

# Sink or Float

While testing the buoyancy of differing objects is a great way for preschoolers to describe, learn about, and compare physical attributes, it's also a robust opportunity for practicing prediction, observation, experimentation, and recording results.

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## Before the activity...

- Introduce students to the concepts of floating and sinking by reading one of the suggested books below.
- Create a chart or handout for students with two columns – one labeled “sink,” and one labeled “float.” If you know the objects you will be using, you can write or draw them in each of the columns. If students will choose the objects, leave the columns blank for them to fill in. After testing for buoyancy, students can record their results by circling the object in the correct column.

## Supplies

- Large clear tubs
- Buckets or pitchers
- Mess mat or newspaper
- Prediction/conclusion chart or handout
- Crayons or markers
- Small objects to test for buoyancy. Alternatively, select just a few representative objects such as plastic toys or rocks, and then let students choose their own objects to test.

## Procedure

- Divide students into groups, each facilitated by an adult if possible.
- For each object to be tested, ask students to predict, or guess, whether it will sink or float before placing it in the water. You might want to ask why they think it will sink or float. Students may record their predictions on individual sheets, or on a class chart.
- Test each object one at a time. Record whether the object sank or floated.
- After testing, students will probably be full of ideas for other classroom objects they want to test. Remind them to predict the results before they test, then record results.

## Inquiry based questions

As students explore their materials, guide their curiosity by asking open-ended questions that cannot be answered with one-word answers.

- What does it mean to sink?
- What does it mean to float?
- Why do things sink or float?
- Why don't things sink or float on a table, or on the floor?
- Do you think a heavy object will always sink in water? Will a light one always float?
- What else do you think might float? What do you think might sink?

## Extension activities

- After exploring, make water containers or the water table available to students to continue and extend their experimentation.
- An object's propensity to sink or float can change depending on the density of the liquid you use. For example, an object that sinks in water might float in a very dense liquid like glue or corn syrup. You might consider repeating the sink or float experiment with the same objects, but different types of liquid. Students might also enjoy experimenting with fresh eggs, which sink in plain water but float in saltwater, since saltwater is denser. For example, an egg sitting in a cup of plain water will rise to the top after dissolving a large amount of salt into the water.
- Sink or float involves the exploration of liquids and solids. To introduce gases to the experiment, you could invite students to use pipettes to create air bubbles beneath the surface of the water. Do they rise or fall through the liquid? Will an object with air inside, such as a hollow ball or a Ziploc bag filled with air sink or float?

# Sink or Float (cont.)

## Resources

Books:

*10 Little Rubber Ducks* by Eric Carle

Websites:

<http://wonderopolis.org/wonder/what-is-an-iceberg/>

<http://wonderopolis.org/wonder/why-do-bubbles-float/>

<http://wonderopolis.org/wonder/how-do-boats-float/>