

Specific Gravity PreLab

Name: _____ Lab Section: _____

Date: _____

PreLab Activity (10 points) – Complete prior to your lab session & hand in at the START of lab.

1. Any object placed in a liquid will experience what is called the “buoyant force”, which is directed upwards (opposite to the force of gravity). We’ve all experienced this when swimming, however the assumption is that the magnitude of this buoyant force has something to do with the weight of the object.

2. Go the following website: <http://phet.colorado.edu/en/simulation/buoyancy>

(a) Select the option to “run now” the buoyancy java application.

(b) Write down the weight (include units) of the wood block _____ and the bricks _____.

(c) Record the volume of the water in the pool _____ L.

(d) Use the mouse to place the wood block in the water & record the buoyant force that causes the block to float partially submerged _____ and the new volume of water in the pool ____ L.

(e) Use your mouse to push the wood block under the surface until it is totally submerged. Record the new buoyant force _____ and the volume water in the pool _____.

3. State what you think caused the buoyant force to increase so much when it was submerged:

4. Develop a mathematical relationship between the buoyant force and the volume of water in the pool based on the above and record below. You can repeat the above for the bricks if you like:

END OF PRELAB – HAND IN AT THE BEGINNING OF YOUR LAB SESSION TO GET CREDIT