

SOAP BOATS

PURPOSE: Children will observe how the reduction of surface tension will cause a Styrofoam boat to move.

MATERIALS:

Book Topics: Surface tension, molecules

Styrofoam meat tray

Scissors

Liquid soap

Bowl of water



PROCEDURE:

1. Make a boat out of a Styrofoam meat tray and cut a notch at the back.
2. Fill a clean bowl or sink with water. Let the water settle.
3. Put the boat into the water so that it floats on the top.
4. Predict with your family/friend what will happen when you add a drop or two of liquid detergent to the water near the back notch of the boat. Record your predictions.
5. Place one or two drops of liquid detergent near the back notch of the boat. Observe the boat. What happened?
6. Compare your results with your predictions.
7. Repeat the experiment with larger boats. Use a fresh bowl of water for each trial. What happened?

HOW IT WORKS: Surface tension is created because water molecules stick together. When you add the soap, it weakens the surface tension behind the boat. The boat is pulled forward by the stronger surface tension in front.



WRITING PROMPT

You learned that surface tension is created because water molecules stick together.

Think about what happened to the water molecules when the soap was added.

Write an explanation of what happened.

Parent Signature: _____

**FAMILY SCIENCE PROJECT**

Date: _____

Name: _____

Teacher: _____

Hypothesis (What do you think will happen?)

Date/Observation:

Conclusion: (What you learned or discovered):

*(*You may continue your observation on another sheet. You may want to create a graph to record your data.)*

For the reading portion of Family Science, you may choose to read a book or an article, **OR** you may use the Internet in order to find some background information concerning this Family Science Project. If you read a book or an article, please include the complete title and author. If instead you looked up the information on the Internet, please include the complete website.

We read the following book, **OR** researched the information on the Internet:

Book Title: _____ Author: _____

Complete Website: _____

Writing Prompt (minimum 5 sentences)
