

## Key Concept How does Archimedes' principle describe the buoyant force?

Directions: On the line before each statement, write T if the statement is true or F if the statement is false. If the statement is false, change the underlined word(s) to make it true. Write your changes on the lines provided. Use the diagram to answer numbers 1 through 5.



Balloon

Tennis ball

Billiard ball

\_\_\_\_\_ 1. Archimedes' principle states that a buoyant force on an object is equal to the volume of the fluid that the object displaces. \_\_\_\_\_

\_\_\_\_\_ 2. As the diagram shows, the weight of the water displaced by the balloon is greatest among the three different balls. \_\_\_\_\_

\_\_\_\_\_ 3. The buoyant force does not depend on an object's depth in a fluid.

\_\_\_\_\_ 4. The diagram shows that the balloon has greater mass than the tennis ball or billiard ball. \_\_\_\_\_

\_\_\_\_\_ 5. According to Archimedes' principle, the balloon has the greatest buoyant force because it displaces the most water. \_\_\_\_\_

\_\_\_\_\_ 6. As the diagram shows, the buoyant force depends on an object's weight.

\_\_\_\_\_ 7. Concerning buoyant forces, it is important to remember that the greater the volume of an object is, the more it weighs. \_\_\_\_\_

\_\_\_\_\_ 8. The buoyant force of an object does not change as the object moves deeper into a fluid. \_\_\_\_\_