

8th Grade Physical Science

Notes (11-12-09) Changes of State (continued)

- Melting
 - solid to liquid
 - energy needs to be absorbed in order to change the speed of the solid particles enough for those particles to slide past each other
 - melting point = temperature at which the solid becomes a liquid
 - water's melting point is 0°C (32°F)
 - substances have **unique** melting points
 - melting point differs from substance to substance, i.e. gallium's melting point is 30°C, table salt's melting point is 801°C, water's melting point is 0°C, etc...
 - melting points of a substance is a characteristic* property of that substance (*property used to identify the substance)
 - no matter the amount of the substance the melting point (like all of a substance's characteristic properties) of a substance does not change, i.e. 1 liter of ice has the same melting point as 5 liters of ice
 - when a substance reaches its melting point the temperature remains constant (does not change even though energy is still being added) until all of the solid melts (each particle of the solid needs to reach the melting point)

We looked at the graph on page 73

0°C-----melting point-----

ice

- slanted lines indicate a change is occurring
- in this case energy is being added, substance has not reached its melting point so a change in temperature continues to show a change
- straight lines across in a graph indicate no change is occurring
- in this case, even though energy continues to be added at the melting point, the temperature remains constant until all particles of the solid reach the melting point and all of the solid is melted.