

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: <https://www.youtube.com/watch?v=4tnPfnuY42I>

3. Why does a boat float? (explanation given in the video)

4. (a) How much does the **clay ball** weight?

(b) Using the volume of water displaced and Archimedes’ principle, what is the buoyant force on the **clay ball** after it is placed in the cup of water?

(c) Compare the buoyant force to the weight of the **clay ball** and explain why the **clay ball** sinks.

5. (a) How much does the **clay bowl** weigh?

(b) Using the volume of water displaced and Archimedes' principle, what is the buoyant force on the **clay bowl** after it is placed in the cup of water?

(c) Compare the buoyant force to the weight of the **clay bowl** and explain why the **clay bowl** floats.

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