

# 1

# Living and Non-living Things

We'll cover the following key points:

- Living Things and Non-living Things
- Characteristics of Living and Non-Living Things
- Difference between Living and Non-Living Things



Hi, I'm EeeBee

Do you Remember:

Fundamental concept in previous class.

In class 2<sup>nd</sup> we learnt

- All Living Things

Still curious?  
Talk to me by  
scanning  
the QR code.



## Learning Outcomes

By the end of this chapter, students will be able to:

- Understand the concept of living and non-living things in our surroundings and their unique characteristics.
- Identify and differentiate between living and non-living things based on key features such as growth, movement, and response to the environment.
- Explore examples of living things like plants, animals, and humans, and non-living things like rocks, toys, and furniture.
- Learn how living things depend on non-living things like air, water, and sunlight for survival.

## Guidelines for Teachers

The teacher can start the chapter by introducing the concept of living and non-living things, encouraging students to observe their surroundings for examples. Discussions can focus on the key differences between living and non-living things, such as their ability to grow, move, and respond to stimuli. The teacher can also emphasize the interdependence between living and non-living things, helping students understand how the two groups work together to create a balanced environment.



Identify the features of living and non-living things.  
One has been done of you.

Name	Need food	Breathe to live	Can grow	Can move	Have babies
Plant	✓	✓	✓	✗	✓
Stone					
Book					
Car					
Tiger					
Frog					
Man					

### Fun Fact



Living things are composed of cells, the basic unit of life. Organisms like bacteria and yeast are unicellular, consisting of a single cell. Humans and many other organisms are multicellular, meaning they are made up of multiple cells. These cells work together to perform various functions essential for life.

## Living Things and Non-living Things

We see many things in our surroundings. Everything that we see can be classified into two groups – living things and non-living things. All animals and plants including us are living things. The pencil we write with, the book we read, the toys we play with are all non-living things.

## Characteristics of Living and Non-Living Things

There are seven **characteristics** of living things. Living things can **move, need food, breath or respire, excrete, grow, feel and reproduce**. Non-living things not show any of these characteristics but living things show all seven characteristics.

Non-living things can be divided into two groups, those which were once part of a living thing and those which were never part of a living thing.

Sand, gold, wood and glass are all non-living things. None of them shows any of the characteristics listed above. First group is those which were never part of a living thing, such as stone and gold. The second group is those which were once part of living things. Coal is a good example. It was formed when trees died and sank into the soft ground millions of years ago.

### Living Things Move

All living things show some sort of movements. Animals move from place to place in search of food and shelter and also to escape their enemies. They use their legs, wings or other body parts to move.

Plant usually do not move from one place to another but can move their parts. For example, they move their roots downward to obtain water and mineral nutrients from soil and the shoot upward for sunlight.

All living things show internal movement and some of them show external movement too such as walking, jumping, flying, swimming etc.



## Activity

The figure below shows how fish react when the glass on one side of an aquarium tank is tapped with a finger.



What characteristics of living organisms does this demonstrate?

## Living Things Need Food

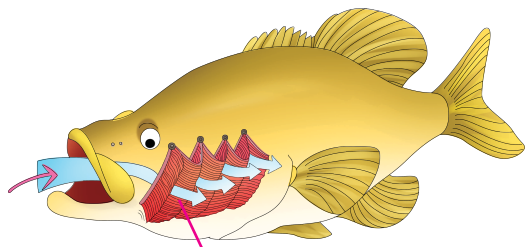
Living things need food to obtain energy, to grow and to stay healthy. Plants make their own food by the process of photosynthesis. Animals get their food from plants and other animals.



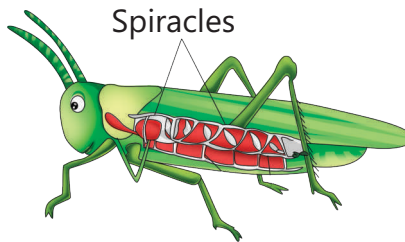
## Living Things Breathe

All living things need to breathe. Different animals use different organs to breathe. For example some animals use their nose, fishes use their gills and worms use their skin. We breathe in oxygen and breathe out carbon dioxide through our nose. Plants breathe through openings present in their leaves called stomata.





A fish breathes with gills



Nose

## Living Things Excrete

Excretion is the removal of waste from the body. If this waste was allowed to remain in the body it could be poisonous. Animals and humans excrete wastes in form of urine, faeces and sweat. We also excrete waste when we breathe out carbon dioxide. Skin helps to remove sweat from our body.

Plants too excrete waste in the form of oxygen and excess water through their leaves. Other wastes such as gums, resins etc. are also excreted by the plant parts.



### Activity

Creative Learning

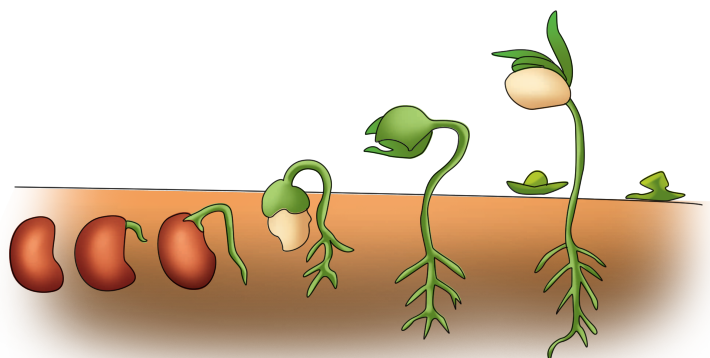
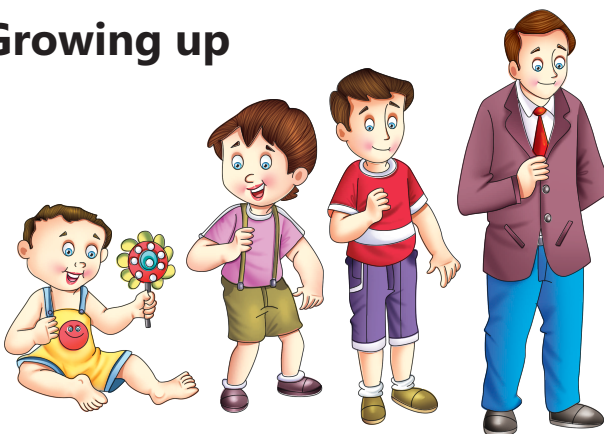
**A motor car needs petrol and air in order to move. It produces waste gases.**

- Which characteristics of living organisms are similar to those of a motor car?
- Why is a car not a living organism?

## Living Things Grow and Develop

When living things eat they receive energy which helps them in their growth. Living things grow from smaller to larger sizes and finally become adult. We human beings are born and grow into adults. Seeds grow into baby plants and finally into big plants or trees.

### Growing up



## Living Things Feel

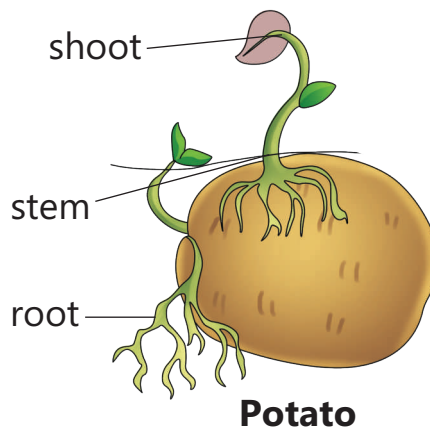
Living things react to changes in their environment. They usually respond to touch, light, heat, cold and sound etc. They use their sensory organs such as eyes, ears, nose, skin and tongue. Some insects have feelers to feel such as butterflies and ants. Dogs have a very good sense of smell and when they see food saliva starts coming out of their mouth.

Plants do not have sense organs but can feel changes around them. The leaves of the touch-me-not (Mimosa) plant closes when they are touched. The sunflower turns its movement towards the Sun during the daylight.



## Living Things Reproduce

All living things produce new organism of its kind. Some animals produce babies and some lay eggs. Plants mainly reproduce through seeds which can germinate in suitable conditions and grow into new plants. Some plants also reproduce through their roots, stems or leaves. A sunflower looks like one large flower, but each head is composed of hundreds of tiny flowers called florets, which ripen to become the seeds.



**Potato**



**Bryophyllum**

## Living Things Die

All living things grow and become old and finally die. This is called lifespan of living things. Different living things have different lifespan. For example: Dogs have a life span of 10-13 years while a male housefly lives for 28 days.



### Check 'N' Mate



### Critical Thinking

**Write 'T' for true and 'F' for false statements.**

1. All animals and plants are living things.
2. Animals use their legs, wings or other body parts to move.
3. Plants cannot make their own food.
4. Living things grow from smaller to larger.

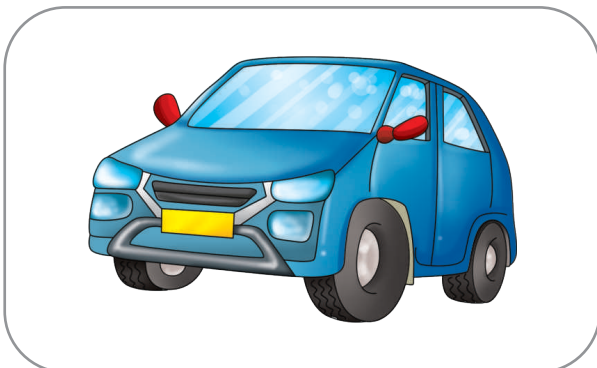
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## Characteristics of Non-living Things:

The characteristics of non-living things are as follows:

- ✦ They do not need air, food and water to survive.
- ✦ They do not respond to changes.
- ✦ They do not reproduce.
- ✦ They do not grow.
- ✦ They cannot move by themselves.
- ✦ They cannot die.

To be called a living thing, the particular thing should have all the characteristics of living things. For example, a car shows few characteristics of living things such as it needs fuel for energy and can move from one place to another but it is not a living thing as it does not have other characteristics of living things.



## Difference between Living and Non-Living Things

Living Things	Non Living Things
<ol style="list-style-type: none"><li>1. Living organisms need food, air and water.</li><li>2. Living organisms grow.</li><li>3. Living organisms can move on their own</li><li>4. Living organisms are sensitive. They respond to changes around them.</li><li>5. Living organisms reproduce themselves.</li><li>6. Living organisms respire. They release energy from food.</li><li>7. Living organisms excrete. They get rid of waste materials from their body.</li><li>8. Living organisms have a definite life span after which they die, i.e. they have a definite life cycle.</li><li>9. Living things are made up of living cells.</li></ol>	<ol style="list-style-type: none"><li>1. Non-living things do not need food, air and water.</li><li>2. Non-living things do not grow.</li><li>3. Non-living things cannot move on their own.</li><li>4. Non-living things are not sensitive. They do not respond to changes around them.</li><li>5. Non-living things do not reproduce.</li><li>6. Non-living things do not respire.</li><li>7. Non-living things do not excrete.</li><li>8. Non-living things do not have definite life cycle.</li><li>9. Non-living things are not made up of cells.</li></ol>

### Check 'N' Mate

#### Critical Thinking

**Circle the odd word in every group:**

1. Cat, Dog, Table, Cow, Buffalo.
2. Car, Bus, Train, Bird, Motorcycle.
3. Sun, Moon, Animals, Clouds, Rain.
4. Bee, Goat, Sun, Girl, Crow.

### Did you know ?

Human teeth are the only part which cannot repair themselves.



## In a Nutshell

- ✦ Things around us can be classified into two groups namely living and non-living things.
- ✦ Living things such as plants, animals and humans have similar characteristics of life.
- ✦ Living things eat, breathe, move, grow, reproduce their kind, feel and excrete waste.
- ✦ Non-living things do not show any such characteristics. They are either natural or man-made.



## Key Words

## Improving Vocabulary

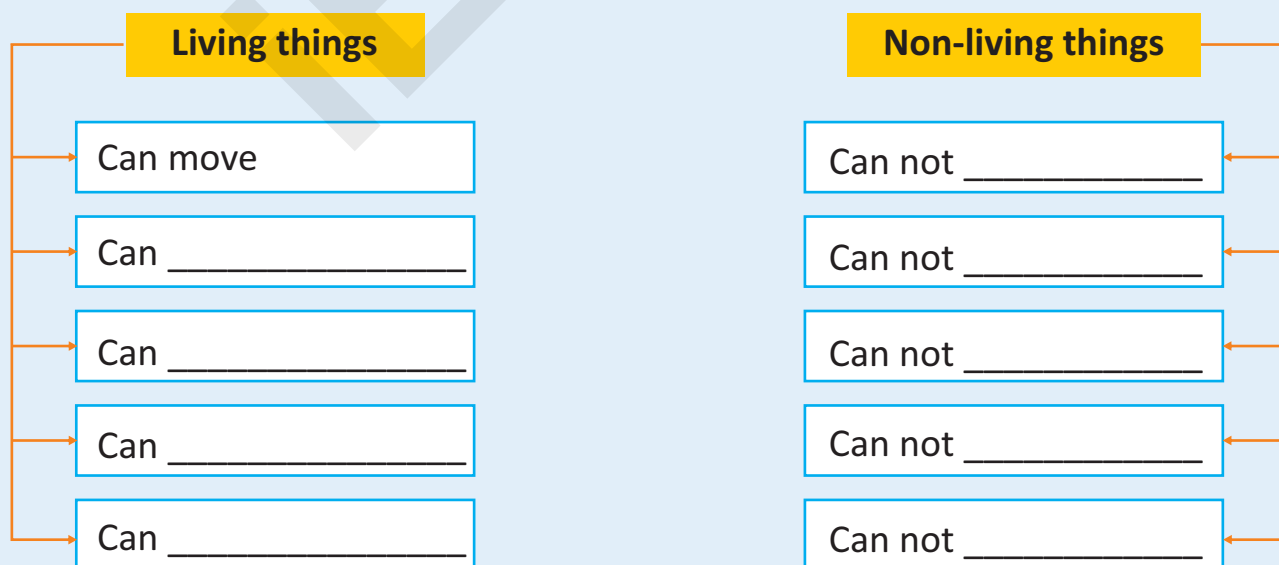
- Characteristics : A quality belonging to a particular person, place or thing to identify them.
- Photosynthesis : A process of making food by the plants.
- Saliva : Watery liquid that comes out of the mouth.
- Stomata : Small opening on the underside of leaf through which exchange of gases take place.



## Time to Recall

## Remembering and Analysing

Recall and complete the concept map given below.







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Take a Test



# EXERCISE

That turn curiosity into confidence—let's begin!



## A. Fill in the blanks:

1. Everything that we see can be categorized into two groups \_\_\_\_\_ and non-living things.
2. Living things need \_\_\_\_\_ to obtain energy, to grow and to stay healthy.
3. Plants make their own food by the process of \_\_\_\_\_.
4. Fish breathe with the help of \_\_\_\_\_.
5. Worms breathe with the help of \_\_\_\_\_.
6. Plants breathe through openings present in their leaves called \_\_\_\_\_.
7. \_\_\_\_\_ grows into a new baby plant.
8. \_\_\_\_\_ usually respond to touch, light, heat, cold, sound etc.
9. Plants move their roots downward to obtain water and mineral nutrients from \_\_\_\_\_.
10. All \_\_\_\_\_ things grow and become old and finally die.

## B. Tick (T) against the true statement and (F) against the false one:

1. Animals are natural things.
2. A sunflower turns towards the Sun.
3. Some man-made things are living things.
4. A cat does not reproduce.
5. No plant breathes.
6. All living things grow, become old and finally die.
7. Fish are man-made things.
8. Birds and animals are living things.
9. Tables and chairs are natural things.
10. Clouds and rain are non-living things.

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### C. Very Short Answer Questions:

**Name the Following:**

1. A living thing that is always fixed in the ground.
2. A non-living thing which can move.
3. Breathing organs in insects.
4. A plant that turns towards the Sun.
5. Body parts of insects that help to feel changes around them.

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### D. Short Answer Questions:

1. Why do animals move from place to place?
2. Give two examples of plants that show movement.
3. Why do living beings need food?
4. What are the different organs of breathing in different living beings?
5. How do living beings react to change in environment?

### E. Answer the Following Questions:

1. What is excretion? Why is it important?
2. Write the differences between living and non-living things.
3. Classify the non-living things into two categories with examples.
4. How do animals and plants reproduce?



## Time to Apply

Applying and Creating

Read the following examples and say what characteristic of living thing they show:

- ✦ You can use an umbrella to protect yourself from the rain or from the harsh Sun on a hot day.
- ✦ Chameleons and crocodiles like to lie and bask in the Sun on a cold winter day.



## Time to Discuss

Pondering and Communicating

1. Give an example of a non-living thing which shows any two characteristics of living thing.
2. Where do the non-living things like car, motorcycle, fan, computer, electric iron, gas burner get energy from?



## Time to Observe

Observing, Critical Thinking, Analysing

1. Take two small plastic mugs. Fill each mug with soil. Now plant some seeds in one mug and a pencil in another mug. Water both the mugs for several days. Note down your observation for few days.
  - A. What did you observe?
  - B. Why do you think there is a difference in both the mugs?
2. Which of the following non-living things were once part of living things? Butter, Leather, Soil, Wool, Electric Bulb, Cooking Oil, Salt, Apple, Rubber.



## Time to Create

Creating and Collaborating

### How to make a stone paper weight

To make a stone paper weight we need one flat round stone, one oblong stone, glue, modelling clay and oil colours. Then fix the oblong stone over the large stone using clay or glue. By using different colours create a face. Now our paper weight is ready.

We can use different shapes of stones to get different figures.