

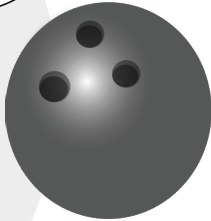
Sink or Float?

This activity was created by Alora.

Have you ever gone bobbing for apples on Halloween? In order for the game to work, apples need to float on the water! Hmmm, do all fruit float? What about vegetables? Let's do an experiment to find out, but first we should learn more about why things float or sink!

First let's think about a big boat and a tiny rock. A boat can float, but rocks sink. That's because floating has nothing to do with size.

Whether something floats or sinks depends on how **buoyant** it is. 



Buoyancy depends on an object's density. **Density** is an object's weight compared to its size. Think of a soccer ball compared to a bowling ball. They are similar in size, but the bowling ball is a lot heavier. That is because the bowling ball is a lot more dense.

Because the soccer ball is light and not very dense it floats on water, compared to a bowling ball that is very dense and sinks in water.

Experiment Time!

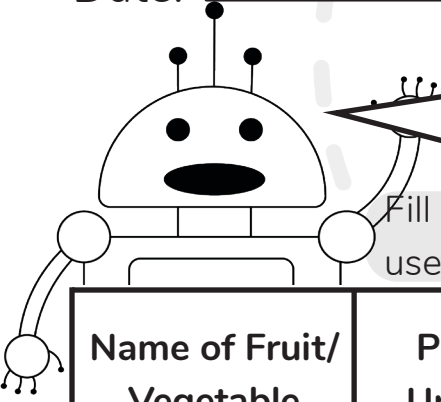
Materials

- 7 different fruits or veggies
- A large container or bowl
- Water
- Pen or pencil

Procedure

1. Fill your container or bowl with water a little bit more than halfway full.
2. Write the name of all the fruit and veggies you are testing in the column labeled "Name of Fruit or Vegetable".
3. Make predictions as to whether you think each fruit/veggie will sink or float.
4. Gently place the fruit/veggie in the water.
5. Record if it sank or floated.
6. Take that fruit/veggie out of the container and put another one in.
7. Repeat for each fruit/veggie.

Date: _____ Name: _____



Binary is a language that computers and robots understand that is made up entirely of 0s and 1s. 0 means off and 1 means on in binary.

Fill out the chart below, but for the prediction and observation ones, use binary instead. Put a "1" instead of float and "0" instead of sink.

Name of Fruit/ Vegetable	Peeled or Unpeeled?	Prediction (What you think is going to happen)	Observation (What actually happens)	Did anything else interesting happen?
E.g. orange	Peeled	1 (float)	0 (sink)	It looked like it was going to float, but slowly sunk to the bottom
E.g. pineapple	Unpeeled	0	1	I thought the heavy fruit would sink, but it floats!

Here's a hint: citrus peels (like lemons, oranges and mandarins) have thick peels that hold a lot of air! So, if your fruit floats with its peel on, try peeling it and testing it again!

