

# INSTRUCTION SHEET

## BIO

Hi! My name is Lenora Mathis. This instruction sheet is for Color-Changing Cabbage Chemistry. I am a first year student studying chemical engineering. I am the first person on my dad's side of the family to go to college. I plan to become a chemical engineer, but I am still exploring all of the specifics. Right now, I hope to do something with the environment or developing pharmaceutical drugs.

## INSTRUCTIONS

<https://www.sciencebuddies.org/stem-activities/cabbage-pH-indicator#instructions>

1. Parent supervision: Grate a small red cabbage into a large bowl or pot.
2. Parent supervision: Boil a pot of water, then pour the boiling water into the bowl or pot of grated cabbage.
3. Leave the cabbage and water mixture cooling, stirring occasionally, until it gets to room temperature. This could take up to a half hour. The liquid should be reddish-purple.
4. Place a strainer over another large bowl or pot and pour the cabbage mixture in to get rid of the cabbage pulp. Press down on the pulp to squeeze all of the liquid out.
5. In the bowl, you should have a liquid that is purple or blue (should be darker after the pulp is removed). This will be your indicator solution!
6. Fill a paper cup, drinking glass, or small white dish with 1 tablespoon of this cabbage solution.
7. Add drops of lemon or lime juice to this solution until you see it change color.
8. Repeat step 6 with vinegar in a separate cup or dish.
9. Repeat step 6 with anything you want to test out!
10. Repeat step 6 with bleach if desired but this would require a lot of parent supervision.

Results:

- Red indicates pH 2
- Purple indicates pH 4
- Violet indicates pH 6
- Blue indicates pH 8
- Blue-green indicates pH 10
- Greenish-yellow indicates pH 12