

1. Blocks A and B have the same volume, but Block A is twice as massive as Block B. Both are fully submerged into a pool filled with water. Which block would experience a greater upward buoyant force from the water while fully submerged?
 - a. Block A
 - b. Block B
 - c. They would experience the same buoyant force
 - d. Impossible to answer without exact mass values.

2. A 4.0 kg object is attached to a string and lowered into a beaker of water. While motionless, the tension in the string is known to be 12.0 N. What is the magnitude of the buoyant force acting on the object?

3. An object that weighs 3.9 N displaces 1 liter of water. The 1 liter of water displaced has a weight of 10.0 N. What will happen next to this object? Explain your answer.
 - a. It will sink downward
 - b. It will sit motionless
 - c. It will float upward

4. A block of weight 40 N has part of its volume submerged in a tank of water. The block is partially supported by a string that is tied to a beam above the tank. With the block at rest, the tension in the string is recorded as 10 N.
 - a. What is the magnitude of the buoyant force acting on the block?
 - b. Assume the string breaks and the block establishes an equilibrium position and floats there motionless. What would be the magnitude of the buoyant force acting on the block?

