

ALLEN® Sorting Materials Into Groups



KEY POINTS

1

Introduction

All objects are made of some substances called materials.

2

Objects around us

Objects around us have different shapes, colours and uses. They are made up of one or more materials such as paper, glass, plastic, cloth, wood, metal, mud, soil, cotton, etc.

3

Classification

The act of dividing things into category, according to some common relations or affinities is called classification. classification of material in three states viz, solid, liquid and gas is on the basis of physical properties, acids, bases and salts is on the basis of their chemical properties.

4

Some physical properties of materials

Appearance

Materials usually look different from each other. Mud looks different from wood. Wood looks different from plastics. Plastics look different from copper.

The special kind of shine present on natural materials or shine appears when they are freshly cut or sand papered is called **lustre** and such materials are called lustrous materials. Eg. all metals, Graphite, iodine crystals, gems, pearls, mercury and Diamond.



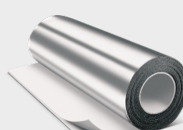
Gold



Silver



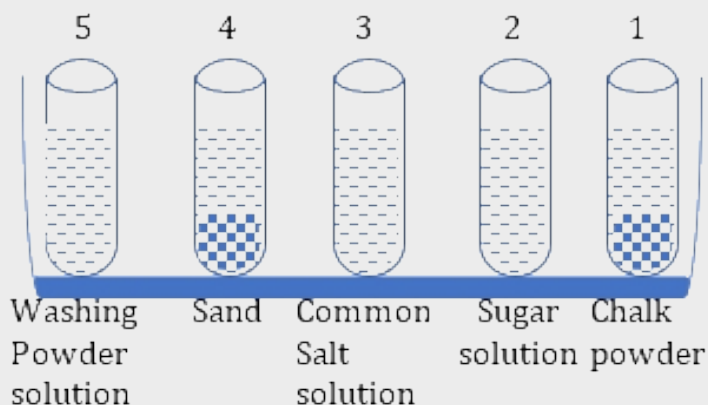
Copper



Aluminium



Iron



Solubility

The property of substance due to which it dissolves in water is called solubility.

- Such substances which dissolve in water are known as **soluble** substances. Eg. Sugar and Salt
- The substances which do not dissolve in water are called **insoluble** substances. Eg. Sand, chalk, etc

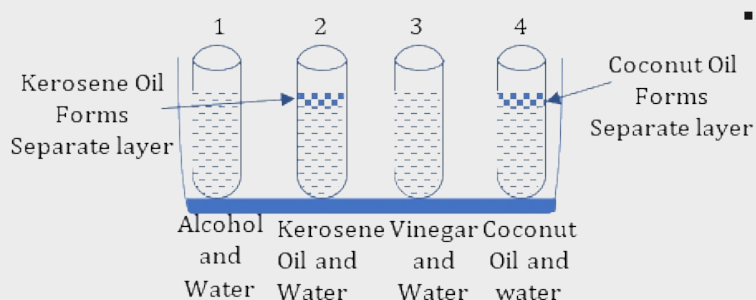
Hardness

When the surfaces of two different materials are rubbed against each other, then the surface which scratches is said to be **hard** and the property is called **hardness** of the material. The surface which gets scratched is said to be **soft**.

Solubility of liquid

The liquids which dissolve in water are called miscible liquids.

The liquids which do not dissolve in water are immiscible liquids.

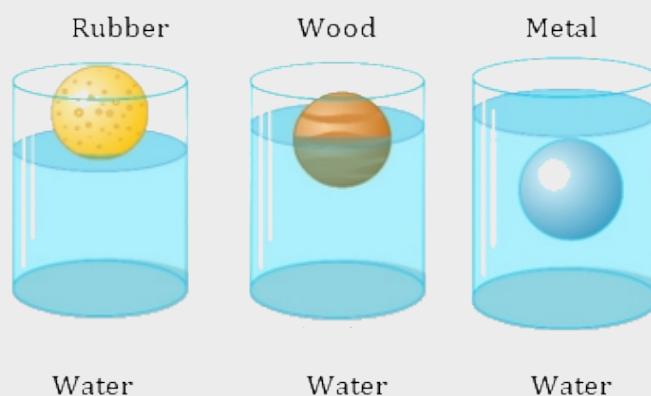


Solubility of gases

Nitrogen, hydrogen and carbon monoxide are insoluble in water. Oxygen and carbon dioxide gas is slightly soluble in water.

Objects may float or sink

- The substances heavier than water sink in it.
- The substances lighter than water, float in it.





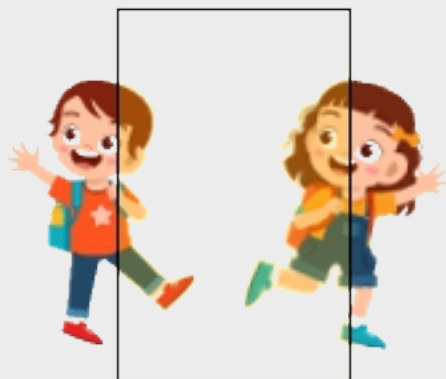
Transparency

Transparency is another property of materials which is used to distinguish them.

Transparency

1. Transparent

A material through which you can see clearly is called transparent material. It happens so because light can pass through it.



Transparent

2. Opaque

A material through which you cannot see is called opaque material. Through it light cannot pass.



Opaque

3. Translucent

A material through which you can see partially is called translucent material. Light can pass through it but we cannot see clearly through it.



Translucent