

Dear Family,

In my class today I experimented with freezing liquids.

Did You Know?

- In many areas the winter temperatures are so cold that many liquids freeze. Lakes, ponds, and puddles freeze, but the ocean does not freeze. The reason for this is that ocean water contains quite a bit of salt. Salt water freezes at a much lower temperature than plain water. The ocean can freeze, but usually only in very cold places near land, such as close to the North and South Poles.
- Things can be done to liquids to change them, but not all liquids will respond the same way. Freezing liquids is one way to change them from a liquid to a solid. When liquids begin to freeze, a tiny ice crystal forms first. This ice crystal then grows as other particles in the liquid attach themselves to the ice crystal. Different liquids freeze at different temperatures. Water will freeze faster than liquids with salt or sugar in them. Some liquids freeze faster than others because of viscosity, or thickness of the liquid. Viscosity is the resistance of a liquid to flow. For instance, a cup of honey will take longer to pour than a cup of water because the honey has higher viscosity. Thicker liquids will freeze more slowly and some will not freeze at all.

Ask Your Child:

- What did you use for your experiment?
- Tell me about the liquids that froze.
- Describe the liquids that did not freeze.
- Can you explain why some liquids did not freeze?

Activities To Do With Your Child:

- Perform a similar experiment at your home. Have your child choose several liquids to place in separate cups of an ice cube tray. Place the tray either outside (if it is cold enough) or in the freezer. Check the liquids every 30 minutes without disturbing the tray. Discuss which liquids freeze faster than others; what is the same about them?
- Make ice pops! Pour juice of your child's choice into an ice cube tray. Cover tightly with plastic wrap and stick popsicle sticks through the plastic to hold them upright. Place the tray in the freezer until solid and enjoy!

Vocabulary To Use With Your Child: freeze, prediction, liquid, solid, partially, viscosity