REGULAR VS. DIET DENSITY

Problem: Which soda is denser, diet or regular?

Hypothesis: If we compare a diet soda to its original (non-diet) counterpart, then the _____ soda will have the greatest density and therefore _____ in the water.

Materials:

1 can of regular soda
1 can of diet soda
1 electronic scale
1 calculator
1 clear bin filled half way with water

Procedure:

1) Record the names of your Soda Types in your data (not everyone has the same soda).
2) Make five visible observations about each soda can that are DIFFERENCES between the two cans. You may NOT open the cans. Write your observations in chart 1.
3) Using the electronic scale, take the mass of each can of soda. Record the data in chart number 2. Do not forget to zero out the scale each time and to write your units of measure.
4) Read the can to find the volume (in mL) and record the data in the chart provided.
5) Divide mass and volume to find the density of each, record data.
6) Read the nutrition label provided and record the sugar content for each can in the chart (in grams).
7) Bring the two cans over to the water bin. Hold your regular soda can at an angel (so no air bubbles are trapped under the bottom rim), place the bottom of the can almost touching the water, and drop the can in.
8) Record what happened in chart 4.
9) Repeat steps 6-7 with the diet soda.
10) Do conclusion questions.
11) Clean and Reset Lab

SODA DENSITY LAB DATA

SODA NAMES (BRANDS)
Regular:
Diet:

CHART1:

SODA	OB 1	OB 2	OB3	OB 4	OB 5
REGULAR					
DIET					

CHART 2:

SODA TYPE	MASS	VOLUME	DENSITY
REGULAR			
DIET			

CHART 3:

SODA TYPE	HOW MUCH SUGAR
REGULAR	
DIET	

CHART 4:

SODA	FLOAT	SINK	SUSPENDED
REGULAR			
DIET			

Conclusion (Write the question and answer in complete sentences)

1) What is density?
2) Was your hypothesis right or wrong?
    a. Why do you think your hypothesis right or wrong?
3) How did the soda can's volume compare to one another?
    a. If they were the same, why do you think the company would make each can the same volume in liquid?
4) Why did one soda sink when the other float?
5) How did the ingredients of the soda affect its density?
6) Looking at your data and conclusions, what is one inference we can make about diet sodas vs. regular sodas in general?

RESETT CLEAN UP PROCEDURES

- Dry off cans and any water dripped/ spilled around your tables or on your tables.
- Throw away any paper towels
- Make sure the electronic scales are plugged in and zeroed and ready for the next class.
- All lab copies should be in a neat pile under the soda cans where you found them.
- Make sure there is no water outside the bins in the front or back of the room.