



All About Floating

WHY DO OBJECTS FLOAT?

Have you ever wondered why a raisin will sink and a heavy ship doesn't? When an object starts to sink in water, it has to push up, or **displace**, an equal volume of water. The weight of that water pushes back on the object. Once the weight of the water is equal to the weight of the object, it stops sinking. A single piece of steel sinks. A huge ship, which is mostly hollow and full of air, displaces so much water that it floats, because the same volume of air weighs much less than water.

The size, shape, and **density** of the object affect whether it will float. **Density** just tells you how much "stuff" you have in the same amount of different materials. Steel is very dense. Plastic or styrofoam is not dense.

YOUR CHALLENGE

Construct a vessel using only the materials listed below. When you are done, see how many pennies your vessel can hold before it sinks.

RULES

Please only use the materials listed below.

- You may use the baggy, but you may not inflate it.
- You may also use scissors to cut these items apart, however no glue or tape is allowed.
- You do not need to use all of the materials.
- **HAVE FUN!!!**

YOUR MATERIALS LIST

REMEMBER: You do not need to use all of these material

- Popsicle sticks (up to 8)
- Pipe cleaners (up to 2)
- Drinking straws (up to 4)
- Plastic forks (up to 2)
- Rubber bands (up to 8)
- Small ball of clay (.5" in diameter)
- Large or small paper clips (up to 4)
- String (up to 3 ft)
- Zip-loc baggy – sandwich size (cannot inflate bag)
- Aluminum foil (6" x 12")
- Two pieces of paper (4.25" x 5.5")
- Two small cups (5 oz or less)
- Film canister