

INV. 2 ACTIVITY—ICE EXPLORATIONS

Focus Question: What can we find out about ice?

Start by freezing water to make ice into shapes of your choice. You can make blocks of ice in muffin tins or recycled containers of different shapes and sizes. You can fill balloons with water and freeze the systems. You can use small blocks of ice from an ice tray or even crush ice into a little pile.

Materials to investigate ice

- Water
- Sink, or dishpan or tub
- Muffin tins, ice trays, recycle plastic containers, balloons
- Freezer
- Table salt
- Food coloring or watercolor paint
- Toothpicks

Suggested ways to investigate ice

- Observe and record how the ice feels and what it looks like.
- What does crush ice look like when you look very closely?
- Sprinkle some salt on your ice. What happens?
- Pour food coloring (or liquid watercolors) onto any cracks and crevices. Can you see the path of the salt? How do the colors mix? How do your actions affect how the ice transforms?
- Use toothpicks to poke into any ice crevices. What do you observe?
- What happens when you use a flashlight and shine light on the ice? What do you observe?

Record your observations in your notebook.

INV. 2 ACTIVITY—FLOATING AND SINKING OBJECTS

Focus Question: Which small common household objects float in water and which ones sink?

Materials to test

- Large container of water(tub, dishpan or large bowl)
- Lots of small objects of different weights and materials (metal, plastic, wood etc.) such as paper clips, buttons, marbles, piece of aluminum crumbled into a ball, a clothespin a penny, cube of ice.
- Fruit such as a lemon, lime, grape, or orange(peeled and not peeled)

Suggested Procedure:

1. Make a prediction about each object you collected. Do you think it will sink or float in the tub of water? Record your predictions in your notebook.
2. Gently place each object in the water, one at a time. Observe what happens to each one.
3. Record your results. Compare the result to your prediction?
4. Write your ideas in your notebook—why you think some items floated and some sank?
5. Consider the effect of adding salt to the water. Test only the small items. Use a cup for the water container and add a tablespoon of table salt to it. Then test the small items.

Will the objects behave the same way in salt water as they did in fresh water?
Why or why not?

Record your thinking and results.

Check out on FOSSweb, Virtual Investigations

Hot and Cold Water Density

After conducting the virtual investigation, go back to your notebook and add some new information you learned.

Read the Interactive eBook article “Ice is Everywhere.”

Think and write in your notebook about any places that have ice.

What can you tell us about the ice in those places?