

## Distinguishing Living from Non-living

### A. Choose the correct answer:

1. Which of the following is a key characteristic of all living organisms?

- a) Ability to grow and reproduce
- b) Ability to remain static forever
- c) Lack of movement and response to stimuli
- d) Dependence on external power sources like batteries

2. Which process is essential for a living organism to generate energy?

- a) Respiration
- b) Evaporation
- c) Condensation
- d) Filtration

3. What differentiates living beings from non-living things?

- a) Living beings do not need energy
- b) Living beings can respond to their surroundings
- c) Non-living things can grow and develop
- d) Non-living things have a metabolism

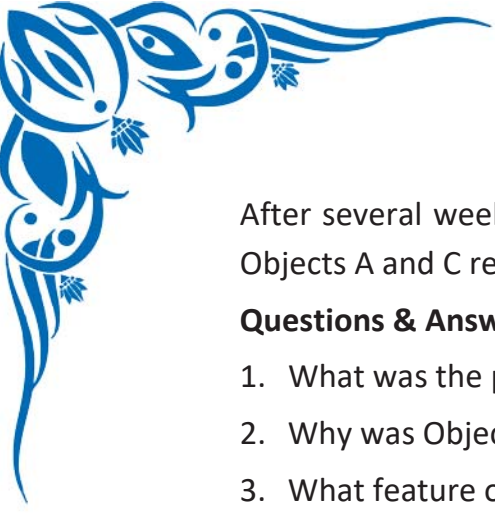
### B. Fill in the Blanks:

1. Living organisms undergo \_\_\_\_\_ to convert food into energy.
2. One of the main features of living organisms is their ability to \_\_\_\_\_ and reproduce.
3. Non-living things do not have \_\_\_\_\_, so they do not respond to stimuli.

### C. Case Study:

A group of scientists conducted an experiment to differentiate between living and non-living things. They observed three subjects:

- **Object A** was a stone, which remained unchanged regardless of temperature, water, or light.
- **Object B** was a plant, which grew towards sunlight and required water and nutrients.
- **Object C** was a robot, which could move and perform tasks but required an external power source.



After several weeks, the scientists noted that Object B continued to grow, while Objects A and C remained unchanged unless acted upon externally.

**Questions & Answers:**

1. What was the primary purpose of the scientists' experiment?
2. Why was Object A classified as a non-living thing?
3. What feature of Object C made it different from living beings?
4. Based on the study, what key characteristics define living organisms?

**D. Short Answer Questions:**

1. Why do living organisms need energy?
2. How do living organisms respond to stimuli?
3. What are the differences between growth in living and non-living things?

**E. Long Answer Questions:**

1. Explain five characteristics that distinguish living organisms from non-living things.
2. Describe how living organisms maintain homeostasis and why it is important.
3. Discuss how technology has blurred the distinction between living and non-living things (e.g., artificial intelligence and robots).