MONTSHIRE MUSEUM OF SCIENCE

Melting and Freezing Experiments

When something melts or freezes it goes through *a change of state*.

When something solid turns to liquid, it is called *melting*. For example, when an ice cube turns to liquid water. Energy in the form of heat causes this change to occur and it happens at a specific temperature (32°F in the case of water).

When something turns from a liquid into a solid, it is called *freezing.* This also happens at a specific temperature. For example, it takes 1,292 to 2,192 °F for lava to turn into a rock (the range depends on the type of mineral in the rock).

Try these experiments to compare how different things melt or freeze.

Melting Experiment

1. Gather solids that you think might melt if you warm them up, even just a bit. This experiment is best for a sunny summer day.

   Here are examples of things to try (you just need a few of them):

   - Butter
   - Crayon
   - Chocolate
   - Ice cube
   - Coconut oil
   - Candle
   - Different types of cheese

2. Place the items on a tray or into the different wells of a cupcake tin. Leave your container in a sunny spot where it won't be disturbed.

3. Check in on the items every minute or so to see if anything is starting to melt. Continue to check in it over time. Observe what has melted.

Freezing Experiment

1. Gather liquids and put a teaspoon or so of each into a small bag that can be sealed or tied closed.

   Here are some liquids to try:

   - Water
   - Oil
   - Rubbing alcohol
   - Soy sauce
   - Soda

2. Place the items in the freezer and see what happens.

3. Check on the items after about a half hour in the freezer. Have any turned solid? How are they alike or different? Return the items to the freezer and check on them again the next day.