

Name: \_\_\_\_\_

## Jammin' Jelly-Things

**Background Information:** There are many different flavors of food and drink that people enjoy, and some they don't enjoy. Why do we like some food, but not others? Well...it has to do with how *acidic* a food is...and to test this, scientists focus on the pH level of the substance:

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Battery Acid	Stomach Acid	Orange Juice	Soda	Bananas	Milk	Water	Eggs	Baking Soda		Ammonia	Soapy Water	Bleach	

*Acidic*

*Basic*

The *Magic Color Crystals* are pink or red at 3.8 pH, and they turn purple at 6 pH and blue at a pH greater than 7.

1. According to the pH scale, do you think people prefer foods that are acidic or foods that are more basic?

### Materials:

- 5 Plastic Cups (*A, B, C, D, E*)
- 1 Scoop
- Citric Acid
- Magic Color Crystals
- Sodium Bicarbonate (*Baking Soda*)
- Calcium Acetate
- 1 Graduated Cylinder
- 1 Pipet
- 1 Fork
- Safety Goggles

### Procedure:

1. Pour 4mL of water into cups A, B, C, D, and E.
2. Add 1 scoop of Magic Color Crystals to cups A, B, C, and D.
3. Add 1 scoop of sodium alginate to cups A, B, C, and D.
4. Stir the solution for 30 seconds. Stop stirring and wait 3 minutes.
5. After 3 minutes:
  - a. Add about 3 citric acid crystals to cup A.
  - b. Add 1 scoop of citric acid to Cup B.
  - c. Add 1 scoop of Baking Soda to Cup C.
  - d. Do NOT add anything to Cup D.
6. Stir each solution for 60 seconds. Record your observations in your data table.

7. Add 1 scoop of calcium acetate into Cup E.
8. Stir the solution in Cup E until the calcium acetate dissolves completely.
9. Place the pipet into the Cup E solution, squeeze and then un-squeeze the pipet. The solution will move into the pipet.
10. Place 5 drops of the Cup E solution into Cups A, B, C & D.
11. Use the fork to scoop out the Jelly-Things. Record your observations in your Data Table.
12. Clean up your lab station and return your materials as directed by Jonathan.

**Data Table:**

	<b>Color after Step 6</b>	<b>Amount of Jelly-Thing Produced</b>	<b>Taste</b>	<b>Acid, Base or Neutral?</b>
<b>Cup A</b>				
<b>Cup B</b>				
<b>Cup C</b>				
<b>Cup D</b>				

**Analysis Questions:**

1. Which of the solutions produced the most Jelly-Things? Was it an Acid, Base or Neutral?
  
2. If you were a food chemist, what would you want to keep in mind when producing new foods? Why?