Daily Routine

- Walk into the classroom with positive thoughts
- Walk to your seat quietly, and sit down at your assigned seat
- Take out your agenda and write down your homework
- Sharpen any pencils before class begins
- All electronic devices should be silenced and put away
- Put away any food that you have out

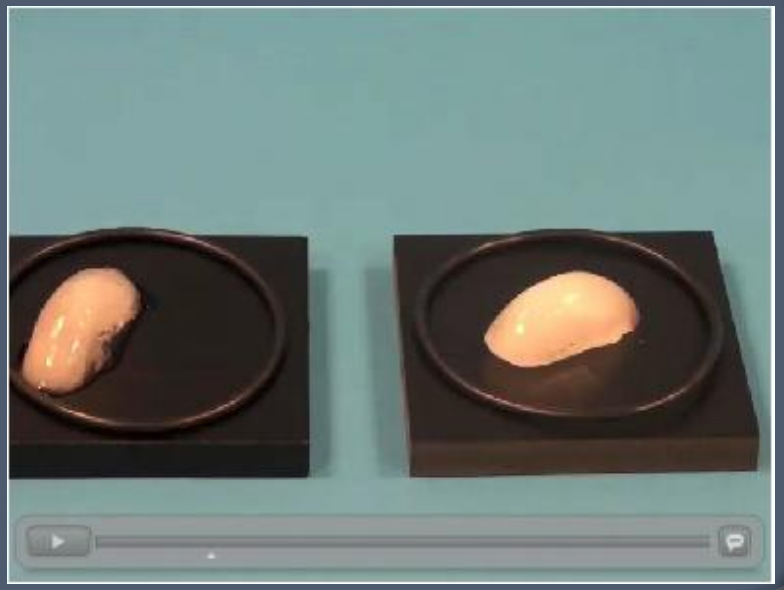
Changing State - Melting

Objectives

- Explain on the molecular level the process of heat transfer and molecular motion that causes a solid to melt to form a liquid.
- Explain how the arrangement of water molecules is different from most other substances when it changes state from a solid to a liquid.

Melting Ice Demonstration

- Where do you think the energy came from to melt the ice?
- What do you think happened to the speed of the molecules in the ice when it was heated?



Question to Investigate

- Will placing ice in water make ice melt faster?

- Design your experiment
  - How can you make the ice melt faster?
  - How could you set up an experiment to test your method?

15 minutes to do the lab.

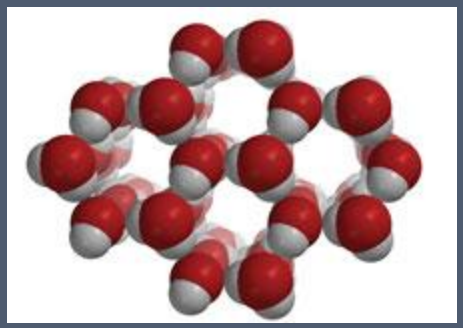
Dry Ice Experiments

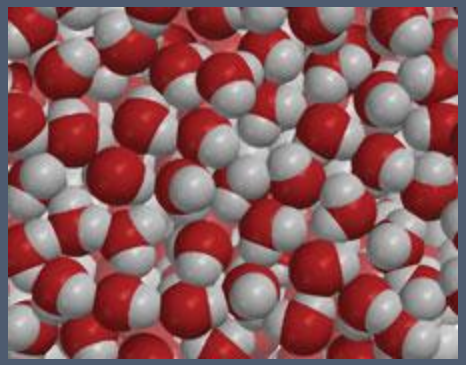
- Do regular ice and dry ice melt in the same way?

- You saw that the dry ice sublimates very quickly in water. What could you do to make dry ice sublimate even faster?

Melting Ice

- How did the motion and arrangement of the water molecules change as the ice melted?

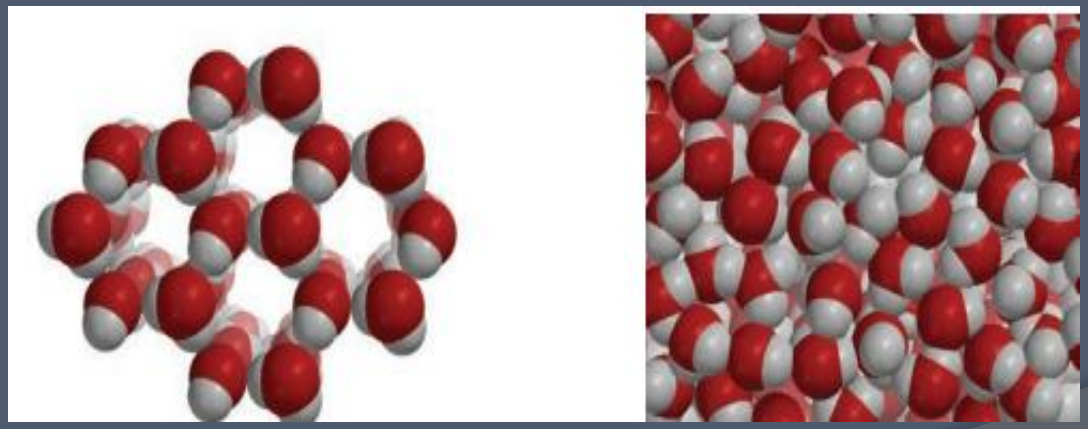




Melting Ice

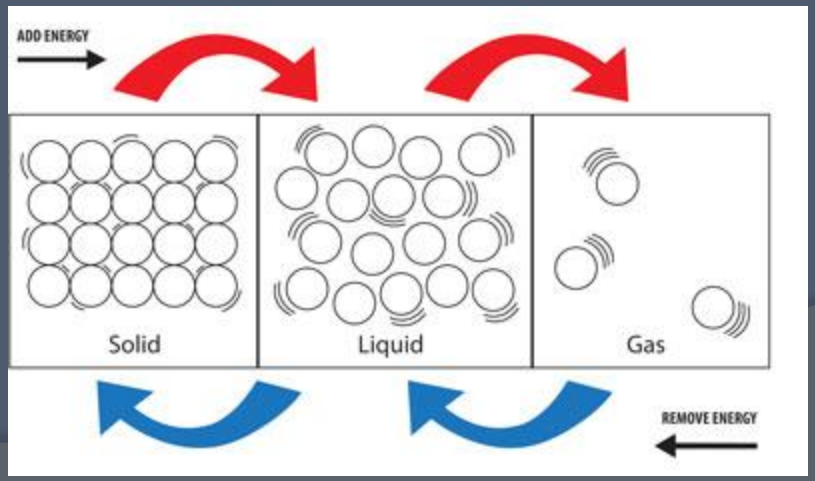
Melting Ice

- Using the picture to the right, identify which set of water molecules is a solid or a liquid and describe their arrangement.



Melting Ice

- Label where melting, freezing condensation, and evaporation goes in the diagram below. Which processes requires more energy (heat) to change phases and which processes require less energy (cooling) to change phases of matter.



State Changes of Matter

- How are the state changes of water similar to and different from the state changes in most other substances?

Key Concept

- Melting is a process that causes a substance to change from a solid to a liquid.
- Melting occurs when the molecules of a solid speed up enough that the motion overcomes the attractions so that the molecules can move past each other as a liquid.