

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

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

THE SODA CANS

Why does the diet soda float and regular soda sink? Use **mass**, **density**, and **volume** in your answer. Draw a picture!!

Eureka Video Notes

Volume

Density

In each box, you must have a labeled picture (with vectors!!) and a description of what is happening

Link to YouTube copy of video we watched:

<http://www.youtube.com/watch?v=hkT3uIsGWyA>

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Buoyancy Analysis

1. Use pg 82

1. Draw the beach ball or the boy with vectors. Why does it/he float? Explain: what is the buoyant force?

#1 done 10/28

2. Use pg. 84

2. Draw the foam and wood block with vectors. How does the buoyant force "know" how strong to be to float each block?

3. Use pg 85

3. Draw the steel and wood ball under water with vectors. What are the similarities and differences when both are under water? (why one floats and the other doesn't)

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Buoyant Force: The case of the sinking film can

1. Write out Archimedes Principle: (page 83)

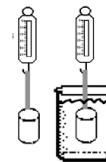
2. Weight of the film can (in Newtons)

3. Weight of the film can under water (not touching bottom)

4. Calculate the buoyant force (How much less does the film can weigh under water?) Show subtraction:

5. Volume of water displaced by the sunken film can: (use the displacement can and graduated cylinder)

6. Weight of water displaced: Use empty beaker on the balance: Weight of the water displaced by the sunken film can:



#7. Does increasing the weight of the film can affect the buoyant force?

A. Hypothesis: When you add pennies to the can, the buoyant force will _____ because _____.

B. Test it out:

1. Weight of heavier film can in air: _____ N

2. Weight of heavier film can under water: _____ N

3. Buoyant force (subtract!!!): _____ N

C. Compare the buoyant forces (today's vs yesterday's)

#8. How does the buoyant force compare to the weight of the displaced water?

A) Collect displaced water from displacement tank

B) Weigh it on the scale using NEWTONS!!!

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