Does Temperature Affect Dissolved Gasses in Water
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Name: _____ Date:_____

Introduction

Aerobic aquatic organisms use oxygen (O_2) just like terrestrial organisms. The oxygen percentage of the atmosphere is approximately 20%. The dissolved oxygen percentage of water is much lower, much less than 1%. Many factors affect how much oxygen and other gasses dissolve in water.

Purpose:

1. Determine if and how temperature affects the ability of water to hold a dissolved gas.
2. **Question:** Does temperature affect the ability of water to hold a dissolved gas? If so, what is the relation?

HYPOTHESIS:

_____
_____
_____
_____
_____
_____

Materials:

- 12 cc syringe (or larger)
- syringe cap
- 200 mL beaker
- thermometer
- timer
- hot water
- tap water
- ice
- seltzer/diet soda

Procedure:

1. Fill the beaker three-quarters full with water at a temperature between 00 and 650 C.
2. Fill a 12 cc syringe with 7cc of seltzer.
3. Holding the syringe pointing upward, remove any excess air, leaving 5cc of soda/seltzer in the syringe. DO NOT SQUIRT THE SELTZER
4. Cap syringe.
5. Place capped syringe in beaker, pointing capped end of syringe down.
6. Time for three minutes.
7. Measure how far the bottom of the plunger moved.
    a. For example, starting at 5cc, if the bottom of the plunger moved to 8cc, you would record 3cc of gas.
8. Empty soda/seltzer from syringe.
9. Repeat for a total of three trials at each temperature, determining the average displacement for each temperature.
10. Graph the average volume of gas lost from solution.

Milliliters of CO_2 Released from Seltzer in 3 Minutes				
Temperature (oC)	Trial 1	Trial 2	Trial 3	Average
0				
5				
10				
15				
20				

25				
30				
35				
40				
45				
50				
55				
60				
65				

T - Title

A - Axis

L - Labels

K - Key