

Ripley's Believe It or Not!

High School Math Activities

1. Archimedes, a Greek mathematician, summed up the idea of buoyancy now known as “Archimedes Principle”. The principle states that any object that is wholly or partially immersed in a fluid is buoyed up by a force equal to the weight of the fluid displaced by the object. This explains why ocean liners can float; they displace a huge amount of water. Use this information to solve the following problems: Salt water is denser than fresh water. A cubic foot of fresh water weighs approximately 62.4 pounds while the same amount of salt water weighs 64 pounds.
 - a. If you take an object that measure 1 cubic foot and weigh 63 pounds and put it in fresh water, the object is displacing 62.4 pounds of water, but still weighs 63 pounds. Will it sink or float?
 - b. If you put the same object in salt water, will it sink or float?

2. It is time to play “Will it Float”! Using your knowledge of buoyancy, you will predict whether the following items will sink or float. Then, take the items, weigh them, and do the math to determine their buoyancy. To complete the project, place each object into a large tub of water to see if your prediction is correct!
 - a. Chalkboard eraser
 - b. Magazine
 - c. Pencil
 - d. Pen
 - e. Soda can /bottle
 - f. Apple