

Materials: All things are made of one or more materials. Anything that occupies space and has some mass is called material.

Sorting of materials into groups Grouping of various materials on the basis of their similarities and differences is called sorting materials into groups.

The Need to group materials.

- Easy to understand the properties
- Convenient to identify the suitable ones.
- Save time and efforts.

Properties

Hardness

- Materials which can be compressed or scratched are soft. e.g. cotton, sponge etc
- Materials which cannot be compressed or scratched are hard and the property is hardness of matter. e.g.: iron, glass, etc.

Solubility:

- **Soluble in water:** Materials that disappear when mixed in water eg.
- **Insoluble:** Materials that do not mix in water. e.g: chalk, sand etc.

Lustre (property of material to shine)

- **Lustrous:** shiny materials e.g. metals jewellery etc
- **Non-lustrous:** Materials which do not shine. e.g. wood, plastic, etc

Density (The mass per unit volume)

- **Sinking:** The objects which have higher density than water eg:- Tron, coin, etc
- **Floating:** The object which have lower density than water eg. wood, feather etc

Transparency (Amount of light that can pass through them)

- **Transparent:** Most of the light can pass and we can see through them eg: glass, air etc
- **Translucent:** Partial light can pass and we can see partially through them. eg oiled paper, butter pare
- **Opaque:** No light can pass and we cannot see through them. eg: brick wall, metal sheet etc.

Conductivity (Ability to permit the flow of heat & electricity)

- **Conductors:** allow the passage of heat & electricity e.g. copper wires, utensils etc
- **Insulators:** do not allow the passage of heat electricity e.g. ward, plastic etc.