**Discovering Density**

**Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Class Period\_\_\_\_\_\_\_\_\_**

**Student Learning Objective:** The student will be able to observe a demonstration of density and explain how the principle of density affects air at the Equator and air at the North Pole.

1. What do you think density means?

2. Predict what will happen to the can of Diet Pepsi if I place it in the aquarium full of water.

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4. Write down your observations when I place the Diet Pepsi can in the tank. Was your hypothesis correct?

5. Write down your observations when I place the Pepsi can in the tank. Was your hypothesis correct?

6. What is the volume of the Diet Pepsi can?

7. What is the volume of the Pepsi can?

8. If the volume is the same, why did we observe the cans do different things in the aquarium tank?

9. Write down the formula for density.

10. What is the mass of the Diet Pepsi can?

11. What is the mass of the Pepsi can?

12. How many grams of sugar are in Pepsi? How many grams of sugar are in Diet Pepsi? Does this account for the difference in mass of the two cans?

13. What does it take to equal the sweetness of 1 gram of Nutra Sweet(artificial sugar)?

14. Figure the density of the Diet Pepsi can.

15. Figure the density of the Pepsi can.

14. How does this demonstration relate to the density of air at the Equator and air at the North Pole?