

## Changing State: Melting

### Objective:

- 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.

### Key Concepts:

- \_\_\_\_\_ is a process that causes a substance to change from a \_\_\_\_\_ to a \_\_\_\_\_.
- Melting occurs when the molecules of a solid \_\_\_\_\_ enough that the motion \_\_\_\_\_ so that the molecules can \_\_\_\_\_ as a liquid.

### Objective:

- 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.

### Key Concepts:

- \_\_\_\_\_ is a process that causes a substance to change from a \_\_\_\_\_ to a \_\_\_\_\_.
- Melting occurs when the molecules of a solid \_\_\_\_\_ enough that the motion \_\_\_\_\_ so that the molecules can \_\_\_\_\_ as a liquid.

### Objective:

- 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.

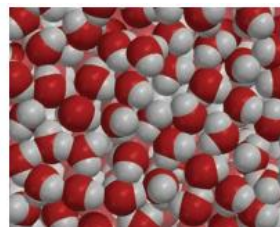
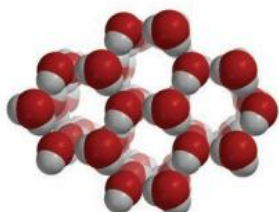
### Key Concepts:

- \_\_\_\_\_ is a process that causes a substance to change from a \_\_\_\_\_ to a \_\_\_\_\_.
- Melting occurs when the molecules of a solid \_\_\_\_\_ enough that the motion \_\_\_\_\_ so that the molecules can \_\_\_\_\_ as a liquid.

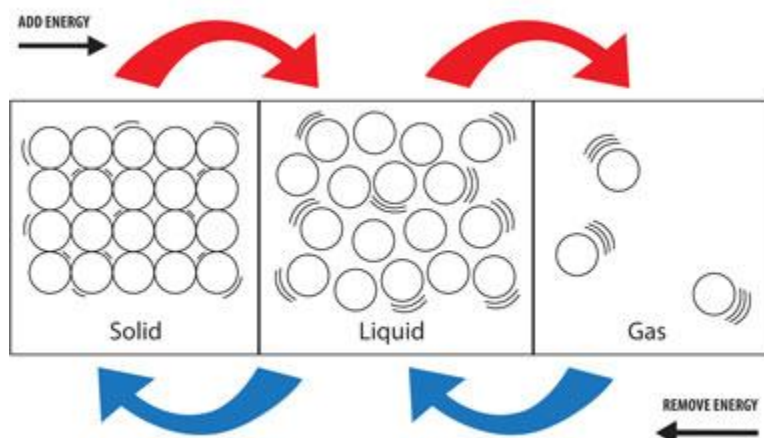
## Changing State – Melting: Processing

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

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



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.



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