

Fun, Colorful Cabbage Science Experiment that teaches about acids, bases and pH

Things you'll need are: Red cabbage, a blender or a stewpot, a sieve or coffee filter to drain the juice, several clear cups, a small measuring cup (1/4 cup), distilled water, a variety of materials to test such water in two forms (tap water and bottled) water get 2 types, vinegar, baking soda or Tums, soda or Gatorade and crayons and sheet of paper.

How to do it!

- Blend the cabbage with distilled water or you or boil it for about 10 minutes to extract the juice.
- After you blend it filter the juice through a coffee filter and put the extract into a container and label the container "cabbage extract"
- Pour the different liquids you want to test into labeled clear containers. For Tums or baking soda dissolve it in distilled water.
- Pour an equal amount of cabbage juice into the cups with each liquid and observe the color change
- Sort the different liquids according to their color intensity. Note the color of the distilled water pH 7. Red color will be acids, green color will be bases. Write down on the bottom of the sheet which items are acids or bases and which ones has the most intense red or green
- Finally, use crayons or colored pencils to make your own pH scale listing the different liquids based on color intensity ranging from the intensity of red to green.
- If you have one available, use a pH meter to confirm your findings.

| Names of substances | Color that resulted | Is it acidic or basic? |
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Some background information:

- pH is a measure of how acidic or basic the water is. pH is measured on a scale of 0 to 14. Distilled water which has no impurities is neutral with a pH of 7. Numbers less than 7 are acidic and above are basic.
- The allowable range for pH is 6.6 to 8.8 in most New Mexico rivers. If the water has pH above or below this range of tolerance, for fish and frogs can be killed or will not reproduce successfully.