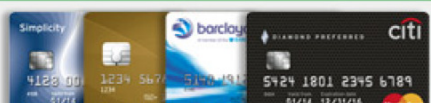


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How To Make Red Cabbage pH Paper

By Anne Marie Helmenstine, Ph.D.

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It's easy, safe, and fun to make your own pH paper test strips. This is a project that kids can do and that can be done from home, though calibrated test strips would work in a lab, too.

Difficulty: Easy**Time Required:** 15 minutes plus drying time

Here's How:

1. Cut a red cabbage (or purple) into pieces such that it will fit into a blender. Chop the cabbage, adding the minimum amount of water needed to blend it (because you want the juice as concentrated as possible). If you don't have a blender, then use a vegetable grater or chop your cabbage using a knife.
2. Microwave the cabbage until it's at the boiling point. You'll see the liquid boil or else steam rising from the cabbage. If you don't have a microwave, soak the cabbage in a small volume of boiling water or else heat the cabbage using another method.
3. Allow the cabbage to cool (about 10 minutes).
4. Filter the liquid from the cabbage through a filter paper or coffee filter. It should be deeply colored.
5. Soak a filter paper or coffee filter in this liquid. Allow it to dry. Cut the dry colored paper into test strips.
6. Use a dropper or toothpick to apply a little liquid to a test strip. The color range for acids and bases will depend on the particular plant. If you like, you can construct a [chart of pH and colors](#) using liquids with a [known pH](#) so that you can then test unknowns. Examples of acids include hydrochloric acid (HCl), vinegar, and lemon juice. Examples of bases include sodium or potassium hydroxide (NaOH or KOH) and baking soda solution.
7. Another way to use your pH paper is as a color-change paper. You can draw on pH paper using a toothpick or cotton swab that has been dipped in an acid or base.



These pH paper test strips were made using paper coffee filters that had been cut up into strips and dipped in red cabbage juice. The strips can be used to test the pH of common household chemicals.

Anne Helmenstine

Tips:

1. If you don't want colored fingers, soak only half of the filter paper with the cabbage juice, leaving the other side uncolored. You'll get less usable paper, but you will have a place to grab it.
2. Many plants produce pigments that can be used as pH indicators. Try this project with some of the other common [home and garden indicators](#).
3. A step-by-step [video](#) of this project is available, if you'd like to see what to expect.

What You Need:

- Red Cabbage
- Filter Paper or Coffee Filters
- Blender - optional
- Microwave - optional
- Dropper or Toothpicks - optional