Topic: Living and Non-Living Things (IV)

Sub-topic: Classification of Non-Living Things into Metals and Non-Metals

© Lesson Objectives

By the end of this lesson, students should be able to:

- 1. Define non-living things.
- 2. Classify non-living things into metals and non-metals.
- 3. State the **properties** and **uses** of metals and non-metals.
- 4. Give examples of each class.

Revision of Previous Lesson

- Living things include plants and animals, which show life processes.
- Non-living things do not grow, move by themselves, or reproduce.
- Examples: stone, air, plastic, iron.

1. What are Non-Living Things?

- Non-living things are objects or materials that do not have life.
- They do **not** eat, breathe, grow, move, reproduce, or respond to stimuli.

Examples:

• Sand, plastic, iron rod, salt, air, water, stone, pencil.

1 2. Classification of Non-Living Things

Non-living things can be broadly classified into:

A. Metals

Substances that are hard, shiny, and good conductors of heat and electricity.

• Usually **solid** (except mercury), and can be **hammered** into sheets (malleable) or drawn into wires (ductile).

Examples:

Iron, copper, gold, aluminium, silver, steel, zinc.

B. Non-Metals

- Substances that are **not shiny**, **poor conductors**, and **brittle** (easily broken).
- Can be solids, liquids, or gases at room temperature.

Examples:

Coal, sulphur, carbon, oxygen, plastic, rubber, glass, nitrogen.

3. Properties of Metals and Non-Metals

Property	Metals	Non-Metals
Appearance	Shiny (lustrous)	Dull
Conductivity	Good conductors of heat/electricity	y Poor conductors
Malleability	Can be hammered into shape	Break easily (brittle)
Ductility	Can be drawn into wires	Cannot be drawn into wires
State at Room Temp	o Mostly solid	Solid, liquid, or gas
Examples	Iron, aluminium, copper	Plastic, carbon, oxygen



4. Uses of Metals and Non-Metals

Uses of Metals

- 1. **Building materials** Iron rods, aluminium for roofing.
- 2. **Electrical wiring** Copper and aluminium.
- 3. **Coins and jewelry** Gold, silver, bronze.
- 4. Tools and machines Steel and iron.
- 5. **Transportation** Cars, trains, aircraft bodies.

✓ Uses of Non-Metals

- 1. Oxygen Needed for breathing.
- 2. Plastic Used for making containers, chairs, etc.
- 3. Carbon (coal) Used as fuel.
- 4. **Glass** For windows and bottles.
- 5. **Rubber** Tyres, hoses, and shoes.