different ways.

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Q. 7. As we are growing our bodies are changing rapidly, why?

Ans. As you get to be around middle school age, your body starts to grow much faster. You'll notice yourself getting taller and you'll begin to look more like a grown-up. These changes happen because of special chemical signals inside your body called hormones. They tell your body, "Hey, it's time to grow up and develop!" It's just a normal and amazing part of becoming an adult!

Q. 8. Do plants also need food to grow? How do they get their food? Do they also breathe? How?

Ans. Yes, plants absolutely need 'food' to grow, just like we do! But they get it in a very different and amazing way. Plants are like super smart chefs who can make their own food from scratch! This special cooking process is called photosynthesis.

Yes, plants 'breathe' too, but not like us with lungs. Just like all living things, plants need to use the energy from their food (that sugar they just made) to live and grow. They also have special organs in their leaves to breathe.

Q. 9. How do we measure time and how fast does something happen?

Ans. We measure time by using things that happen very regularly.

(a) **Old ways :** The sun rising and setting (days), the moon changing shape (months), or sand flowing in an hourglass.

(b) **Clocks :** Most clocks use a tiny quartz crystal that vibrates at a steady speed. They count these vibrations to tell time.

To find out how fast something happens, we measure the time it takes to do it. For example, we can use a stopwatch to measure time how long it takes to run a race. The shorter the time, the faster the action!

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Q. 10. How amazing is it that we humans can wonder about the wonderful world we live in?

Ans. It's truly amazing! Our ability to wonder, ask questions and explore the world around us shows how curious and thoughtful we are. This curiosity helps us learn new things, make discoveries, and understand how the world works. It's what makes us human!