

Materials Needed

- Clear container big enough to hold an egg and other similar objects in water
- At least 10 tablespoons of salt
- Tongs or a serving spoon to remove objects from the water container
- Measuring spoons used for cooking
- Paper, notebook or science journal to record notes in.

Grade Range

- Pre-K
- K-2
- 3-5 ✓
- 6-8

Topics/Skills

Science: Buoyancy; Density;
Scientific Process

Learning Standards

NGSS: [Matter and its interactions](#)

Duration

10-30 Minutes

Prep Time

10 Minutes

Make It Float

Make a sunken object float

In this activity, students explore buoyancy and density by making an object that normally sinks in freshwater float in saltwater.

Activity Challenge

Place an egg (or other object) in water, and by adding salt, see if that object will float. Record how much salt is needed to float each object.

Preparation

1. Fill a container about 2/3 full of water. A clear container such as a large drinking glass, measuring cup or a plastic container will work well. Leave enough room in the container so that when an object is added, water will not spill over the top.
2. Collect items to use such as an egg, grape, baby carrot, cherry tomato, and a small, plastic block or ring.
3. Set out a towel to clean up any spills.

To Do

1. Create a table to record the observations. See the table on the last page for an example.
2. Start by placing the egg in the container with tap water. Record what happens (Note: if the egg doesn't sink, the egg could be past its "use by" date).
3. Repeat with each item (e.g., grape, plastic block, etc.).
4. With objects removed, add one tablespoon (tbsp) of salt to the container. Stir until the salt fully dissolves. This may take a bit of stirring. Warm water will speed-up the process.
5. Test the objects again and record the results.
6. Add another tbsp of salt and stir until it is dissolved.
7. Test the objects again and record the results.
8. Continue this process until the egg starts to float. Note: if it seems like it's taking a lot of salt (6 tbs or more) chances are, the salt is not given enough time to dissolve before testing the objects.
9. Continue testing to see if the other objects selected will float.

Observation

A penny weighs about the same as a large egg. What happens when a penny is dropped into the same saltwater solution that the egg floated in? Can the difference be explained (consider density)?

Extension

- Find an object that floats by testing it in a container filled only with tap water (without added salt). Then put it into the container with the saltwater solution. Is there any difference? Does it float higher or lower in the saltwater solution?
- Based on the results of this experiment in which body of water would it be easier for a person to float, a freshwater lake or the ocean?

Science behind the Activity

Fresh water is less dense than saltwater. By adding salt to water, the mass of the water is increased. With enough salt added, the saltwater solution becomes denser than the egg and the egg floats.

Sample Table

Item	Added Salt								
	No Salt	1 tbsp	2 tbsps	3 tbsps	4 tbsps	5 tbsps	6 tbsps	7 tbsps	
Egg	Sunk	Sunk	Float 1/2way	Float top					
Grape									
Plastic piece									
Carrot piece									