

Scientist's Name: \_\_\_\_\_

Date \_\_\_\_\_

Research Team: \_\_\_\_\_

**Purpose:** To test three characteristics of your drinking water.

**Methods:**

**Testing pH**

1. Fill the bag to the blue line with *your* tap water.
2. Remove *one* pH tablet from the foil wrapper and drop into bag.
3. Close the bag and make sure it is secure!
4. Holding the top of the bag, shake to dissolve the tablet. *Be careful not to spill!*
5. Determine the pH of your water, by comparing the color of your water with the list on the board.
6. *Only after you've determined your pH...* Open the bag and blow into the water. Answer the questions under the pH results section.

**Testing Chlorine**

1. Observe two different chlorinated solutions being made.
2. Watch as a classmate fills one bag with solution #1, while another classmate fills one bag with solution #2.
3. A DPD No. 4 tablet will be added to each bag and shook.
4. Observe the color difference between the two bags.
5. *Now test your own tap water sample for chlorine.*
  - a. Fill bag to the blue line with your tap water.
  - b. Add a DPD No. 4 tablet, close bag as before, and shake.
  - c. Observe and fill in data table and questions below.

**Hardness (Tablet Testing)**

1. Fill a clean bag to **Line A** with your tap water.
2. Add a Hardness tablet. Close the bag and shake
3. Record your results on your data sheet.

**Hardness (Bubble Testing)**

1. Get two clean bags for your group
2. Who had hard water? Use this sample to fill one bag to line A with the hard water sample.
3. Fill the other to line A with distilled water.
4. Use a pipette to add one drop of soap to each bag. Close bag and shake. Do you have bubbles? If not add another drop of soap to the sample. Shake.
5. Keep adding soap one drop at a time and shake after each drop. Do this until you have bubbles. Record the number of drops of soap on your data sheet and answer the questions.

## Data and Discussion

<b>Data Table pH</b>
<b>Your Tap Water</b> <b>Color:</b>
<b>pH:</b>
<b>Questions:</b> 1. What did you observe after blowing into the bag?  2. Why do you think this happened? ( <i>Hint: What do you exhale?</i> )

<b>Data Table Hardness</b>
<b>Your Tap Water</b> Do you think you have hard water?  What color was the reacted sample?  Is it hard or soft?

<b>Data Table Chlorine</b>
<b>Sample #1</b> How many drops of chlorine bleach were in the water sample?  Was the sample pink?  How pink?
<b>Sample #2</b> How many drops of chlorine bleach were in the water sample?  Was the sample pink?  How pink?
<b>Your Tap Water</b> Was it pink?  Did it contain chlorine?  Was it as pink as sample #1 or sample #2?

<b>Bubble Test</b> Who's hard water sample did you use?  Is distilled water considered hard or soft water? Why?  How many drops of soap did the distilled water take to make bubbles?  How many drops of soap did the hard water sample take to make bubbles?  Which sample needed more soap to bubble?  With which type of water would you need more soap to wash your dog?
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