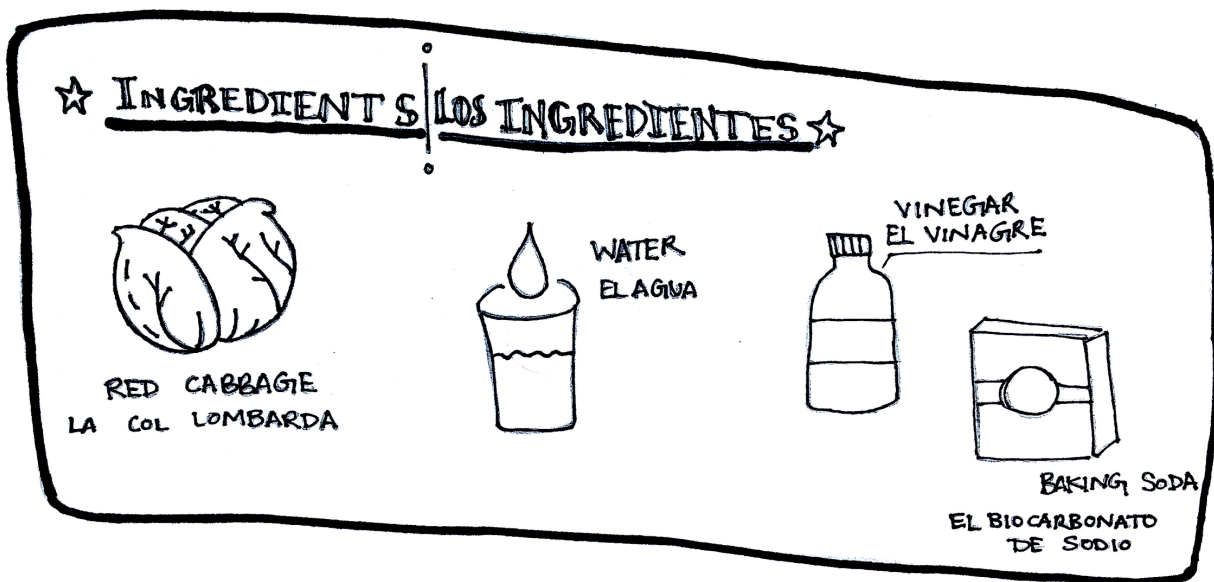




# TasteWiseKids

## Red Cabbage Chemistry

### Experiment



### Ingredients:

- Red Cabbage
- Water
- Vinegar or acid
- Baking Soda or base

### Equipment:

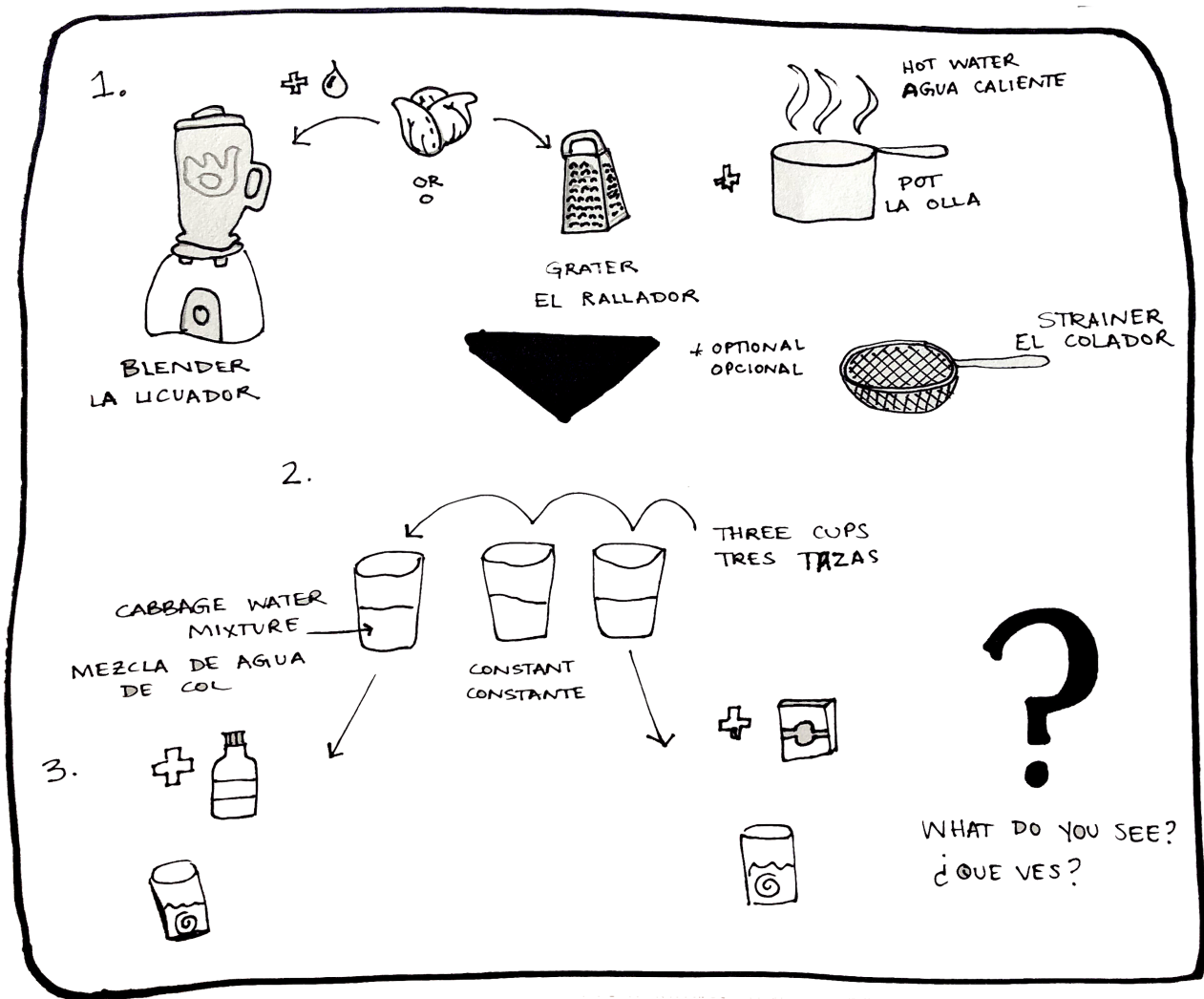
- Blender or Grater
- Three cups
- Measuring spoons (optional)
- Strainer (optional)
- White paper (optional)

# Preparation

Before reading through the instructions, can you make a guess based on the ingredients on what will happen to the cabbage?



1. Fill the blender  $\frac{3}{4}$  of the way full with water, and  $\frac{1}{4}$  of the way full with red cabbage leaves. Blend.
  - a. If you are using a grater, grate  $\frac{1}{2}$  of the red cabbage. With help from an adult, pour water over the cabbage and let cool for twenty minutes.
2. Place your three cups or bowls in front of you and pour your cabbage mixture evenly into the three cups. If using a strainer pour your cabbage mixture through the strainer into the three cups. \*Save some of the mixture if you would like to do additional experimentation.
3. Before moving on, take note of the color.
4. One of the glasses with your cabbage mixture will be your constant, or the cup that doesn't change.
5. Take one of the glasses of cabbage water and add vinegar. Stir.
6. Take the final glass of cabbage water and add baking soda. Stir.
7. What do you see? Use the bonus activities to explore more.



# Bonus Activities

- If you have space to get messy (maybe outside!), take the final product and use your finger to brush them onto a blank piece of paper.
- If you saved some of the mixture, or using the original constant, add and experiment with other ingredients in your kitchen. Do other ingredients change the color? Does anything else change the mixture in the same way as vinegar (an acid) or baking soda (a base)? (hint: try lemon juice!)
- With the remaining cabbage that you didn't use for your experiment, make some cabbage slaw! Here's a quick recipe:
  - Ingredients:
    - Cabbage, two carrots, one apple, parsley or cilantro or your favorite herb, apple cider vinegar, oil, honey, and salt.
  - Equipment:
    - Grater, bowl, spoon, scissors, measuring cups and measuring spoons.
  - Grate the rest of the cabbage into a bowl.
  - Grate the two carrots into a bowl.
  - Grate the apple into the bowl.
  - With scissors, snip your herb bunch into small pieces and add to the bowl.
  - Using measuring cups add  $\frac{1}{4}$  cup vinegar,  $\frac{1}{4}$  cup oil, and a tablespoon of honey.
  - Sprinkle salt on.
  - Mix ingredients with a spoon or toss ingredients with clean hands.
  - Serve and enjoy!

## Debrief/Key Points:

- We can use red cabbage juice as a natural pH indicator
- Red cabbage juice turns pink or red in acids
- Red cabbage juice turns blue to yellow-green in bases.
- With this activity we can see there are similarities between following a recipe and following a scientific experiment, providing overlap between two seemingly different things..