PS – Activity #24

Soda Geyser

QUESTION: What variables affect a soda geyser?

MATERIALS:

Coke™ – two, 2-L bottles
Diet Coke™ – two, 2-L bottles
Mentos™ - 12
soda (assorted) – two, 2-L bottles of each
wintergreen Life Savers™ - 8

PROCEDURE:

1. Place the Diet Coke™ bottle on the ground and carefully remove the cap so as to not lose any of the soda as it expands when the pressure is released.
2. Place two of the Mentos™ mints into the open bottle of soda and allow the reaction to take place. In the data table, record the total amount of soda released in the reaction ***(subtract the volume of soda remaining in the bottle from the original volume)***.
3. Repeat step 2 with two Life Savers™ mints and record the result.
4. Repeat steps 2 and 3 with each of the other sodas available.
5. Repeat steps 1 - 4 with the wintergreen Life Savers™.
6. Create a color bar graph of the data you have collected.

DATA:

VARIABLE	AMOUNT OF SODA RELEASED (mL)
Diet Coke™ + 2 Mentos™	
Diet Coke™ + 2 Life Savers™	
Coke™ + 2 Mentos™	
Coke™ + 2 Life Savers™	
Lemon/Lime + 2 Mentos™	
Lemon/Lime + Life Savers™	
Rootbeer + 2 Mentos™	
Rootbeer + Life Savers™	

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QUESTIONS:

1. In this activity, what are the independent and dependent variables?

2. Which of the variables produced the greatest release of soda? Which produced the smallest release of soda?

3. Look over each of the variables in the table below and describe how you think each would affect the result of the reaction and explain why.

VARIABLE	EFFECT	EXPLANATION
Cold soda		
Warm soda		
Cold mints		
Warm mints		