

BUOYANCY WORKSHEET

NAME _____

DATE _____, PER _____

1. Define Buoyancy. _____

2. State Archimedes' Principle. _____

3. The Density of Alcohol is 0.816 g/cm^3 . The density of an ice cube is 0.917 g/cm^3 . Will an ice cube float in alcohol? Explain your answer: _____

4. The density of ocean water is 1.02 g/cm^3 . The density of a piece of pine wood is 0.57 g/cm^3 . Compare the floating (or not) of the wood in fresh water, ocean water and alcohol.

5. The density of steel is 7.8 g/cm^3 . How could you change a flat piece of steel to make it float? To make it float even with a 10 gram piece of lead with it?

BM-Use concepts of density and buoyancy to predict which objects will sink or float.
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Density Diver

Form a hypothesis:

1. How does the density of an object determine whether the object floats or sinks, or maintains its position in a fluid? Write your hypothesis below:

Test the Hypothesis:

1. Completely fill the 2 L plastic bottle with water.

2. Fill the "diver" (medicine dropper) approximately halfway with water, and place it in the bottle. The diver should float with only part of the rubber bulb above the surface of the water. Add or subtract water from the dropper until it floats properly.

3. Put cap on the bottle tightly so that no water leaks out.

4. Apply various pressures to the bottle. Carefully watch the water level inside the diver as you squeeze and release the bottle. Record your observations below.

5. Try to make the diver rise, sink or stop at any level. Record your technique and your results.

Analyze Your Results:

1. How does changes in pressure affect your diver?

2. What is the density formula (Look it up in your textbook).

3. Explain how your density diver is like a submarine.
