

ARCHIMEDES' PRINCIPLE

CALCULATING THE BUOYANT FORCE WORKSHEET #1

1. A block of aluminum measures 4.0 cm x 5.0 cm x 2.0 cm is **completely** submerged in a tank of water.
 - a. What volume of water does it displace?

 - b. What is the mass of the displaced water? (Remember the density of water is 1g/mL)

 - c. What is the weight of the displaced water?

 - d. How large of a buoyant force acts on the block?

 - e. The mass of the aluminum block is 108 g. What is the weight of the aluminum block?

 - f. If you release the metal block, will it sink, or will it float to the surface? Explain your reasoning.

