**BTB Lab**

**Roles:**

**Materials Collector = collects all materials needed for lab and returns them when finished**

**Data Recorder = records all data observed in lab and shares with groups after procedure is completed**

**Procedure Reader = responsible for carefully reading procedure to group and making sure that everyone is doing the experiment correctly!**

**Experimenter = takes instruction from the Procedure Reader and performs the experiment (with the help of other group members)**

**\*\*If in a 3-person group, 1 person may have 2 roles\*\***

**Background: (write and answer questions in lab notebook)**

1. What is an observation?
2. What is an inference?

Bromothymol blue (BTB) reacts when it comes into contact with one thing. Use the information from this lab to figure out exactly what causes the changes in this chemical…

**Question:**

What causes BTB to change color?

**Prediction:**

(What do you think causes BTB to change color? Hint: take a look at our procedure to see what we are doing, then make your prediction!)

I believe that \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ causes BTB to change color.

**Procedure:**

1. Label test tubes 1, 2, 3, and 4. \*\*Use the large test tube as #1!

2. Fill each test tube ¼ of the way full with BTB solution – USE YOUR PIPETTES!

3. Observe and record the color of the BTB solution in each test tube in your data table below (BEFORE you begin your experiments).

4. **SLOWLY** exhale through a straw into test tube 1 for approximately 40 seconds. **CAUTION:** ***Do not draw the solution into your mouth!!!*** Observe and record the resulting color of the solution in your data table.

5. Place test tube 2 in a hot water bath for 10 minutes\*. Observe and record the color in your data table (\*Do steps 6-7 while you wait!)

6. Add 2 mL of water to test tube 3. Observe and record the color in your data table.

7. Add ¼ antacid tablet to test tube 4. Place stopper in test tube. Shake **lightly**. Let sit for 1 minute. Observe and record the color in your data table.

8. Clean all of your equipment, return it to the bin, return bin, wipe down table and begin your Technical Drawings.

**Data Table: (create this table in your notebook!)**

|  |  |  |  |
| --- | --- | --- | --- |
| Tube |  | BTB Before | BTB After |
| 1 | Exhaled air – 40 sec |  |  |
| 2 | Warmed – 10 min |  |  |
| 3 | Add 2 mL water |  |  |
| 4 | Add ¼ antacid tablet |  |  |

**Technical Drawings:**

Draw what you saw happen in the lab – ***be sure to label the lab equipment, liquids, etc. ADD COLOR***! (use colored pencils)

* You should have *at least* 2 drawings (Before & After)

**Conclusion:**

Follow directions for the conclusion format in your notebook. Be sure to include the answer to the following:

1. What inference can you make about antacids from your observations of test tube #4?