

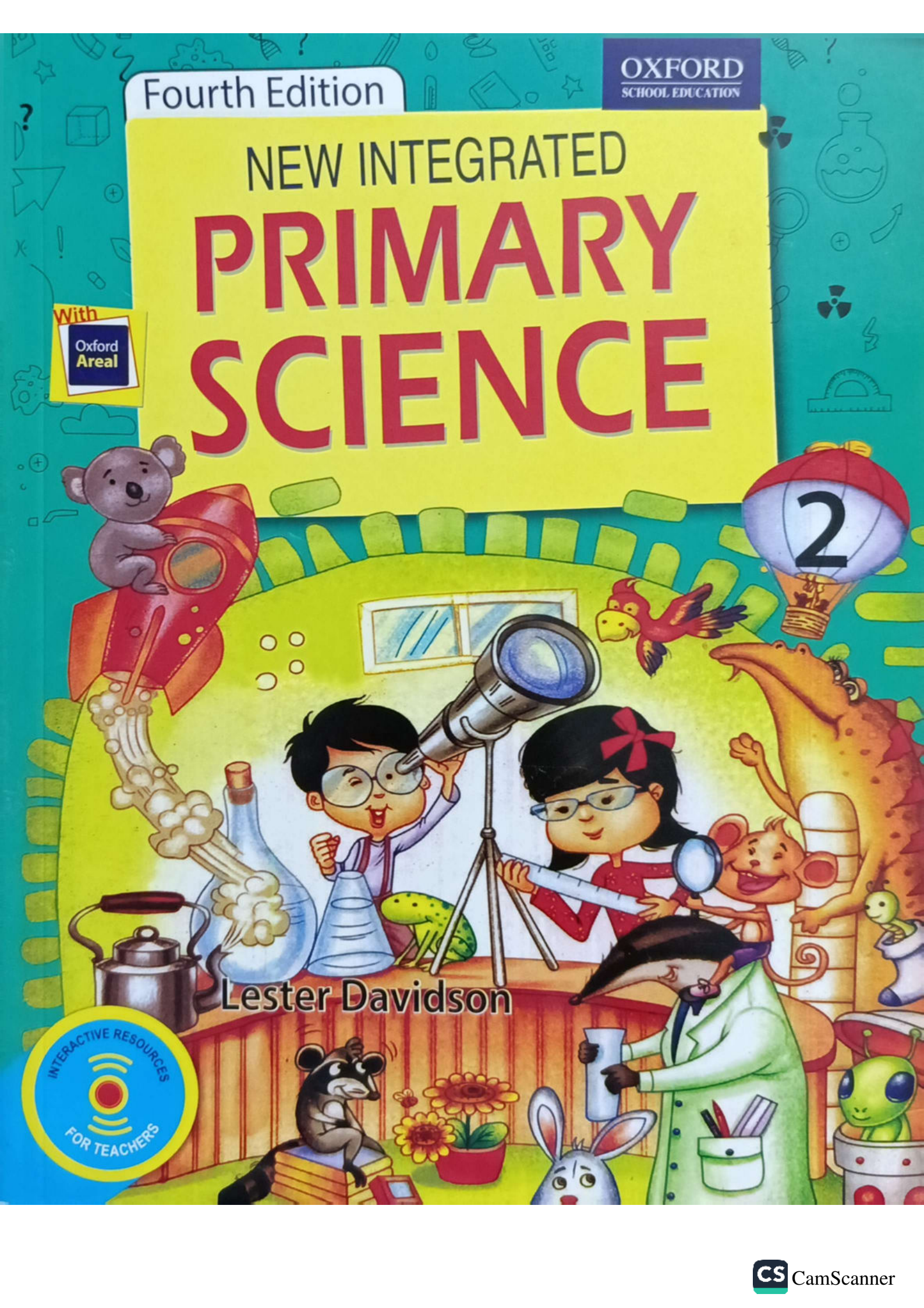
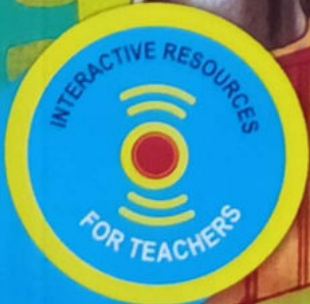
Fourth Edition

OXFORD
SCHOOL EDUCATION

With
Oxford
Areal

NEW INTEGRATED PRIMARY SCIENCE

Lester Davidson





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1

Types of Plants

Recall!

Plants are living things.
Plants are of many different shapes and sizes.
Some plants live long, others do not.
Plants grow in soil and in water.
Each part of a plant has a name.

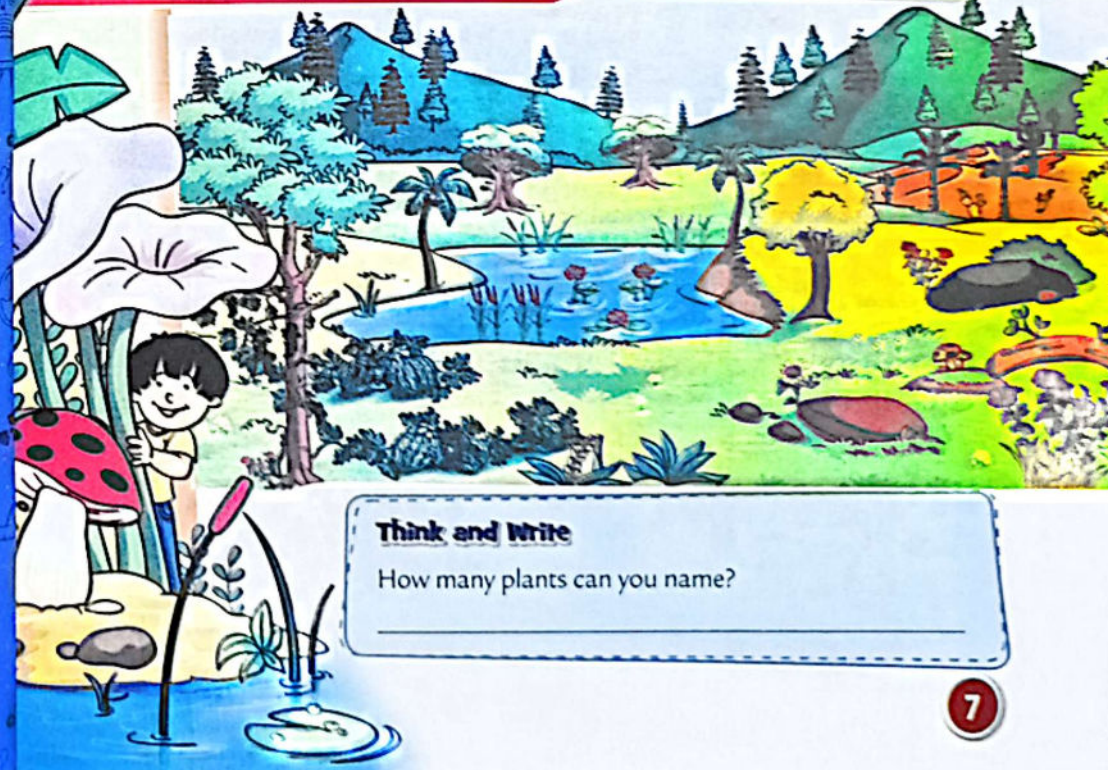
You will learn that:

Trees are large plants with a strong, woody stem.
Climbers, creepers, cactuses, shrubs, and herbs are other plants.

Plants grow in all shapes and sizes. Some grow on **ground**, others grow in **water**. Plants are living things.

Environment Watch

Plants are useful and important to us and the environment. Look after them well!

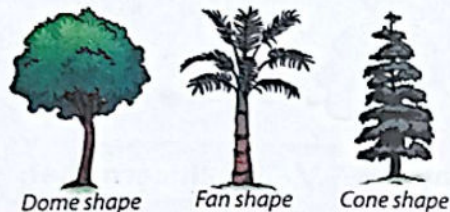


Think and Write

How many plants can you name?

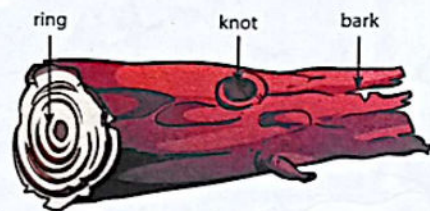
Trees

Trees are the largest plants. They are tall and strong. They usually have a single woody **stem**. Some trees are thousands of years old.



In thick forests or **jungles**, trees grow close to each other. Look at the picture alongside. The trees are all trying to reach up to the sunlight.

This piece of wood is from the **trunk** of a tree. Each year the tree grows a new coat or skin. The **bark** stretches and cracks.



Grapevine (climber)

Climbers and Creepers

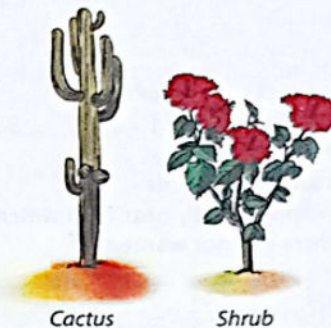
These have a weak stem. Climbers climb up sticks, walls, or trees. Creepers grow along the ground.



Watermelon (creeper)

Cactuses

There are many kinds of cactuses. They usually grow in dry grasslands or semi-desert regions. They have spines (**thorns**) which are modified leaves.



Myth vs Fact

Can cactuses survive without any water or nutrients?
Cactuses need some nutrients in the soil and they also need water. Their spines channel moisture to the roots and also provide some shade!

Shrubs

Shrubs are small plants. They have many separate stems which grow from near the ground. The stems are hard and do not bend easily.

Herbs

Herbs grow in gardens and in the wild. Herbs are small and have soft, weak stems. Herbs are used for food. We make **medicines** and **perfumes** from herbs.

Weeds are also herbs. These are plants which grow where we don't want them to grow!



Mint and coriander herbs



Water plants

Grasses and Water Plants

There are many kinds of **grasses** and **reeds**. They may be short or tall, brown, yellow, or green. Water plants grow in water or in wet soil under water.

Concept Check

Label the figure with these words: flower, stem, leaves, water, air, floating plant, water surface

Think and Answer

Where does a floating plant get its nutrients from?



We use plants too. We use the flowers and leaves from plants as decorations and at special times.

Plants give us food. We eat the **fruit**, **nuts**, and **berries** which grow on some plants. We also eat the **roots**, **stems**, **leaves**, and **seeds** of some plants.



Beetroot



Turnip
Roots



Carrot



Spinach



Lettuce
Leaves



Cabbage



Sugar cane



Celery



Cauliflower
Flower



Beans



Peas



Mango



Banana
Fruits and nuts



Walnut



Rice



Grains

Wheat

Concept Check

Complete each sentence using a word beginning with F. 

1. Plants provide _____ for animals and humans.
2. Some plants produce _____, which we use for decorations.
3. We eat different parts of plants such as _____, nuts, roots, stems, leaves and seeds.

Discuss and Answer

Do this activity after reading page 15: With a partner, make a list of twenty things that you have eaten, drunk, or used in the last 24 hours that come from a plant. Could we live without plants?

Plants also give us **fibres**. With **cotton** fibres we make thread and cloth. With **jute** fibre we make sacks, mats, bags, and rope.



Log cabin

From trees we get **wood**. We use wood to make a number of things. We build things with wood.

Here are some other things we get from plants.



Tea leaves
Beverages



Coffee berries and
beans



Groundnut oil



Sunflower oil

Oils



Acacia tree and gum



Neem soap Medicines



Chocolate and cocoa



Lemon and soft drink



Coconut oil and soap



Rubber
slippers

Rubber tree

Tyre



Perfumes

Word Study

'beverage: A drink other than water

Know More

This book is made of paper. Paper is made from wood. Wood is made into pulp. The pulp is turned into paper.



Compost and manure

Key Words:

plant fibres fibers that we get from plants such as cotton and jute
jute coarse fibre used for making sacks and ropes

Roots



Fruits



Leaves



Seeds



Plants give us food.

Stems



Beverages



Fibre

Plants also give us fibres like cotton and jute.



We use wood to make useful things and to build things with.

Wood



Plants have many uses. They make the world beautiful. Humans and animals use plants.

Soaps, oils, gum, rubber
Plants are used in many products for everyday use.

EXERCISES

A. Choose the correct option.

1. Which of the following is usually made out of wood?

- | | | | |
|-----------------|--------------------------|--------------|--------------------------|
| a. mobile phone | ☐ | b. car tyres | ☐ |
| c. shoes | ☐ | d. newspaper | ☐ |

2. Which of the following is NOT a root vegetable?

- | | | | |
|-------------|--------------------------|-----------------|--------------------------|
| a. carrot | ☐ | b. sweet potato | ☐ |
| c. cucumber | ☐ | d. radish | ☐ |

3. Pick the most accurate definition. Compost is used as a fertilizer for growing plants. It is made of this.

- | | |
|--------------------------------|--------------------------|
| a. decayed plant materials | ☐ |
| b. a mixture of mud and manure | ☐ |
| c. wood | ☐ |
| d. rubbish that we throw away | ☐ |

4. Wood is a good material to build with because

- | | |
|--|--------------------------|
| a. it lasts forever and does not break | ☐ |
| b. it is waterproof, strong, and easy to clean | ☐ |
| c. it is strong and long lasting | ☐ |
| d. it is strong and will not burn | ☐ |

5. We should eat fresh fruits and vegetables because they are

- | | |
|----------------------------------|--------------------------|
| a. bright and colourful | ☐ |
| b. full of vitamins and minerals | ☐ |
| c. inexpensive | ☐ |
| d. sweet | ☐ |

What Things are Made of.

Recall!

Man makes all kinds of things; some big, some small.

Some things are beautiful and others are useful.

We use machines and tools to do work and move things.

Living things move; non-living things move when pushed or pulled.

You will learn that:

Living things breathe, move, eat, and grow; they reproduce.

Some non-living things are made of natural materials.

Natural materials come from plants, animals, and minerals.

Some non-living things are made by humans.

Matter has three states: solid, liquid, and gas.

Rocks are found on the surface and underground.

Rocks are used to make many things.

We can put everything in the world into three groups: alive, once alive, and never alive.



Alive

These things are living. They breathe, move, eat, and grow.

Once Alive

These things were once living. They are now **dead**. Some such things were made by humans.



Never Alive

These things were never alive. They do not move, eat, grow, or breathe. They do not have babies.



Think and Write

How is a pet dog different from a toy dog? Write your answer in two sentences.

Man-made Things

Man-made things are made out of different materials. Some materials come from **plants** and **animals**. Some materials are dug out of the **ground**. Some materials are **made by man**, e.g., plastic and nylon.

From plants



Plants give us fibres such as jute, and cotton. From plants we also get wood.

From animals



From animals we get wool, leather, bone, and fur.

From minerals



Materials from the ground are metals, precious stones, and clay.

Things can be **solid**, **liquid**, or **gas**.

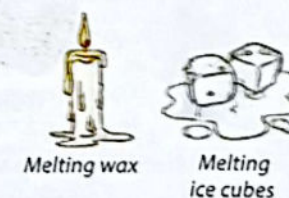
Solids

We can see, touch, feel, weigh, and describe solids. Most solids are hard. Rock, ice, and sand are solids.



Liquids

We can see and touch liquids. We can pour liquids. Some solids can be made into liquids. When a solid candle or ice-cube is heated, it becomes a liquid. Milk, water, and petrol are liquids.



Gases

The air* around us is made up of gas. We cannot see gases. One important gas is called oxygen. We need oxygen to live. A candle flame needs oxygen to burn. Water vapour is a gas.

*You will learn more about air in Chapter 8.



Water vapour

Concept Check

Use the words solids, liquids, gases/gas to complete the statements. ▶

- _____ can be poured.
- You can touch _____ and _____.
- _____ cannot be seen.
- The _____ we need to live is called oxygen.

Discuss and Answer

Read this list of drinks: cola, milk, tea, juice, water, coffee, lemonade.
Which of the items listed above are man-made? Do they come from plants, animals, or minerals?

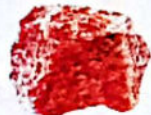
More About Solids: Rocks

Rocks are found on the **surface** of the Earth.
Rocks are also found **underground**.
Pebbles, sand, and soil were once part of much larger rocks.



Types of Rocks

Some rocks are hard.



Marble



Granite



Coal



Chalk

Some rocks are soft.

Rocks are used in many ways. Rocks are blown up with sticks of dynamite. They are then cut with machines or with a hammer and chisel. Rocks are used to make many things.



Statue



Grinding stone



Ruby Earrings



Slate roof



Stone bench



Stone vase

Key Words

solids things that hold their shape and can be seen, touched, and weighed
liquids things that can be poured and take the shape of the container they are in; can also be seen and touched
gases things that cannot be seen and are all around us; living things need the gas called oxygen

Recap

Some things are living; others are non-living. We can put everything in the world into three groups: alive, dead (once alive) and never-alive. Dead things were once living. Things that were never alive can be made by man or dug out of the ground.



EXERCISES

A. Choose the correct option.

- Which two of the following things were NEVER ALIVE?
a. spoon ☐ b. chalk ☐ c. salad ☐ d. tree ☐
- Which of the following can all living things do?
a. breathe ☐ b. eat ☐ c. grow ☐ d. move ☐ e. all of these ☐
- Which of the following does a flame need to burn?
a. cloud ☐ b. oxygen ☐ c. liquid ☐ d. candle ☐
- Which of the following is NOT man-made?
a. plastic bag ☐ b. leather belt ☐ c. gold ring ☐ d. rock ☐
- Which of the following solids is a precious and expensive stone?
a. coal ☐ b. ruby ☐ c. wool ☐ d. chalk ☐

B. Mark the sentences with a ✓ or ×.

- Graphite is a hard rock.
- Plastic is found underground.
- Wool comes from animals.
- Jute is a type of fibre.
- Rocks can be blown up with dynamite.

C. Answer these questions.

- What kind of material is clay?

- What things are made from animal skins?

- Name three things made out of plastic.

- Name three things made from natural materials.

- From which materials might these things be made? (Remember that some of the things can be made from more than one material.)
belt, shirt, clock, pencil, tyre, vase

- Make a table in your notebook with these headings: alive, never alive, and dead (made into things by man). List five things under each.

F. Think about it!

- When a flower is plucked is it still alive? Tell your teacher what you think.
- How do you think pebbles and small grains of sand were formed?

Activities and Projects

- Choose three things. One must be alive; one must be something that was never alive; and the third must be an object that has been made from something that was once alive. Draw a picture of each thing and write a few sentences about it.
- The air we breathe contains water vapour. Set up an experiment to show this is true. You will need a mirror or something made of glass. If you don't have a mirror, what might you use?
First open your mouth and breathe hard out of your mouth onto the palm of your hand. Is your breath warm or cold? Now breathe out onto the mirror. What happens? What happens to the surface of the mirror? What does this tell you?
- Collect rocks of different colours. Display these in the classroom. Which ones can be broken easily? Which ones are too hard to break? Also, collect sand and soil of different colours and pour them carefully, one at a time, into a glass jar.

Teacher's Notes:

- ✓ It is important to learn how to sort and classify. Practise sorting other groups too. Give other examples of how materials change by heating or cooling.
- ✓ In the experiment, what collects on the mirror is vapour. Vapour forms drops of water when it comes into contact with a cooler surface. (It condenses. Use this word now, so that the children become familiar with it.)
- ✓ Get the children to bring samples of rock to class. Say a little about how rocks are broken down into smaller pieces over a length of time by weathering and abrasion.