**Name: ???**

**Mr. Kerr**

**Date: ???**

**Science/Period: ???**

**HOW TO BUILD A FIZZ-INFLATOR**

**1. PURPOSE OF EXPERIMENT:**

**The purpose of this science experiment is to demonstrate the power of gas produced when baking soda and vinegar are mixed within a plastic bottle.**

**2. RESEARCH:**

**Baking Soda is called sodium bicarbonate and vinegar is an acetic acid which when mixed it produces an acid base reaction which creates the gas carbon dioxide.**

**3. HYPOTHESIS:**

**The balloon will blow up larger and faster by the gas created within the smaller plastic bottle then that of the bigger plastic bottle.**

**4. LIST OF MATERIALS USED:**

**-Two Balloons (same sizes)**

**-Two Different Size Water Bottles with the Same Diameter Opening**

**-Vinegar (4 oz.)**

**-Baking Soda (2 tablespoons)**

**-Small Funnel**

**-Ruler**

**5. PROCEDURE:**

**First, using the funnel, add the baking soda to each balloon. Then pour the vinegar into each bottle. Make sure the right amount of vinegar and baking soda are the same. Carefully fit the balloon over the bottle opening (be careful not to drop the baking soda into the vinegar yet). Then once both balloons are fitted snugly on the nozzle, hold up the balloon and allow the baking soda to fall into the vinegar. If the balloon does not blow up immediately, shake the bottle just a little to get the baking soda and vinegar to mix; this should do the trick. Finally, observe the chemical reaction and effect on the balloon and record your observations between the two sized bottles (include average).**

**6. DATA COLLECTED & ANALYZE 1:**

**6. DATA COLLECTED & ANALYZE 2:**

|  |  |
| --- | --- |
| **FIZZ INFLATOR RESULTS** | |
| **SMALL BOTTLE ATTEMPTS (variable #1)** | **LARGE BOTTLE ATTEMPTS (variable #2)** |
| **First Attempt 4 inches**  **Second Attempt 3.7 inches**  **Third Attempt 3.5 inches** | **First Attempt 3.6 inches**  **Second Attempt 3.6 inches**  **Third Attempt 3.2 inches** |
| **Average 3.7 inches** | **Average 3.4 inches** |

**I measured the balloon’s height from the tip of the water bottle. I also observed that the smaller bottle balloon clearly blew up was faster than that of the bigger one so no stop watch was needed. However, even though the smaller bottle balloon blew up more that of the bigger it was far less than what I would have expected.**

**7. CONCLUSION:**

**My hypothesis was not only that the balloon on smaller bottle would be larger but would also inflate faster and it did just that. If I was to redo this experiment I might want to find out if the size of the balloon has any effect on how much it blows up and I might use a string to measure the diameter of the balloon to have it more accurate.**

**8. REFERENCES:**

[**http://www.education.com/science-fair/article/balloon-gas-chemical-reaction/**](http://www.education.com/science-fair/article/balloon-gas-chemical-reaction/)

[**http://www.sciencebob.com/experiments/fizzinflator.php**](http://www.sciencebob.com/experiments/fizzinflator.php)

**Spangler, Steve (2012) Fire Bubbles & Exploding Toothpaste Greenleaf Book Group Press, TX.**