

Supplies

- “Guide for Families” handout
- Clear plastic standup display (optional)
- Tub large enough to hold 3 to 4 bars of soap
- Water
- 3–4 different brands of bar soap. One brand must be Ivory soap.
- Tongs to remove bar of soap from tub of water
- Display table

Activity Preparation

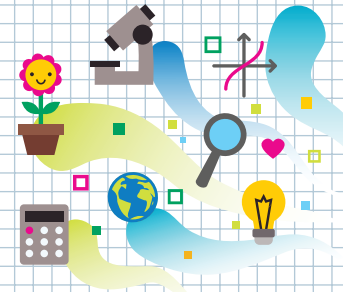
- ▶ Purchase or locate items on the supply list.
- ▶ Print one copy of the “Guide for Families” handout. Laminate or place in a clear plastic standup display to allow participants to see it more readily.
- ▶ Set up the display table with the supplies.



Information is for educational purposes only. Reference to commercial products or trade names does not imply endorsement by MSU Extension or bias against those not mentioned.



HEADS IN, HEARTS IN



Soap that Floats Guide for Families

Learning Objectives

What you need to know:

Density is the measure of how tightly molecules are packed together. Anything that is denser than water will sink. Soap is likely to sink because its ingredients are denser than water. Some soaps have a lot of air trapped inside of them. That causes the soap to float when placed in water. Soap that doesn't have air trapped inside will sink.

Buoyancy is the ability of an object to float in a liquid. Here, the object is a bar of soap and the liquid is water.

What you will do and learn:

You will be able to describe why the soap sinks or floats.

Instructions

1. Observe different bars of soap. Ask questions:
 - ▶ What makes something float?
 - ▶ Which soaps do you think will float? Which soaps do you think will sink?
 - ▶ What differences do the soaps have? What similarities do the soaps have?
2. Place one bar of soap in the pan at a time. Ask:
 - ▶ Which ones float and which ones sink to the bottom?
 - ▶ Talk about what happened. Which soap is most buoyant?

When Ivory brand soap is made, it is whipped, causing tiny air bubbles to get trapped in the soap as it hardens. This trapped air causes the bar of soap to be more buoyant, allowing it to float when other brands of bar soap sink.