

TRY THIS EXPERIMENT AT HOME!



Sink or Swim!

YOU WILL NEED

- 1 Ketchup (or relish) pouch
- 1 Large soda bottle
- 1 Teaspoon
- Salt
- Water



DIRECTIONS

- Step 1: Fill the soda bottle with water.
- Step 2: Fit the unopened ketchup pouch into the bottle.
- Step 3: If the pouch doesn't float, add one teaspoon of salt to the bottle. Cap and shake the bottle to dissolve the salt. Repeat until the pouch floats at the top of the bottle.
- Step 4: Cap the bottle tightly. Squeeze the sides of the bottle.



EXPLANATION

You are controlling the buoyancy of the ketchup pouch! Buoyancy describes how objects float in a liquid or rise in air or gas. The ketchup pouch floats if the liquid is dense enough. The more particles dissolved in a liquid, the denser it will be. Dissolving salt particles in the water made it dense enough to float the pouch. The pouch has ketchup and an air bubble inside. Squeezing the bottle shrinks the air bubble. This makes the pouch denser. It is less buoyant, so it sinks. Releasing the bottle expands the air bubble, and the pouch floats again!

Fish also have an air bubble inside an organ called the swim bladder. They use their muscles to squeeze the swim bladder to sink, and relax their muscles to float!

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