

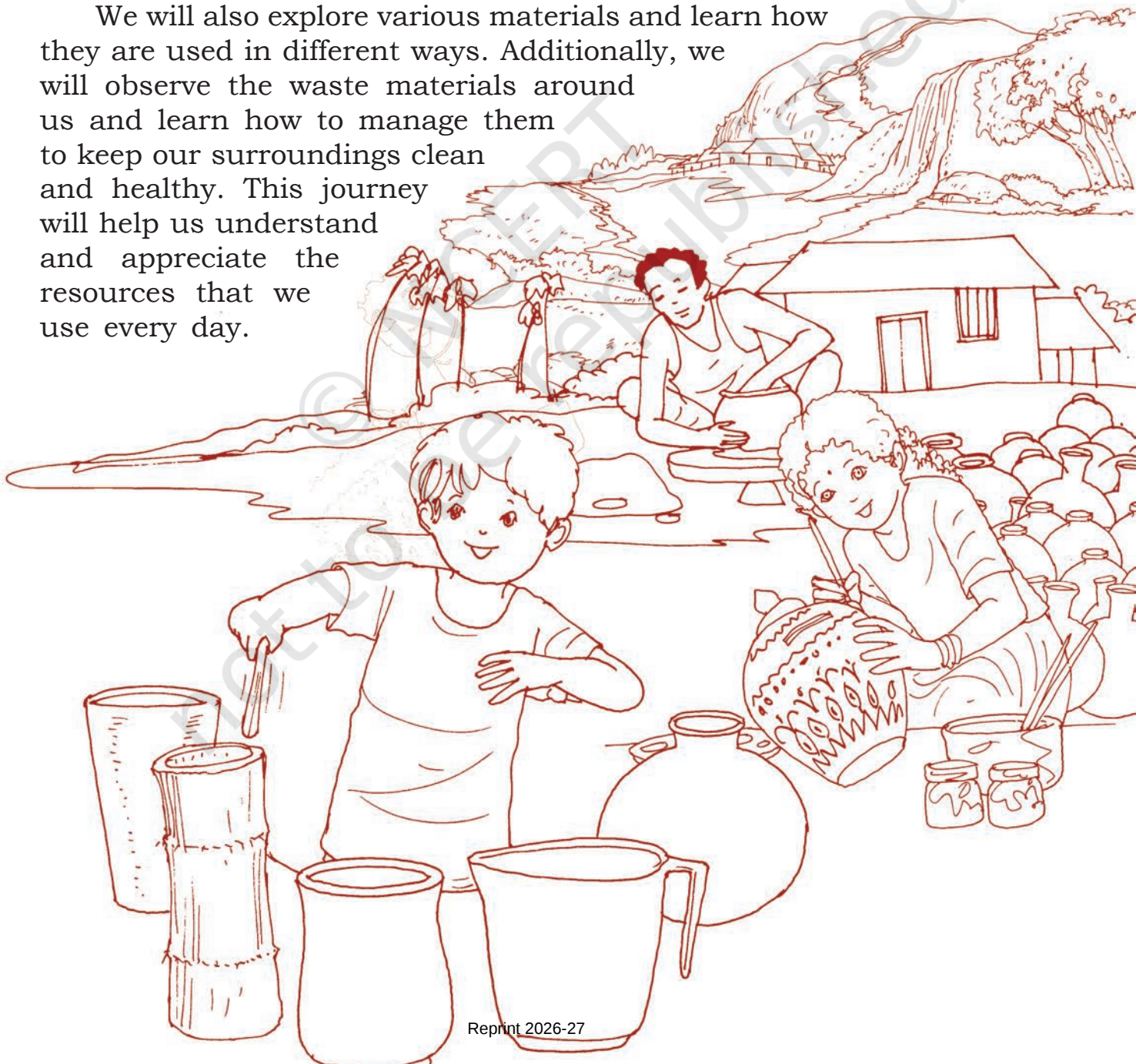
Unit 4

Things Around Us

About the Unit

In this unit, we will explore the many things that we make and use to live comfortably. We will observe these items, learn what they are made of, and discover where they come from. We will delve into the natural resources that provide us with these materials.

We will also explore various materials and learn how they are used in different ways. Additionally, we will observe the waste materials around us and learn how to manage them to keep our surroundings clean and healthy. This journey will help us understand and appreciate the resources that we use every day.



Note to the Teacher

This unit is about 'Things Around Us'. The key concepts covered in these chapters are described below.

Chapter 10: This World of Things helps us to explore the things around us, observe things closely to see what they're made of and where they come from and learning which things come from nature and which are made by people. Moreover, we explore the diverse properties of various materials.

Chapter 11: Making Things helps us to learn about different materials and how they are used. We discover how houses are constructed using natural resources and how people introduce new designs and styles. Moreover, we discuss the importance of always adhering to safety rules.

Chapter 12: Taking Charge of Waste emphasises the importance of putting trash in designated areas and sorting it correctly. We also describe the value of reusing and recycling. Furthermore, we explore ways to maintain cleanliness and safety in our homes and neighbourhoods.

The use of newspapers or old cloth for gift wrapping is an eco-friendly practice that reduces waste and conserves resources.

By creatively utilising such items, we not only reduce our waste but also add a personalised touch to our gifts.



- Collect and display a variety of things made of different materials (metal, wood, glass, plastic, clay, etc.).
- Visits and visitors: Organise a visit to a porter, local toy maker, etc., or invite them to the school to talk to the children.
- Organise an activity for the children to make a dustbin (each for dry and wet waste) in the class from waste materials.
- Demonstrate the segregation of waste into dry and wet (e.g., after lunch). Ensure children wear gloves and masks.





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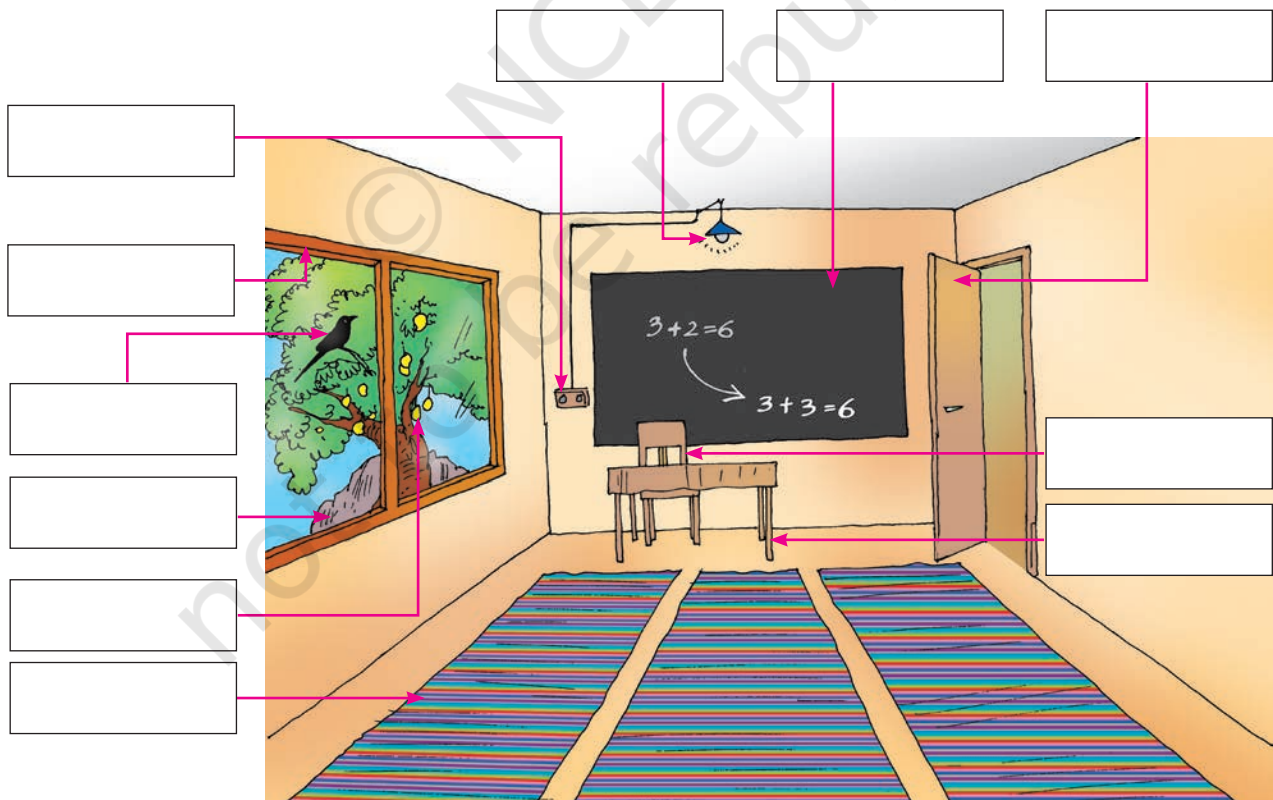
This World of Things



Let's Take a Look Around Us!

Khushi reached school early. Sunlight shone through the windows and the classroom looked bright and beautiful. Khushi wanted to capture this scene in a picture. Here is what she drew.

Can you name the things that Khushi has drawn? Write in the boxes given.



Can you see through the window glass? Why or why not?



Activity 1

Understand your Classroom

Draw a picture of your classroom in your notebook. Label the things that you have drawn.

Khushi is curious, “Where have all these things come from? Who has made them? What are they all made of?” she thought.

Let us help Khushi find out.

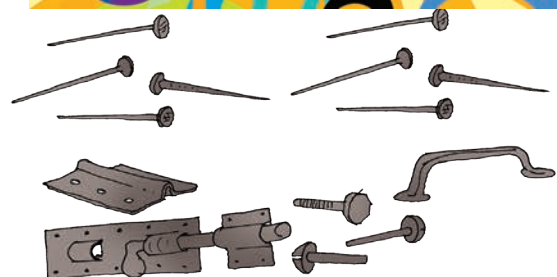
The table and chair are made of wood. Where do we get wood from?

The hinges, nails and latches of the door are made of some metals.



Do you know?

Metals are carefully extracted from certain rock and sediment (called ‘ore’) dug up from inside the Earth.



Note to the Teacher

Show the children some common metals around you such as iron, copper, aluminium, gold, silver, mercury in a thermometer or alloys such as steel, brass and bronze. Alloys are mixtures of metals.





Activity 2

Spot the Metals

Find as many things or parts of things, that are made of metals. Which metals do you recognise around you? If you do not know the name of the metal, ask your friends or an elder. Make a list of these metals in your notebook.



What are other things in the classroom, such as, mats, bulbs and electric switches, made of?

See-through Materials!

Khushi was sitting at her desk. She could see a tree laden with beautiful flowers. She reached out to touch them. Her hand touched the glass pane. At first, Khushi did not notice the windowpanes. They were made of glass and she realised that she had been able to see the flowers and trees through the glass. Glass is like that!

- Does your window have a glass pane?
- Can you see through it?
- What do you see?





Activity 3

Seeing through things

Collect a few small objects of different materials from your surroundings like bottles, papers, cloth and utensils, etc. Look at a light bulb or a candle flame through them. You can see through some objects very clearly, you can partially see through some others, while you cannot see through some objects at all. Order these objects from those you can see through very clearly, to those you cannot see through at all.



See through clearly	See through partially	Cannot see through at all

Take care!

Never look at the sun continuously — through any object or directly. It will harm your eyes.

Things that you can see through are called **transparent**. Most kinds of glass are transparent. Name one more material that is transparent.



You can see through glass, but you cannot see through wood. Materials that you cannot see through are called **opaque**.

Glass is transparent but wood is opaque.



Some things are in between — that is, you can see through them only partially. They are called **translucent**. Find some materials that are translucent.



Activity 4

Let us colour the world!

Collect two or three see through bags, bottles or thin cloth of different colours. Look at a sheet of white paper through them.

- Does the colour of the paper appear to change?
- Does white paper appear different when you look at it through thin blue plastic or glass? Or, thin yellow plastic or glass?
- Do the colours of different objects appear to change? How did a blue object look through thin yellow plastic?
- Have you earlier experienced looking through coloured transparent objects? Try to recall such experiences.



What is it made of?

Let us return to Khushi's classroom.



Write

Chain Game

- In the table below, Khushi has grouped objects according to the materials that they are made of. Her list of objects is in the first column of the table. The names of the materials are in the second column.
- The third column of the table is for you to complete. Here write the names of some objects you have seen that are made from that material. Some objects around you may be made from materials not in this list, e.g., clay and rubber are missing in Khushi's list. Use one of these to add an additional row in the table.

Khushi's list	Name of the material	Objects made of this material which are in your classroom or home
Table, chair, door	Wood	For example, pencil
Door hinges, nails,	Metal	
Windowpanes, light bulb	Glass	
Electric switches	Plastic	

Where do all these materials come from? Can you locate their source?

For example, Wood — Tree

Metals — _____

Cloth — _____



Do you know?

Glass is mostly made of sand!





Talk to your Grandparents

- In their childhood, were these things made of the same materials?
- Are there new materials now that they might not have seen before?
- Are there any materials that they saw in their childhood that are not in use now? Why?

Different materials may look different. Are they also different in other ways? Would you be able to recognise some material even with your eyes closed?



- What material is your spoon made of?
- Is it made of metal, wood or some other material? Can you guess?
- Which of these words or phrases describes the spoon?

Smooth	Rough	Dull	Shiny
Feels cold to the touch			





Activity 5

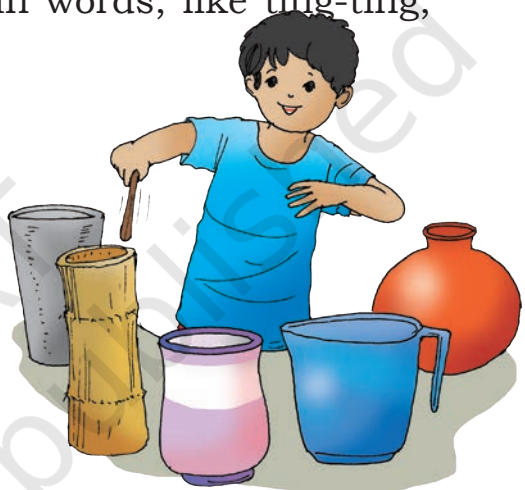
Knock on it and it will speak to you! Orchestra

Take a metal spoon and at least five objects made up of different materials—wood, metal, plastic, cloth and glass. Gently tap the spoon on each of them. Listen to the sound that each of them makes. Make your own words to describe all these different sounds.

Try to capture those sounds in words, like ting-ting, dhum-dhum, dub-dub, ...

Now compose your own beats.

Ting, Ting, Thak, Thak
Ting, Thak, Ting, Thak!



Does it Bend?

Khushi's table is made of wood. What else is used to make tables? Can we use fabric or rubber to make a table? Why or why not?

Wood is hard and rigid while fabric is soft and flexible. The flexibility of fabric makes it more suitable to make clothes and curtains. Imagine if clothes were made of wood!



Write

Odd Pairs

List five objects and pair them with a material that is not suitable for it! Explain why these materials will not work to make these objects. One example is done for you.



S. No.	Objects	Material	Reasons
1.	Umbrella	Paper	Paper will tear if it gets wet in the rain
2.			
3.			
4.			

Does it Flow?

In her 'Odd Pairs', Khushi playfully wrote, "Walls — can't be made of water."

We don't make walls of water because they will fall. What else could happen to water walls? We need 'solid' things such as stones, bricks or wood to make walls. Things that do not change their shape are called 'solid'.

Water does not keep its shape — it flows. Air flows too, but in a different way. If you pour water into a cup it stays there. Water is a 'liquid'. Air does not stay in a cup, it just floats in and out. That is because air is a gas.

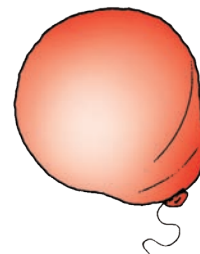
So objects can be classified as solids, liquids and gases.



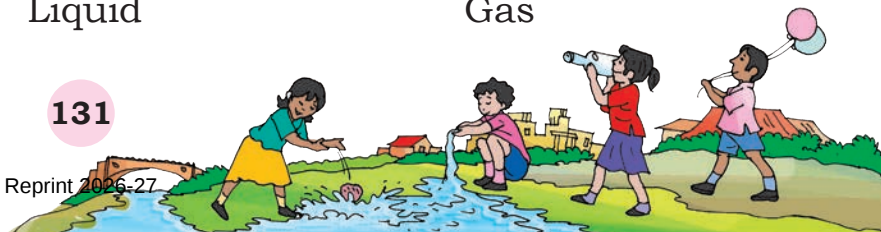
Solid



Liquid



Gas





Activity 6

Let's group them another way!

Here are the names of some objects: ink, a stone, smoke, ice, steam, a spoon, honey, a bottle, a bag, water.

If it is a solid, write its name on the tray; if it is a liquid, write its name in the bottle; if it is a gas, write its name in the balloon.



Add some of your own objects in the tray, bottle and balloon.

Some objects could be confusing, such as sand or a sponge or clay. Identify more such objects and write names of at least three of them.

Note to the Teacher

Materials like rubber, fibre and wax could be naturally produced by plants and animals, but similar materials are also made artificially. For example, bees produce wax for their honeycomb, but very similar wax can be made from petroleum. Petroleum is a liquid found deep underground. Petrol, rockel, diesel, etc., are extracted from petroleum. Petroleum-based materials, such as petrol, plastic, rubber or paraffin wax, create 'non-biodegradable' waste. This concept is just touched upon in Class 3, and details are left to later classes.



Natural — Artificial

Khushi drew a picture of a mango tree with a mango growing on it and a bird sitting on it. The tree, mango and bird are not made by humans but occur naturally in nature. Things that exist naturally are called 'natural'. Natural things may be alive, like plants and animals, or not alive, like rocks, water and air.



Things that are made by people are called 'artificial' like clothes, shoes, tables, etc.

List out five things in each group.

- Natural: _____
- Artificial: _____

In the next chapter we will further explore how things are made.



Have you seen trees around you that bear flowers and fruits at special times of the year? If you have ever eaten a ripe mango or seen mangoes in the market or watched a mango tree through the year, try to guess— at what time of the year did Khushi draw her picture? Could it be around January or around June?



Let us reflect

A. Write

Things around us are made of different types of materials. Write down the names of three materials we commonly see around us.

B. Discuss

Suppose you find a shining spoon. You don't know if it is made of metal or whether it is made of some other material and then painted with shiny paint. How would you find out?

C. Draw

Draw three natural and three artificial things.

D. Do it

Match the pairs

Transparent

A lamp shade made of paper

Translucent

A plate

Opaque

A glass used in spectacles

