

Changes in Matter

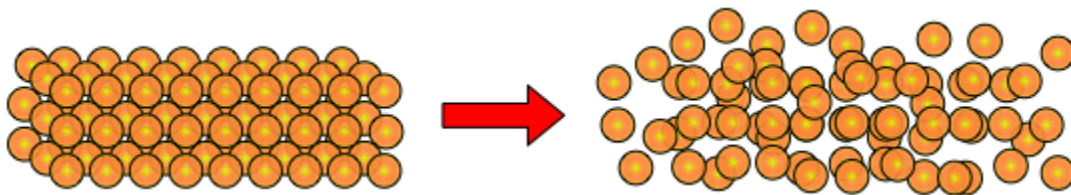


Phases of Matter and Phase Changes <https://youtu.be/CMUmQRgJAo0>

Melting

Melting is when something changes from a solid to a liquid. As the energy in the molecules increases from a rise in temperature, the molecules start moving faster. Soon they have enough energy to break free of their rigid structure and start moving around more easily. The matter becomes a liquid.

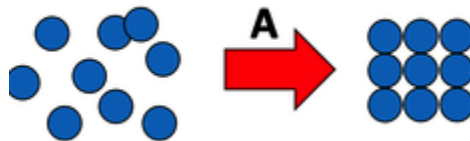
Below is an example of particles moving from a solid to a liquid:



Freezing

Freezing is the exact opposite of melting. When we freeze an object the particles lose heat and start moving together and slowing down.

Below is a picture of particles losing heat and moving together to make a solid.



Evaporation

Evaporation is when a liquid becomes a gas.

When we make tea or hot chocolate we boil water. When we do it might look something like this:

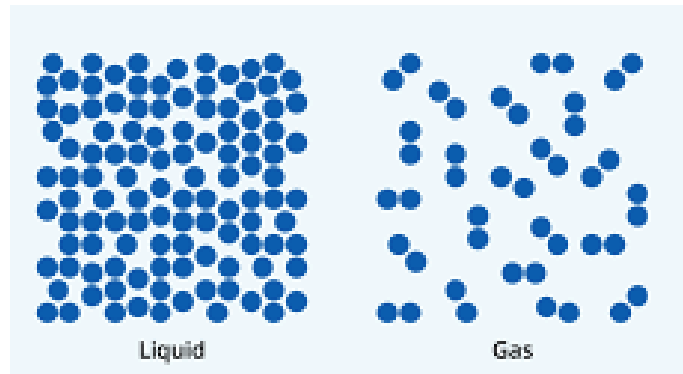
Do you see the steam coming out of the pot?

That is water turning into a gas and we call it evaporation.



When liquid particles are heated they start moving quickly and spreading apart, as they spread out they become a gas.

Below shows the liquid particles turning into a gas when heat is added.



Condensation

Imagine this:

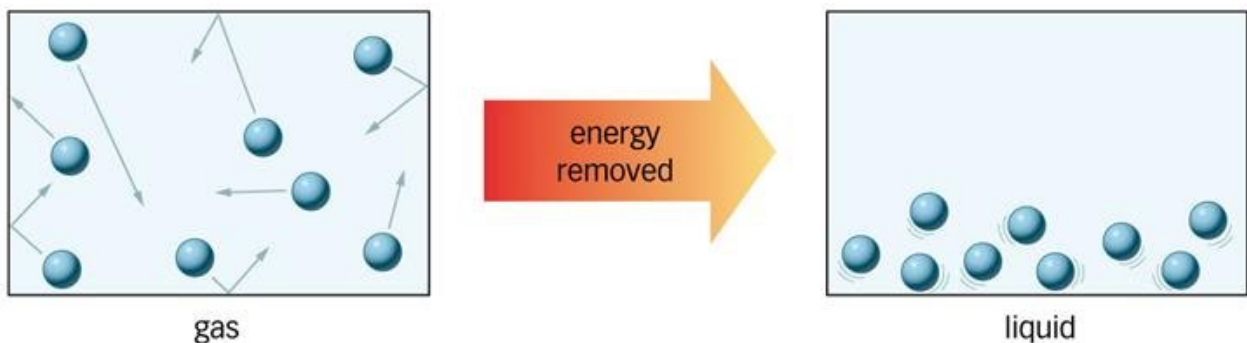
You are outside on a nice hot summer day with a cold ice tea in your hands. The sun is shining, but your hand feels wet. You look at the glass and you see water droplets on the outside of the cup, how did that happen?



When gas changes to liquid we call it condensation.

When a gas is cooled down the particles slow down and start moving together. When they are cooled down enough it makes a liquid.

An example of this is, clouds. When we see a cloud that is a ton of water molecules moving together, when there is enough water molecules and it cools down enough we get rain.



Deposition

Deposition is the change in which gas transforms into solid without passing through the liquid phase. For example, when warm moist air inside a house comes into contact with a freezing cold windowpane, water vapor in the air changes to tiny ice crystals.



Sublimation

When matter changes from a solid to a gas without passing through the liquid stage it is called sublimation.



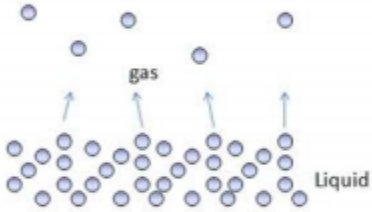


Only some compounds like 'dry ice' (solid carbon dioxide) can go through this process.



What is Dry Ice? <https://youtu.be/oVmlAqwgIRo>

2.2 Changes in Matter

1. Match the correct change in matter to its name (Use the arrows to see the direction of the change):

Melting	
Sublimation	
Freezing	
Condensation	
Evaporation	

2. Label each arrow with the correct phase change:

