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STUDY MATERIAL SCIENCE

CLASS-VI

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▸ Things around us

Hardness

Solid materials can be hard or soft. The hardness differs between materials, which gives an idea of how firm or rigid an object is and how easily it can be bent or scratched. Glass is a hard material but not as hard as diamond. Glass cannot scratch diamond so glass is softer than diamond. A piece of wood can scratch a candle. So wood is harder than candle wax. But wood can be scratched by an iron nail. So iron is harder than wood.

On the other hand, materials, such as wax, rubber, plasticine and putty, are all soft materials. They can be easily compressed by pressing and can be given different shapes.

Density

Solid objects made of different materials behave differently when placed in water. Some sink while others float. Iron nails, stone, coins, sand, crockery pieces and metal spoons sink if put in water.

But objects, such as candles, corks, thermocol balls and dry leaves, float on the surface. Objects, that sink have more density than water and objects that float have less density than water.

Density is defined as the mass per unit volume of a substance.

Liquids also behave in a similar way. Mercury sinks in water because it is denser than water but oil floats because it is less dense than water. This property of liquids comes in handy in some extraction processes.