

Science Notebook Layout **DON'T COPY UNDERLINED TEXT**

Mrs. Aguirre's Webpage: <http://www.quia.com/profiles/caguirre>

Section Review 4.2 Page 87

1. The buoyant force on an object depends on the _____ of the object that is underwater.
2. What happens to the buoyant force on an object as it is lowered into water? Why?
3. The buoyant force on an object is equal to the weight of the water it _____.
4. When the buoyant force on an object is greater than its weight, the object _____.
5. A rectangular object is 10 centimeters long, 5 centimeters high, and 20 centimeters wide. Its mass is 800 grams.
 - a. Calculate the object's volume in cm^3 .
 - b. Calculate the object's density in g/cm^3 .
 - c. Will the object float or sink in water? Explain.
6. Solid iron has a density of $7.9 \text{ g}/\text{cm}^3$. Liquid mercury has a density of $13.6 \text{ g}/\text{cm}^3$. Will iron float or sink in mercury? Explain.
7. Why is it incorrect to say that heavy objects sink in water?
8. Steel is denser than water and yet steel ships float. Explain.

Buoyancy Worksheet

CHAPTER 4.2 BUOYANT FORCE READING NAME: _____

Pg. 82 Read the entire page:

1. When in a swimming pool it is easier to lift yourself because...

Draw the picture of the boy with vectors labeled "BUOYANT FORCE" and "WEIGHT".

2. The _____ of the buoyant _____ depends on the _____ of the object under water.

MAKE 2 drawings of the beach ball with vector labeled "buoyant force". Label the pictures:

- MORE VOLUME UNDER WATER
- LESS VOLUME UNDER WATER
- MORE BUOYANT FORCE
- LESS BUOYANT FORCE

3. When the ball is pushed more under water, the buoyant force gets _____ because...

Pg. 84 Read the entire page

4. Give 3 reasons that the wood sinks farther into the water: a. _____
b. _____ c. _____

5-7: Draw the vectors from the right side of page 84 that matches each of the following diagrams. Label the vectors "BUOYANT FORCE" and "WEIGHT"

For each: Explain whether the BUOYANT FORCE is greater or less than the WEIGHT and why.

5. The wood block floating on the surface of the water (in equilibrium)



Explain:

6. The wood block if it was pushed farther under water.



Explain:

7. The wood block if it was lifted up a little, but still in the water.



Explain: