Honors Chemistry Hour\_\_\_\_\_ Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
Dr. Wexler
Quiz 1: Density
Date assigned:

1. When distilled water is heated to its boiling point (100°C at 1 atmosphere (atm) of air pressure), the molecules of water “leap” away to form a gas (water vapor).



The image above illustrates the formation of bubbles in a beaker of tap water heated to its boiling point.

 A. What substance is contained within each bubble?

 B. Is this substance pure or is it a mixture? Explain.

 C. Inside a bubble, is this substance in the form a solid, liquid, or gas? Explain how you can determine this
 simply by observing the behavior of the bubbles.

2. What is the formula for density expressed in its 3 forms:

 A. d =

 B. m =

 C. V =

3. If the mass of a substance increases with no change in volume, does its density decrease or increase or is there no
 change?

4. If the volume of a substance doubles with no change in mass, what change occurs to its density? Be specific.

5. Which is less dense: liquid water or water vapor?

6. In the circles below, draw a representation of liquid water vs water vapor. Use small circles to represent the individual water molecules. Indicate which has a greater density. Indicate which will sink and which will rise when they are placed in the same container.

 Liquid water Water vapor