DON HARRINGTON DISCOVERY CENTER
1200 STREIT DRIVE
AMARILLO, TX 79106
DHDC.ORG

WILDCAT BLUFF NATURE CENTER
2301 N SONCY RD
AMARILLO, TX 79124
WILDCATBLUFF.ORG

A lot of the experiments I do at the DHDC are too dangerous to do at home. This experiment is a good way to get some great color changing chemical reactions without the danger!

What you'll need:

- A head of purple cabbage
- Water
- A blender
- Strainer
- Pitcher
- Glass cups
- Sprite
- Sugar
- Baking soda
- Baking powder
- Lemon juice
- Vinegar
- Hand Sanitizer

---

1. Take the head of cabbage and tear off the leaves. Have your adult place the torn up cabbage into a blender and then fill the blender about halfway with water.
2. Blend it up until the cabbage is very fine. (You can also do this with boiling water. Just boil the cabbage leaves and then strain)
3. Next, pour the cabbage water through a strainer into a pitcher. We're only going to use the cabbage water so you can use the shredded cabbage as compost!
4. Now take 7 glass cups and pour each of the following into a glass:
    - Plain Sprite
    - Sugar dissolved in ½ cup water
    - Baking soda mixed with ½ cup water
    - Lemon juice
    - Vinegar
    - Hand sanitizer diluted in water
    - Plain water

You can pour a little bit of the cabbage juice into each of the glasses and see which ones change color! Water is neutral with a PH of 7. The more red the color, the more acidic the solution is and the more green or yellow, the more basic the solution is. Can you organize them according to their PH levels?

It’s always a good idea to have your adult help with experiments that you do at home. While these ingredients can be safely mixed with our cabbage juice indicator, there are other things that should not be mixed. Having your adult as your assistant will help you decide what is safe and what isn’t.

Why does the cabbage indicator change color when added to different liquids? In chemistry, an indicator tells you the PH balance of the solution it is added to. Cabbage contains a pigment called **anthocyanin.** Anthocyanin is soluble in water which means that when we add the cabbage to the water, this pigment transfers to the water. This is what is actually changing color when a chemical reaction takes place. If your solution does not change color it is most likely neutral. Scientists use lots of different indicators, including cabbage juice!