Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Rainbow Chameleon

Background Information: Indicators are used in chemistry to identify if a substance is an acid or a base. In the lab, we will use a universal indicator, which is a solution made up of several indicators that exhibits several smooth color changes over a wide range of pH values to indicate if there is an acidic, basic or neutral solution present. Universal indicator solution is normally green because it is dissolved in a neutral solution, but acids make it turn yellow, orange, or pink. Bases make it turn blue or purple. The purpose of this lab is to learn to identify what household chemicals are acidic or basic.

Procedure Part 1: Making the Paper

1. Cut out the chameleon keeping a little extra white space around the chameleon as a test area.
2. Pour some universal indicator into a plastic box.
3. Wearing gloves and using tongs, place a chameleon in the universal indicator and once it has absorbed the indicator everywhere, take it out of the indicator and let it drip excess indicator off.
4. Place the chameleon on a napkin to dry overnight.

Procedure Part 2: Coloring the Chameleon

1. Determine what household chemicals are acidic/basic/neutral by using a Q-tip to smear each solution on your chameleon paper. Be careful not to cross contaminate the Q-tips. Do not begin painting the chameleon yet, test the chemicals on the side of your paper.
2. Label what household chemical you used on your paper to keep track of them.
3. Fill out the following table for all the chemicals
4. Begin to paint your chameleon using the Q-tip provided for each household chemical. Place the Q-tip back to its designated chemical to avoid cross contamination.

| Substance | Color | Estimated pH | Acid/Base/Neutral |
| --- | --- | --- | --- |
| Vinegar |  |  |  |
| Baking soda |  |  |  |
| Lemon juice |  |  |  |
| Ammonia |  |  |  |
| Dextrose |  |  |  |
| Soapy water |  |  |  |
| Nail polish remover |  |  |  |
| Milk of Magnesia |  |  |  |

