

(To be noted down in science class work copy / rough copy)

### Materials: Metals and Non-metals

(In text Notes-1: Based on NCERT Book)

- Metal is a solid material which conducts heat and electricity. Generally metals are hard, shiny, malleable, fusible, and ductile.
- Nonmetal is a substance that does not exhibit properties of metals such as hardness, lustre, malleability, ductility and the ability to heat and conduct electricity.

#### **Comparison/Differences between Metal and Non-metal:**

S. No.	Metal	Non-Metals
(i)	They have lustre.	They are not lustrous.
(ii)	They are ductile.	They are non-ductile.
(iii)	They are malleable.	Non-malleable.
(iv)	Conduct heat and electricity.	Poor conductors of heat and electricity.
(v)	They are sonorous.	They are non-sonorous

#### **Physical Properties of Metals:**

- Metals are good conductors of heat and electricity.
- Metals are **malleable** and **ductile**.
- Metals are **lustrous** and **sonorous**.
- Metals are generally hard with high density (Density of a substance is its mass per unit volume).
- Metals are usually solid at room **temperature** (an exception is mercury).
- Metals are opaque as a thin sheet.
- Metals have high melting point.

**Examples of two exceptional metals:** Mercury is a metal which is a liquid at room temperature and sodium is a soft metal that can be cut through a knife.

#### **Important Scientific Terms which may be new for the students:**

**Malleable:** The property of a metal or any other substance to be beaten up into thin sheets is called **malleability**.

**Ductile:** The property of a metal or any other substance to be drawn out into wires is called **ductility**.

**Lustre:** It is the gentle shining light that reflects from the surface of an object such as a polished metal which makes it appear shiny.

**Sonorous:** Capable of producing a deep ringing sound with vibration. E.g. Sound of a suspended metallic bell when hammered with another metal or any other hard thing.

**Fusible:** A matter which can be melted on heating.