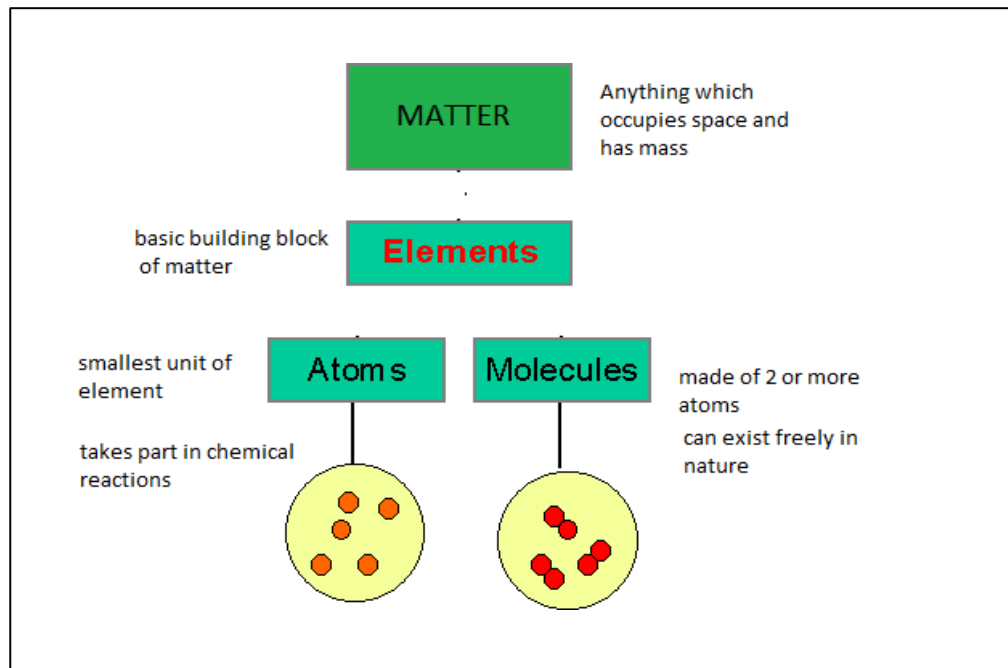


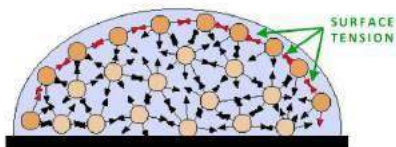
KINETIC THEORY OF MATTER

Kinetic Theory of Matter :

1. Molecules possess kinetic energy
2. kinetic energy increases with increase in temperature
3. Intermolecular force of attraction :
 - molecules of matter always attract each other
 - 2 types – cohesive & adhesive force
4. Force of Cohesion :
 - the force of attraction between the molecules of same substance
 - maximum between solids, less between molecules of liquids and least between gas molecules
 - responsible for keeping the molecules of substance bind together
 - ex. force of attraction between water molecules and water molecules
5. Force of Adhesion :
 - the force of attraction between the molecules of different substance
 - ex. force of attraction between water molecules and gas molecules
6. Intermolecular space – space between any two consecutive molecules
7. More intermolecular space – more intermolecular force



Surface Tension :



The phenomenon in which surface of a liquid, where the liquid in contact with gas, acts like a thin elastic sheet.

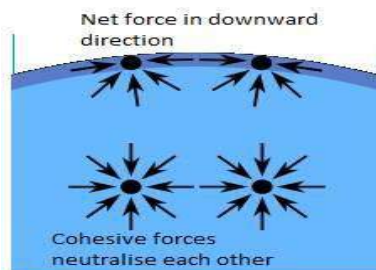
Examples :



Water has highest surface tension than Most other liquids(except liquid metals).
Units – N/m or dynes/cm

Causes :

An unbalanced cohesive force experienced by molecules on the surface of the liquid is responsible for the surface tension

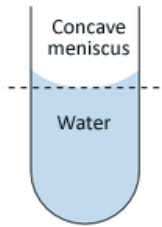


Interface Tension : phenomenon in which surface of a liquid, in contact with another liquid, acts like a thin elastic sheet

Arrangement of molecules :

Solids	Liquids	Gases
<ul style="list-style-type: none"> ▪ Strong attraction between the particles. ▪ Particles are very close together and neatly arranged. ▪ Particles vibrate in place. 	<ul style="list-style-type: none"> ▪ Moderate attraction between particles ▪ Particles still very close together but not neatly arranged ▪ Particles are able to slide passed each other. 	<ul style="list-style-type: none"> ▪ Very weak attraction between particles. ▪ Particles are much further away from each other. ▪ The particles move all around and bump into each other.
<ul style="list-style-type: none"> ▪ Definite shape ▪ Definite volume 	<ul style="list-style-type: none"> ▪ Indefinite shape ▪ Definite volume 	<ul style="list-style-type: none"> ▪ Indefinite shape ▪ Indefinite volume

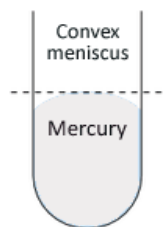
Meniscus :



Adhesive force > Cohesive force

Water wets the glass

Water sprayed on glass surface, spreads



Cohesive force > Adhesive force

Mercury does not wet the glass

When sprayed on glass, forms spherical drops

Conduction :

molecules in solid objects don't "move" - they vibrate



heat conducts from warm to cold

- * Needs Medium
- * Not possible in vacuum



Convection :

