Guided Reading Chapter 10 Section 4

1. What is the difference between mass and weight?

2. Define buoyancy.

3. The strength of the buoyant force on an object depends on its _____ and is _____ to the submerged portion of the object.

4. Archimedes Principle states that the buoyant force is _____ to the weight of the fluid displaced by the object.

   a) less than b) equal to c) greater than

5. Sketch the diagram, demonstrating the buoyant force on a rock. Include both pictures and the free body diagrams, as well.

6. Why do some objects float, and others sink, in terms of buoyancy?

7. What does density have to do with buoyancy?

8. How does the submarine “Alvin” control its depth in the water?

9. How is it that a steel ship can float, when we know that steel is much denser that water?

10. What is the legend associated with Archimedes?