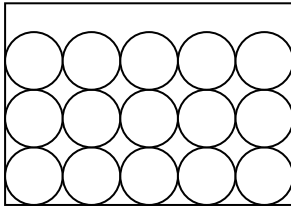
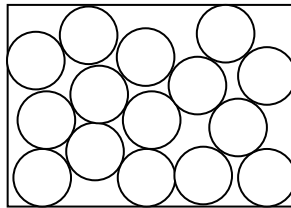
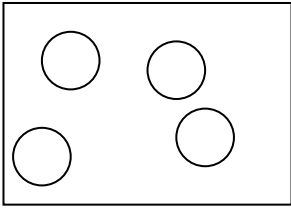


## States of Matter Summary

State	Solid	Liquid	Gas
<b>Arrangement</b>	Very close together Regular arrangement	Close together Random arrangement	Far apart Random arrangement
<b>Motion</b>	Vibrate about a fixed position	Move around each other	Move quickly in all directions
<b>Properties</b>	Definite shape  Definite volume  Not compressible	Takes shape of container  Definite volume  Not compressible	Do not stay in an open container; spread out to fill available volume  Volume depends on container  Compressible
<b>Model of particles</b>			

When the particles of a substance gain or lose energy, the substance may change its state.

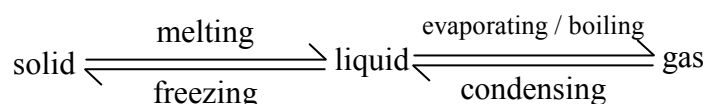
### Melting

If energy is supplied to a solid, its particles vibrate more violently. They may separate from each other and become free to move. The temperature at which a solid melts is called its melting point.

### Evaporating and boiling

Heating a liquid makes its particles move around more quickly. Particles which have enough energy may overcome attractive forces. They will escape from the liquid and become a gas. This is evaporation.

When the temperature is higher, more particles have enough energy to escape so evaporation is faster. If the temperature is high enough, a liquid will boil. The temperature at which a liquid boils is called its boiling point.



### Diffusion

The particles of a gas move around very quickly in all directions. This is why gases spread out (diffuse) and mix completely with each other.

### Dissolving

As liquid particles move about, they may separate the particles of an added solute from each other. This is dissolving.