

Purple Cabbage Leaves make Purple Cabbage Juice:
An Short Inquiry Lab: Use the Scientific Method 8-Part Paper.



If you use purple cabbage juice as an pH indicator, which colors indicate which pH values? Include a key.

I. Some facts you can use:

- 1) The color of some leaves, flowers and fruit depend on whether their soil is more acidic or more basic (alkaline).
- 2) The pH scale measures how acid or basic (alkaline or antacid) a substance is.
- 3) pH is measured on a scale from 0 to 14.
Below 7 = Acid 7 = Neutral Above 7 = Base

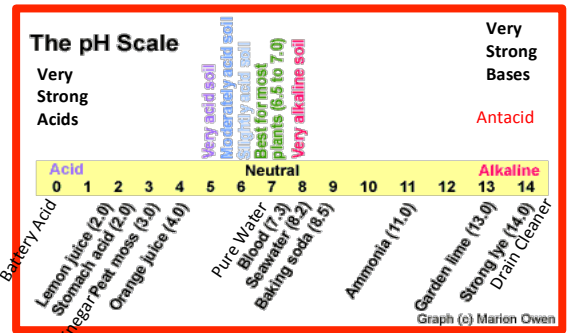
Some flowers change colour depending on whether they are growing in acidic or alkaline soil. Hydrangeas grow blue flowers in an acidic soil, but pink flowers in an alkaline soil.



The flowers contain compounds called anthocyanins, which act as **indicators**.



- 4) **Strong acids and strong bases are both dangerous. Both cause burns and should not be breathed or handled.**
- 5) To test pH you can use a meter or pH indicator paper that changes colors according to pH value.



- 7) Litmus paper turns red (reddish) in acid and blue in base →.



II. How to use pH indicator paper.

- 1) Your need:
1-2 centimeters of pH Indicator paper.
The key or color chart that matches the pH indicator paper.
- 2) The testing:
Dip the paper in the liquid you are testing watching for the **first color change**.
Use the matching color chart to decide on the pH number of the liquid.

III. How to test cabbage juice as an indicator.

- 1) Obtain about 5 ml or purple cabbage juice and 5 ml of an available liquid.
- 2) Mix the two. Record relevant observations such as the liquid used and color change.
- 3) Test your mixed liquid using pH indicator paper and its matching color chart.
Record relevant data such as the paper color and pH number.
- 4) Use a test tube for temporary storage while you compare colors for your color chart key.