



# **If it's Sour, If it's slippery**

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# Objective

- This lab is intended to help students understand the properties of acids, bases and buffer solutions, while creating a crime scene to solve the case.



# Materials supplied

- 1. microplates
- 2. pH paper
- 3. (1) bottle, pH7
- 4. (2) bottles sodium hydroxide & hydrochloric acid
- 5. (10) blank label
- 6. 1 BC powder
- 7. (1) bottles NaCl, 20g & sodium bicarbonate
- 8. (1) can of tomato juice
- 9. (3) microspoons, 1g



# A. Procedure

- 1. Place a microspoon full of each solid unknown in a separate microplate add 1 mL of water to each solid.  
\*NOTE: Label cabbage juice as purple liquid & pH7 buffer as Colorless solution.
- 2. Place 1 mL of each unknown liquid into separate wells. Record the placement.
- 3. Measure the pH of each unknown substance.



## B. Procedure

- 4. Place 1 mL of purple liquid in the two microplate wells. To one of the wells, add 0.1M HCL dropwise until there is a significant color change.
- 5. To the second purple liquid well add 0.1M sodium hydroxide, counting the drops until there is significant color change.
- \*How many drops does it take to bring about a significant color change? What are the pH of the purple liquid?



## C. Procedure

- 6. Place 1 mL of the purple liquid in a microwell. Add 1 mL of the colorless solution and mix. Add dropwise counting the drops to the mixture gently shake the plate to mix
- 7. Repeat step 6 adding sodium hydroxide



# Prior information

- Student will learn or need to know the definition of Acid & base.



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## Pros-

- Kit supplies the microwells

## Cons-

- Direction will need to be revised
- There is not a connection from the lab to the title.