

What About Water?

What floats and what sinks...?



You will need

- Large container or bowl to fill with water
- A couple of smaller glass jars or drinking glasses
- Food coloring
- Salt and an egg
- Vegetable oil
- An assortment of household items: a sponge, rock, paper clip, aluminum foil, bubble wrap, pennies or other coins, marble, lemon, ping pong ball or other ball, a cork, small plastic toy, wood block, eraser, etc.
- A towel for your work surface
- Paper and pen/pencil
- Your scientist brain! Scientists are curious about why things work the way they do. They ask questions and try things out. They observe and notice. If something doesn't work, they try it a different way... and they keep trying. They have fun!

Steps

1. Cover your work surface with a towel.
2. Place your container with water on top.
3. Once you have gathered your items, try holding each one in your hand to see how heavy it is. Make your prediction (guess) about whether it will float or sink. Test your theory (idea) by putting it in the water. Notice what happens... did it float or sink? Why do you think that is? Make a list of what floats and what sinks.

Why Things Float or Sink

Everything in our world is made up of molecules, tiny particles too small to see. Sometimes there are lots of molecules close together, and that makes an object dense. An example of a very dense item is a penny. A cork is less dense. Water has its own density. If an object is more dense than water, it will sink. If it is less dense, it will float.

Bubble wrap experiment

Air has very little density, so adding air to a dense object can help it float. Try the following experiment...

Take an item that normally sinks in water, like a marble. Try taping or tying bubble wrap around the item. Will it float? How did the bubble wrap change it?

Aluminum foil experiment

Adding on to the part of an object that presses against the water is another way to help it float, by increasing the surface area. Try the following experiment...

Take an item that normally sinks in water, like a coin. Make a small square of aluminum foil with the edges folded up, like a little flat boat, and place the coin on top. Will it float? Does the coin still weigh the same as before? How does the aluminum foil change it?

Salt and egg experiment

Changing the density of water can help things float. Adding minerals that dissolve in water can increase its density. Try the following experiment...

Take two glass jars or drinking glasses and fill them 2/3 with water. Carefully drop an egg into one. Did it sink? Try adding 4-5 tablespoons of salt to the other glass and stir until dissolved. Carefully drop the egg into the other glass. What happened? You can keep adding salt until you notice a difference. How many tablespoons of salt do you need to make the egg float?

Suggested Books – These titles and more are available at APL and online through OverDrive and Hoopla

A drop of water: a book of science and wonder by Walter Wick

Let's try it out in the water: hands-on early-learning science activities by Simon Seymour

Water by Ellen Lawrence

Down Comes the Rain by Franklyn Mansfield Branley

The Everything Kids' Science Experiments Book: Boil Ice, Float Water, Measure Gravity-challenge The World Around You by Tom Rosinson

Websites

www.science-sparks.com

<https://learning-center.homesciencetools.com>

