

## Cabbage Juice Indicator - pH



### Objectives:

- to test household solutions with litmus paper
- to test household solutions using red-cabbage juice indicator
- to classify household substances as acids or bases
- to determine the pH range of red cabbage juice

### Materials: (per group or station)

- Beaker of Red Cabbage Juice - [recipe](#)
- Red and Blue Litmus Paper
- 6 Plastic cups
- Beakers of the following solutions: water, baking soda, vinegar, salt, sugar, lemon juice, soda, etc...
- Plastic spoon
- black marker

### Procedure:

1. Label your plastic cups #'s 1-6
2. Choose one solution and pour a small amount into plastic cup #1.
3. Write the name of the solution in your data table.
4. Place a drop of the solution onto **red** and then **blue** litmus paper. Record results
5. Add 1 - 2 tablespoons of red cabbage juice to the cup. Record color change.
6. Determine if the solution is an acid, base or neutral
7. Repeat with solutions #2-6.
8. Clean up. Pour contents into sink and throw out used cups.

**Data Table:**

<b>Plastic Cup #</b>	<b>Solution</b>	<b>Red Litmus</b>	<b>Blue Litmus</b>	<b>Red Cabbage Juice</b>	<b>Acid Base or Neutral</b>
<b>1</b>					
<b>2</b>					
<b>3</b>					
<b>4</b>					
<b>5</b>					
<b>6</b>					

**Results:**

1. Name the acids, name the bases, were there any neutral solutions?
2. What color did the cabbage juice turn to indicate a neutral substance?
3. Why is it important to use both blue and red litmus paper to determine pH?

**Conclusion:**

**2-3 sentences on what you learned**

**How to read pH paper:**

**Red** Litmus Paper – Stays **Red** = Acid or Neutral

Turns **Blue** = Base

**Blue** Litmus Paper – Stays **Blue** = Base or Neutral

Turns **Red** = Acid

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Modified from these lessons:

<http://www.science-house.org/learn/CountertopChem/exp27.html>

<http://www.miamisci.org/ph/lpexplore1.html>