Lab, Surface Tension

Name _____ Period _____

PURPOSE: To measure the surface tension of cold and hot water and compare them.

PROCEDURE:

1. Measure the length and width of the block in cm. _____cm.

2. Calculate the area of the bottom in cm^2. A = L X W.

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3. Balance the block while it just touches the water surface and record its mass in grams. _____g.

4. Carefully increase the force until the block just pulls free of the surface and record the mass in grams._____g.

5. Determine the surface tension in grams by taking the difference between #4 and #3._____g.

6. Calculate the surface tension in g/cm^2. ST = mass/area.

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7. Convert $grams/cm^2$ to $newtons/cm^2$. (1 kg = 9.8 n, so 1 g = 0.01 n). _____ n.

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8. Repeat 3-7 using hot (almost boiling) water. Be sure to RE-WEIGH the block. It is now wet.

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9. Compare the surface tensions between cold and hot water.

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10. Explain why there is a difference.

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CRITIQUE: