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## TEACHER'S RESOURCES

**Oxford Educate** is an exciting new digital teaching aid that integrates in a single resource an e-book with interactive teaching tools and learning materials.

The **Test Generator** accompanying Oxford Educate is an innovative, easy-to-use assessment tool. It is designed to aid teachers in creating a variety of test papers from an extensive pool of questions for effective evaluation.

**Teacher's Manuals** that provide additional resources and instructional guidance in the form of a lesson plan, an answer key to all textbook questions, question banks and activities, detailed explanations, etc.

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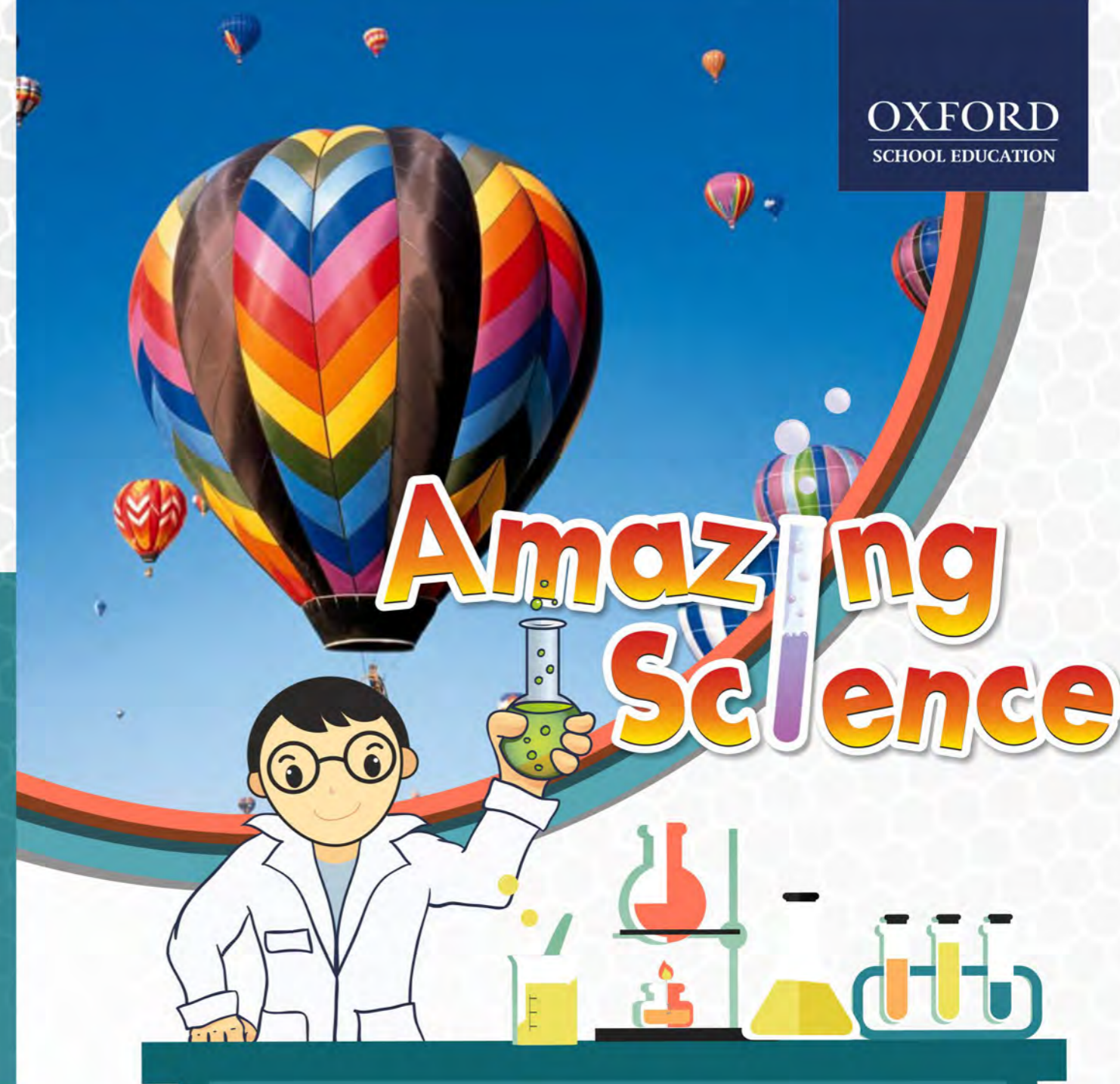
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*Amazing Science Revised Edition* comprises eight books for classes 1 to 8. The series conforms fully to the vision of the National Curriculum Framework and to the Continuous and Comprehensive Evaluation (CCE) guidelines laid down by CBSE.

### COURSE COMPONENTS

Books for Classes 1 to 8  
Teacher's Manual  
Oxford Educate with Test Generator available



# FEATURES

## 5 Animals that Help us

**Learn About**  
Domestic animals help us in many ways.

**STARTING OFF**  
This is Raju's farm. Write down the names of animals that you can see.



1. \_\_\_\_\_ 2. \_\_\_\_\_ 3. \_\_\_\_\_

We keep some animals at our farms and some animals on farms. Let us learn more about these animals.

The books for classes 1 to 5 have been specially crafted for schools teaching a separate science course at the primary level. Inclusion of assessment tools for Life Skills is a major feature of this revised edition.

The books for Classes 6 to 8 comply with the syllabi prescribed by the NCERT and follow the thematic approach recommended to bridge middle school Science to the science curriculum in Classes IX and X.

### SKILL BUILDERS

**Let's Apply**  
What would happen if a coconut tree is planted in a desert?

**Let's Think**  
Arjo was new to school and was unable to adjust to make new friends for quite some time. One day, one of her classmates, Bina, gifted her with a plant and explained how this plant helps itself to be a desert. Arjo smiled and soon realised that she could also adjust herself to the new environment.

- Which plant do you think Bina gifted to Arjo?
  - (a) Lotus (b) Pitcher plant (c) Cactus
- What does this plant have instead of leaves to prevent loss of water to its parts?
  - (a) Cones (b) Spines (c) Hard like structures

**Let's Do**  
Draw lines to match the plants with their correct water habitat in the picture shown here.



**Let's Try**  
Make a habitat album by comparing and writing down all aspects of a plant growing in mountains with that growing in plains. Share it in your class.

**LET'S TRY**  
Hands-on activities, presentations, field tours, and research work give opportunities to develop creativity, aesthetic skills, collaboration, and team work.

### REPLENISHMENT OF THE SOIL WITH NUTRIENTS

Plants require nutrients such as nitrate, hydrogen oxygen, nitrogen and some minerals like phosphorus, iron, potassium, and calcium for proper growth. They get carbon and oxygen from air and hydrogen from water. Nitrogen and iron are absorbed from the soil. As a result, with time, the soil is depleted of its nutrients and resources. Therefore, the soil has to be replenished from time to time.

This can be done by:

- Planting green and leafy plants alternately with other crops. Whenever present write word models of such plants whose green parts store more water soluble nutrients than are absorbed by the plant along with water.
- Adding fertilisers containing nitrogen and minerals to the soil.

**PRACTICE**

- Write the names of the following:
  - (a) Green leafy plants
  - (b) Leguminous plants
  - (c) Green manure
  - (d) Fertilisers
- Fill in the blank spaces with the correct answer:
  - (a) In the paddy plant, the leaf blade is modified into a long blade called \_\_\_\_\_.
  - (b) \_\_\_\_\_ (microorganisms) decompose organic matter into nutrients.
  - (c) \_\_\_\_\_ are an example of \_\_\_\_\_ (biological) communities.
  - (d) The nitrogen fixer in the root nodules of plants is \_\_\_\_\_.
  - (e) \_\_\_\_\_ and \_\_\_\_\_ are absorbed from soil. (Inorganic nitrogen)

**STARTING OFF**  
Pictorial exercises act as a starter and build on students' prior knowledge.

### Uniforms

A set of similar looking clothes worn by a group of people is called a **uniform**. Lawyers, doctors, policemen, nurses, and students usually wear uniforms. These uniforms help us recognise them.



**PRACTICE**

Write T for True and F for False.

- We wear cotton clothes to keep ourselves warm.
- During winter, we wear woollens.
- When we go out in the rain, raincoats prevent us from getting wet.
- Clothes do not protect us from insect bites.
- Lawyers, doctors, policemen, nurses, and students usually wear uniforms.

**TYPES OF FIBRES**  
Clothes are made from fibres. Fibres are very thin, hair-like materials that are spun into threads. These threads are then woven together to make fabric or cloth. Fibres are of two types:

- Natural and
- Synthetic.

**DISCUSS**  
Probing questions develop verbal abilities and assess depth of learning.

**PRACTICE**  
Short paper-pencil tests enable quick & easy assessment of learning progress.

### TEST PAPER

Chapters 1 and 2

**I. OBJECTIVE TYPE QUESTIONS**

**A. Choose the correct option.**

- What is the growing part of a plant called?
  - (a) Internode (b) Growth cone (c) Shoot apical meristem (d) Apical meristem
- Which of the following is an example of the cambium (cell division between old xylem and old phloem)?
  - (a) Xylem (b) Phloem (c) Cambium (d) Secondary xylem
- The process of deposition of lignin in outer part of the xylem (secondary xylem) is called:
  - (a) Growth (b) Secondary growth (c) Secondary xylem (d) Secondary phloem
- What is the thick walled structure that surrounds the stem and roots?
  - (a) Bark (b) Cambium (c) Secondary xylem (d) Secondary phloem
- What are the layers in a stem that help in secondary growth?
  - (a) Xylem (b) Cambium (c) Phloem (d) Secondary xylem

**B. Write T for True and F for False. Correct the False statements.**

- Meristems are present at the tip of the shoot.
- Secondary growth is an example of secondary growth.
- Meristems are a feature found in the root nodules of some plants.
- The process by which organisms take in food is called digestion.
- The roots have root nubs that help in to absorb the food from soil.

**C. Match the following.**

Column I	Column II
1. Secondary xylem	i. Growth cone
2. Secondary phloem	ii. Secondary xylem
3. Secondary cambium	iii. Apical meristem
4. Secondary xylem	iv. Secondary phloem
5. Secondary phloem	v. Secondary cambium
6. Secondary cambium	vi. Secondary xylem

**II. VERY SHORT ANSWER QUESTIONS**

**A. Define the following.**

- Apical meristem
- Secondary xylem
- Secondary phloem
- Secondary cambium
- Secondary xylem
- Secondary phloem

**TEST PAPERS**  
Test papers with a variety of questions test learning and understanding of the entire unit.

**LET'S DO**  
Picture-based exercises develop observation and drawing skills in a graded manner.

### SELF ASSESSMENT I



Look at the pictures given above, and write S for Solid, L for Liquid, and G for Gas.

How many could you identify correctly? Tick the correct number.

0 1 2 3 4 5

If you could identify 0-2, give yourself a C.  
If you could identify 3-4, give yourself a B.  
If you could identify 4-5, give yourself an A.

I got a/an: \_\_\_\_\_

**ASSESSMENT SHEETS**  
Self and Peer Assessment sheets for Formative Assessment take into account the need for students to assess themselves and their peers. Summative assessment sheets prepare students for summative assessment.

### LIFE SKILLS

**The Explorer!**  
Plants grow almost all over the Earth and animals live in almost every place on the Earth. The place where a plant grows or an animal lives is called a habitat.

- Read the descriptions given below and identify the plant, animal, and the habitat.

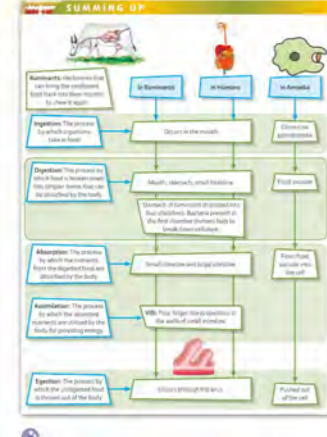
Habitat:	Plant:	Animal:
Has very little rainfall.	Has a thick stem with spines.	Has a long neck.
Has a lot of water.	Has broad leaves with waxy coating on the surface.	Has four legs.

- Imagine yourself as an explorer. During your quest, you came across a new habitat. Describe the habitat, and any one plant and animal living there. Write about their source of food and shelter for animal. Also, make a sketch of the plant and animal.

The Plant! \_\_\_\_\_ The Animal! \_\_\_\_\_

**LIFE SKILLS**  
Builds and strengthens key life skills and helps students make informed decisions and solve problems in a healthy and productive manner.

### SUMMING UP



**Photosynthesis:** The process by which green plants and some other organisms use sunlight to synthesize foods from carbon dioxide and water. Photosynthesis in plants generally involves the green pigment chlorophyll and converts carbon dioxide into glucose and releases oxygen as a by-product.

**Chlorophyll:** The green pigment in plants that captures light energy and converts it into chemical energy.

**Stomata:** The pores in the epidermis of leaves through which gases enter and leave the leaf.

**Transpiration:** The process by which water moves through a plant and evaporates from aerial parts, such as leaves, stems and flowers.

**EXPLORE**  
Hands-on experiments enable application of theoretical knowledge to practical situations.

### EXERCISES

**Let's Recall**

**I. OBJECTIVE TYPE QUESTIONS**

**A. Choose the correct option.**

- The state of matter in which the particles are very loosely packed.
  - (a) Liquid (b) Solid (c) Gas (d) Plasma
- A solid that can be moulded into different shapes using hands.
  - (a) Clay (b) Plastic (c) Iron (d) Glass
- The process by which a liquid changes into a gas.
  - (a) Condensation (b) Freezing (c) Melting (d) Evaporation
- An example of a solution.
  - (a) Water (b) Sugar (c) Milk (d) Sugar solution

**B. Fill in the missing word.**

- Solid: \_\_\_\_\_ Liquid: \_\_\_\_\_
- Ice: \_\_\_\_\_ Melting: \_\_\_\_\_ Freezing: \_\_\_\_\_
- Milk: \_\_\_\_\_ Salt: \_\_\_\_\_

**II. VERY SHORT ANSWER QUESTIONS**


**A. Name the following.**

- Any substance that has mass and occupies space.
- The process by which a gas changes into a liquid on cooling.
- The solid that dissolves in a liquid.
- The universal solvent.

**LET'S RECALL**  
A variety of questions test learners' remembering and understanding abilities.

**SUMMING UP**  
Comprehensive pictorial concept maps summarize the total expected learning.

### VIRTUAL LAB: Chemistry



**Virtual Lab: Chemistry**

When copper sulphate solution is added to iron filings, brown solid is formed. This changes the colour of copper sulphate solution from blue to light green.

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**VIRTUAL LAB**  
Engaging exercises in a virtual lab environment test application of key concepts in biology, chemistry, and physics.

### WHAT DO ANIMALS EAT?

Animals, including human beings, can be divided into three main categories depending on the kind of food they eat: herbivores, carnivores, and omnivores.

**Herbivores**  
Animals that eat only plants are known as herbivores or herbivorous animals.

**Examples:** Cows, goats, elephants, deer, rabbits, and giraffes (Fig. 1.4.1a).

Herbivores have the following characteristics that help them to eat plants:

- Herbivores such as cows (Fig. 1.4.1a) and buffaloes have wide and blunt premolars and molars to grind the grass easily.
- Herbivores such as rabbits and squirrels (Fig. 1.4.1a) have long and sharp incisors that help them to grab and eat food.



**AREAL**  
A magical app that makes the textbook come alive.

### Virtual Trip ZOO



**Virtual Trip ZOO**

What do you think about this animal? What does it eat?

What is the name of this animal? What does it eat?

What do you think about this animal? What does it eat?

What is the name of this animal? What does it eat?

**VIRTUAL TOUR**  
A two-page virtual trip to explore places such as park, beach, zoo, etc., without leaving the classroom. This helps to hone and test key scientific skills such as observation, data collection, analysis, and interpretation.

**LET'S APPLY**  
HOTS questions hone analyzing and evaluating abilities.

### SKILL BUILDERS

**Let's Apply**  
What would happen if a coconut tree is planted in a desert?

**Let's Think**  
Arjo was new to school and was unable to adjust to make new friends for quite some time. One day, one of her classmates, Bina, gifted her with a plant and explained how this plant helps itself to be a desert. Arjo smiled and soon realised that she could also adjust herself to the new environment.

**LET'S THINK**  
Problem Solving Assessment (PSA) tools hone the 21st Century Skills recommended by CBSE.