



Vidya Bhawan Balika Vidyapith

Shakti Utthan Ashram, Lakhisarai – 811311 (Bihar)

Chapter:- 1. MATTER IN OUR SURROUNDINGS.

CLASS:- IXth

SUBTEACHER:-VIKASHKR. RAJAK

SUBJECT:- CHEMISTRY

DATE :-23/05/2020

➤ **Experiment:-** To observe the shape and size of various solid and check if we can change their shape and size by hammering and compressing them.

Observation:- Pen, book, a needle or wooden piece has a fixed shape and size. When we hammer or compress them they break but do not change their shape and size.

A rubber band shape changes when we stretch them but it regains the previous shape again.

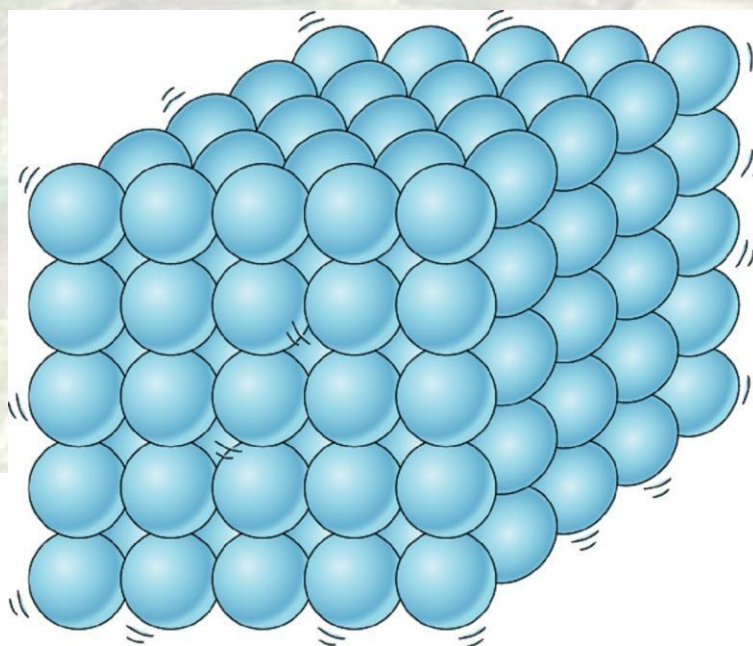
The shape of sugar and salt changes as per container as a whole but the shape and size of its actual particle remain the same.

The shape of a sponge changes when we compress but it regains its previous shape after removing the pressure.

Explanation:-

Molecules of a solid are tightly tied with others, they cannot rearrange themselves.

Pen, book, a needle or wooden piece.



Molecules of a solid are tightly tied with others, they cannot rearrange themselves.

The shape and size of a substance depend on the molecular attraction inside the particle and the spaces between these molecules. We call a substance as solid because their molecules are bonded by strong molecular force of attraction and the space between these molecules is very less. Hammering or pressurizing may break these substances but does not change the force of attraction or the space between the molecules. As a result size and shape of solids remain the same.

Rubber band:-

Rubber bands are also solids but the molecules here are long chain polymers. These polymers have the ability to increase in length when stretched. When we apply a pulling force these polymers align in one direction which increases its length. Once the pulling force is removed they regain their shape.

Sugar and salt:-

Sugar and salts are the clusters of small particles. A single cluster breaks down into smaller cluster but their shape and volume always remain the same. Sugar and salt particles as a whole show flow property like liquids. So when we transfer them into containers of different shape and sizes it takes the shape as per the container.

This property also applies to other solids mentioned here too. If we grind solid particles into small particles, they will also behave like the same.

Inference/Conclusion:-

This experiment demonstrates that a solid substance has a fixed shape and size.

✍ Homework:-

1. Experiment:- To demonstrate heating increases the diffusion rate.