

# SUMMER CAMPS

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ARTS

## Magic Color Changing Potions

**Description:** This week, we are focusing on the magic of STEM. This experiment is a great tool to learn about acids and bases, but fair warning – potion making can be a little smelly! **This experiment must also be done with adult supervision.**

**Recommended Ages:** PreK – 8<sup>th</sup>

### Materials:

- Red/Purple Cabbage
- Blender OR knife/cutting board (used by an adult or under supervision)
- Water
- Stainless steel pot
- Strainer
- Large bowl
- Stove (used by an adult or under supervision)
- Household Acids & Bases (lemon juice, vinegar, baking soda, baking powder, etc.)
  - **Safety Note:** Do not use powdered laundry detergents, bleach, or other harsh cleaners. These materials can release toxic fumes when mixed with other substances.
- Clear glasses

### Procedure:

1. If you have a blender, puree your cabbage with a little bit of water. If you do not, have an adult chop the cabbage into fine pieces.
2. Place pureed or chopped cabbage into the stainless steel pot. Add enough water to cover the cabbage, then bring to a boil.
3. Take off heat. Strain out cabbage, collecting the purple liquid into a separate bowl or container.
4. Fill clear glasses about  $\frac{1}{2}$  way with your cabbage indicator.
5. In each glass, test a different household substance by adding a little bit to the glass. Stir to observe the color change.

What's happening? Purple cabbage has a chemical in its skin called anthocyanin, which reacts in the presence of acids and bases. It acts as an indicator in this experiment, by giving us a visible sign in the form of changing colors to the presence of ions- or tiny particles we cannot see with our naked eye.