
CHEMISTRY

Sorting Materials into Groups

All things are made of one or more materials. The same thing can also be made of different materials. It may be man-made or naturally occurring. Materials can be classified on the basis of many criteria. The sorting of objects into groups with each group having its own characteristics is called the classification of objects.

Classification of Materials

Classification of materials is based on the similarities and differences between different materials. It has the following advantages:

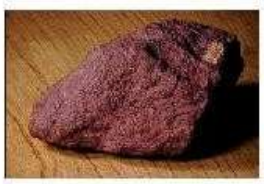
- It makes it easier and convenient to locate a variety of materials and to work withthem.
- It also helps in better understanding of materials. This is because if we know the properties of any one member of the group, we can get an idea of the properties of the other members of the samegroup.

Materials can be classified on the basis of the following properties:

Appearance

The appearance varies from one material to the other. Colour, texture, roughness and other parameters contribute to the appearance of materials. Materials with a shiny surface are called lustrous (gold, silver, copper), whereas those which have a dull appearance are called non-lustrous (paper, cardboard, chalk).





Hardness and Softness

Materials which cannot be easily compressed, cut, bent (moulded) or scratched are called hard materials. Examples: Iron, steel, wood, stone


Materials which can be easily compressed, cut, bent (moulded) or scratched are called soft materials. Examples: Sponge, cotton, wax


SORTING MATERIALS INTO GROUPS

Solubility

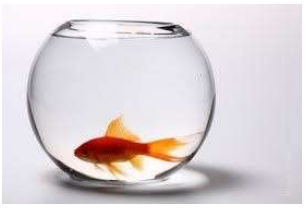
Materials which readily dissolve in water are called soluble materials. Examples: Milk, copper sulphate
Materials which do not readily dissolve in water are called insoluble materials. Examples: Flour, chalk powder, sand, oil

Density

Substances which are heavier than water and have relative density more than 1 sink in water.
Examples: Copper, soil, glass
Substances which are lighter than water and have relative density less than 1 float in water.
Examples: Wood, ice, oil

Opacity

Materials through which we can see clearly are called transparent materials.
Examples: Glass, air



Materials through which we can see but not clearly are called translucent materials.
Examples: Oiled paper, ground glass

Materials through which we cannot see at all are called opaque materials.
Examples: Iron sheet, brick wall