

My pH experiment

I will need:

- One half of a head of red cabbage
- Ice cube tray
- Tall clear cups
- Vinegar
- Baking soda
- Water

Optional: More acidic/basic household items such as lemon juice, washing soda, cream of tartar, or antacids.

Instructions:

After gathering our supplies, we followed these simple directions to make the red cabbage pH indicator solution:

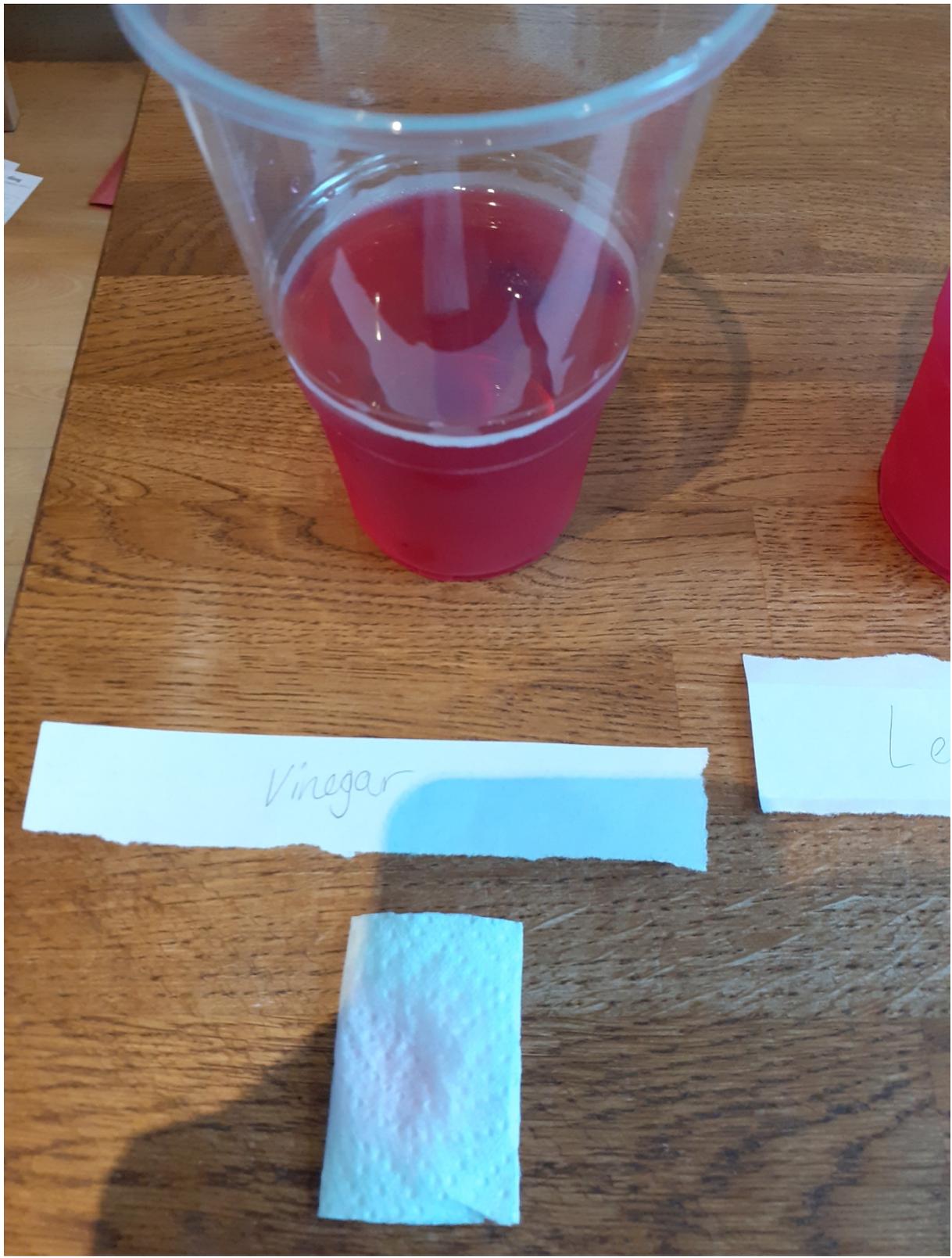
1. Chop up the red cabbage into small pieces. Place 2-3 cups of cabbage in a saucepan and cover with water.
2. Bring the solution to a boil and then turn off the heat. Let it sit for about 30 minutes to cool down.
3. Pour the cabbage water through a strainer into a jar or large measuring cup. The dark purple liquid in the jar is the pH indicator liquid.
4. Pour the red cabbage indicator liquid into the compartments of an ice cube tray. Freeze for a couple of hours to make ice cubes.

Once our cabbage ice cubes are frozen solid, we followed these instructions to perform the actual pH science experiment:

5. Fill one cup with water (this is neutral, or the control), one with vinegar (this is acidic), and one with a teaspoon of baking soda mixed with water (this is basic).
6. Drop a couple of indicator ice cubes into each cup. Notice how the colours change in each one.
7. Repeat with other acidic or household items in other cups. Try to guess what colour the solution will be before dropping an ice cube in. What colour will they turn?

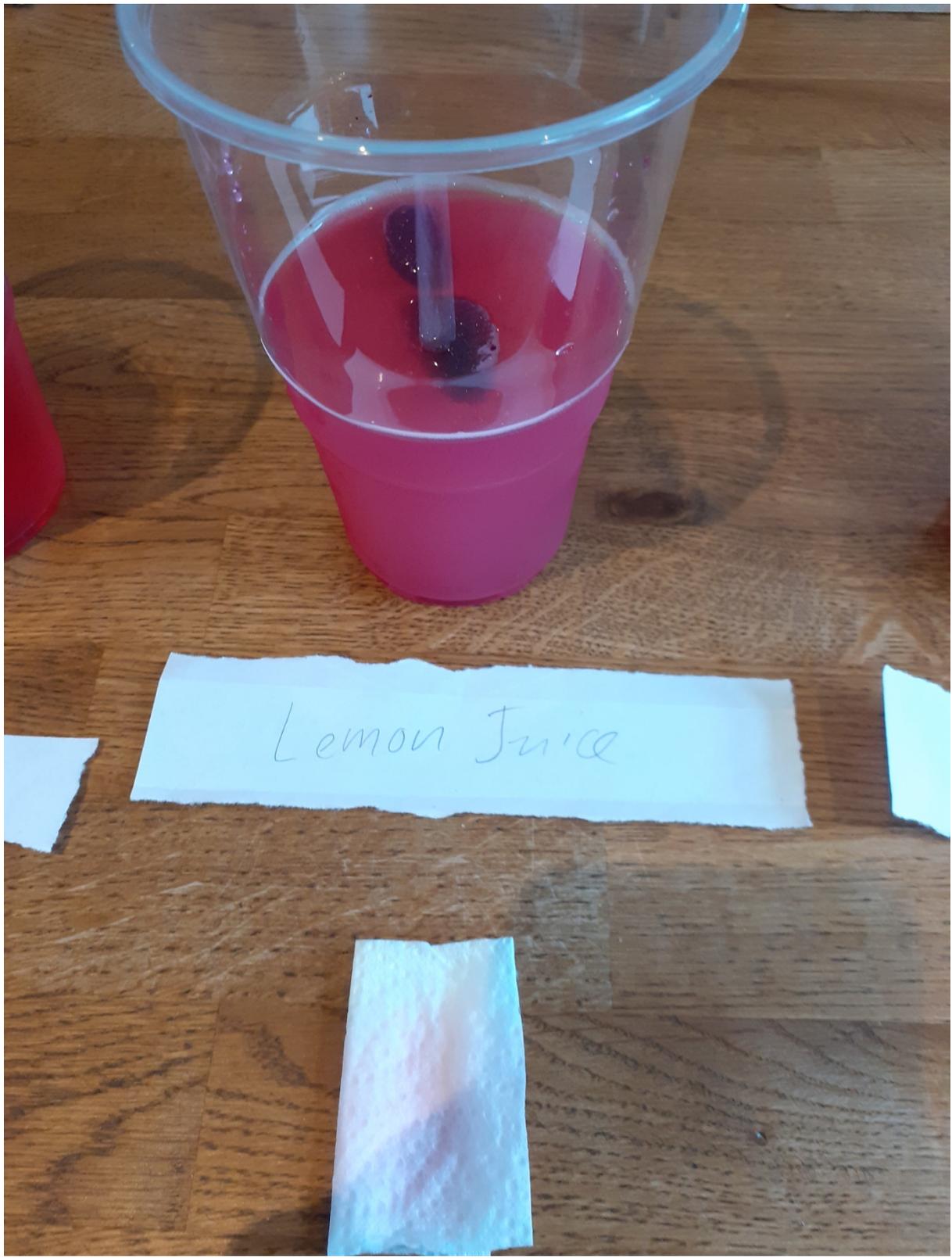
My experiment:

These are pictures of the experiment:

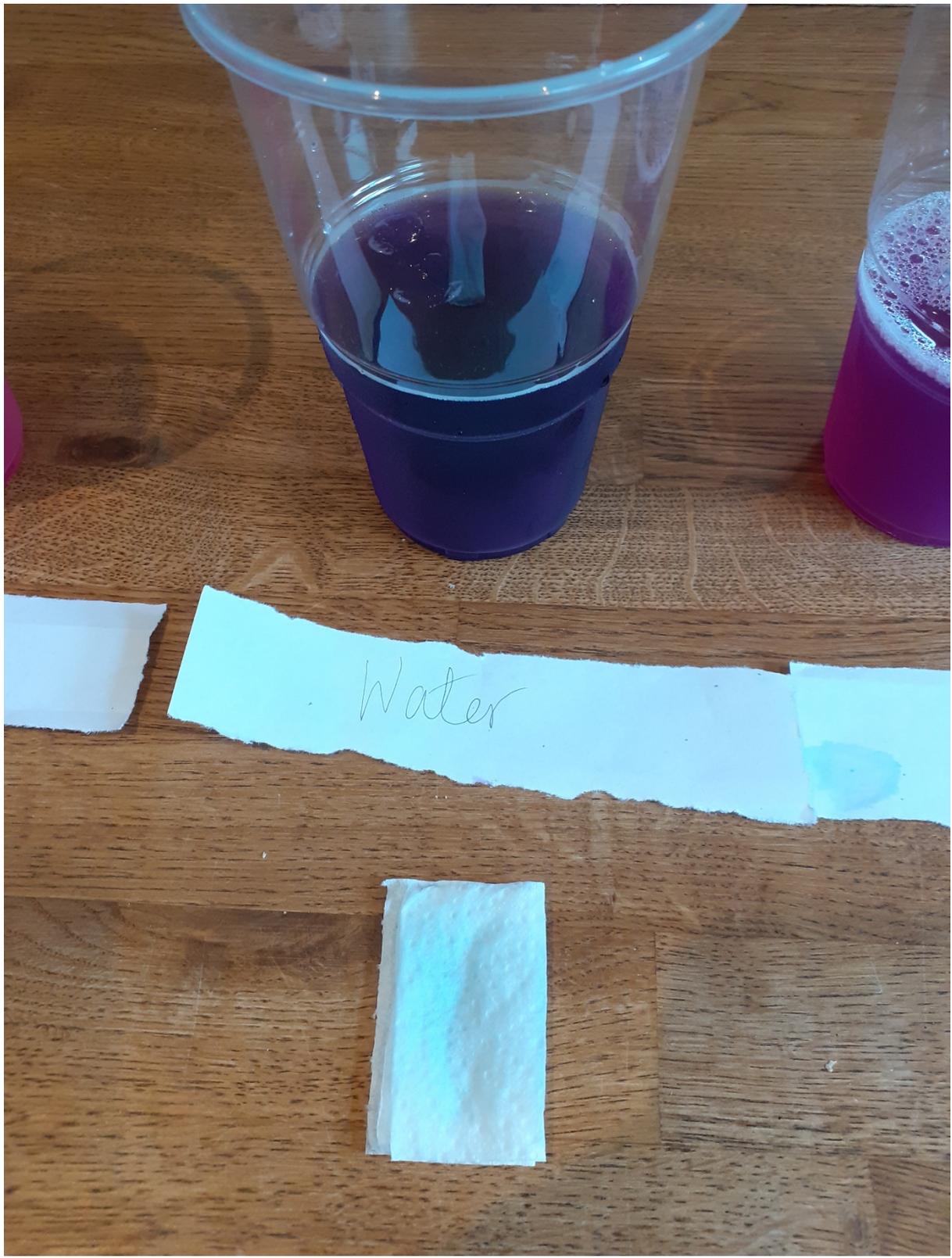


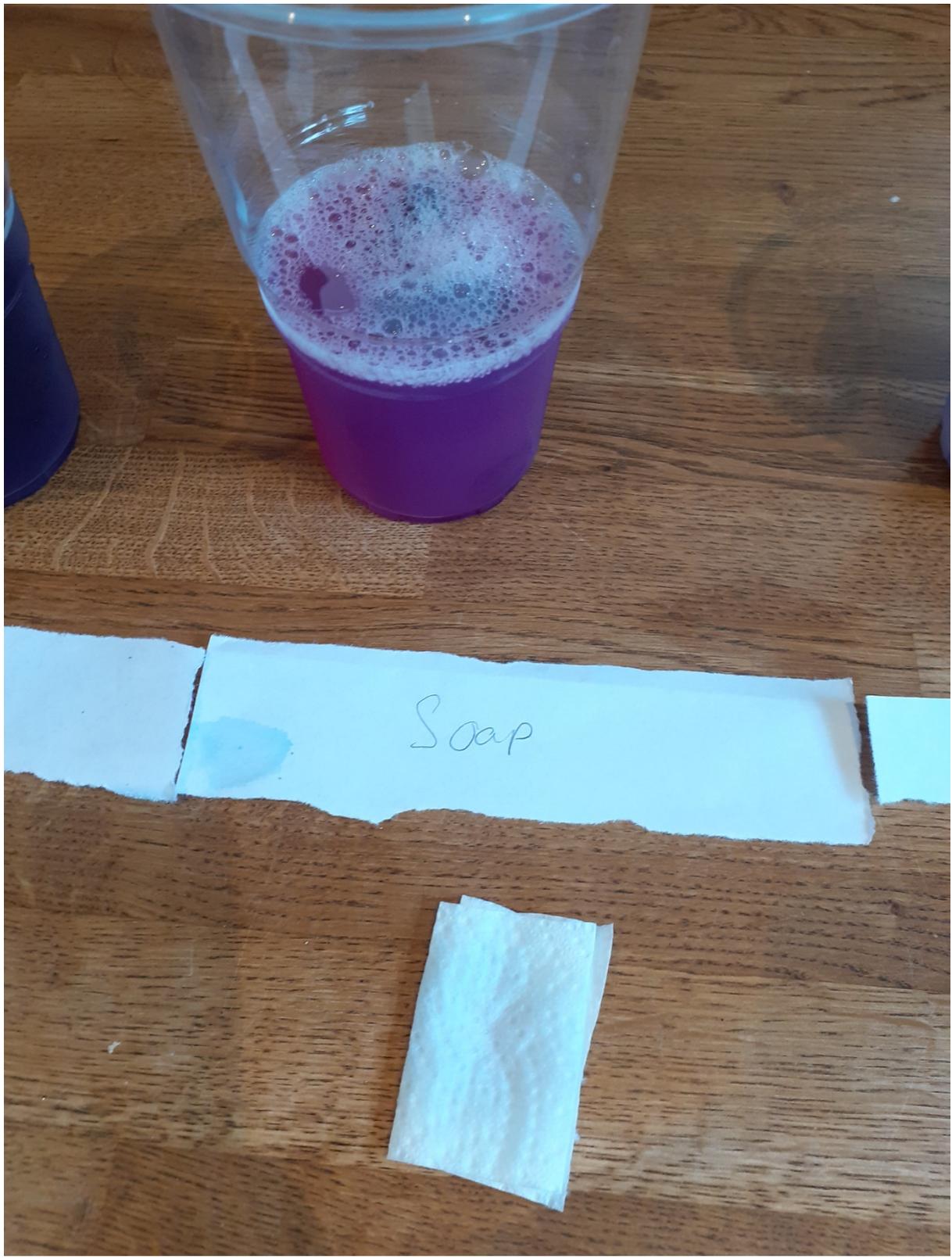
Vinegar

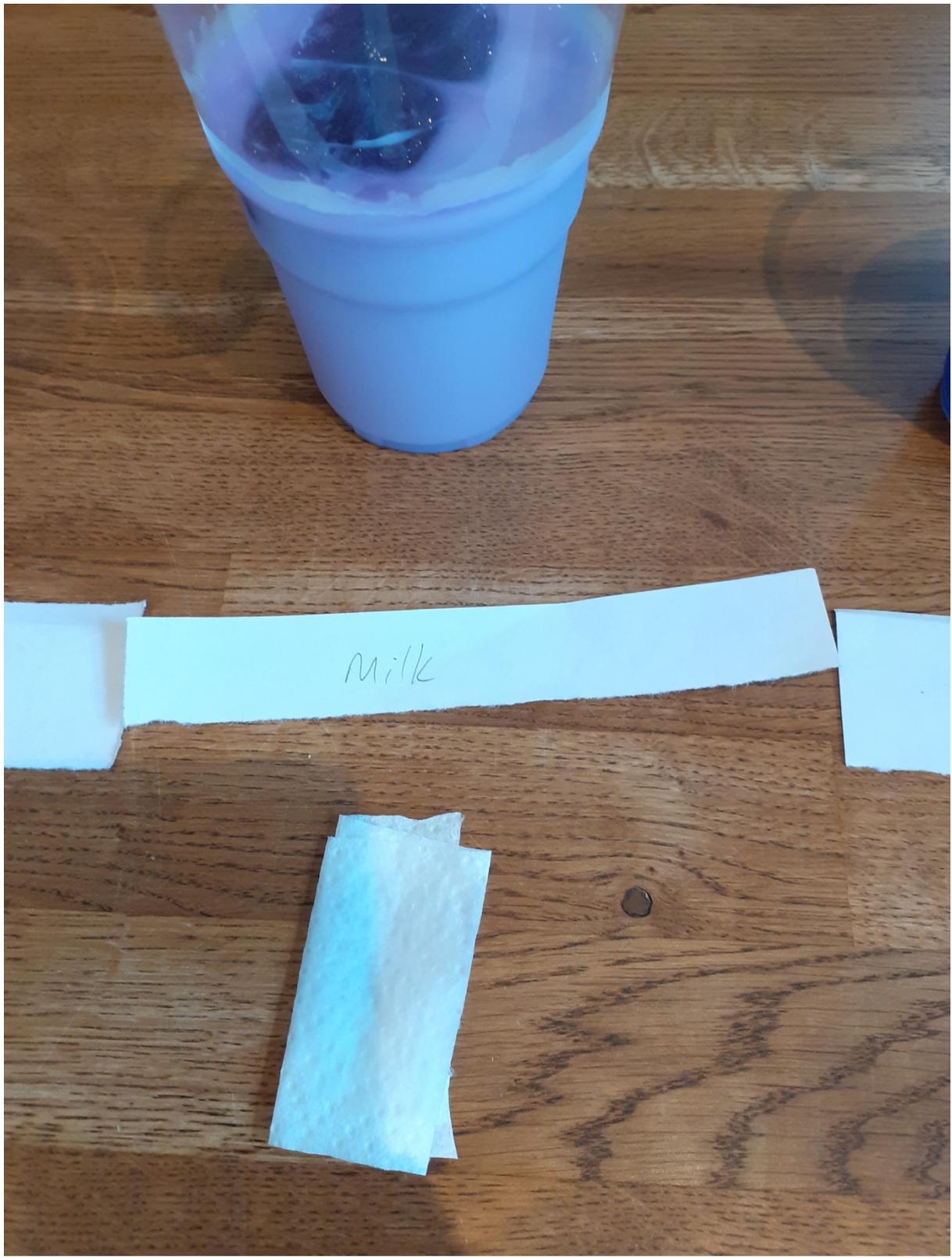
Le



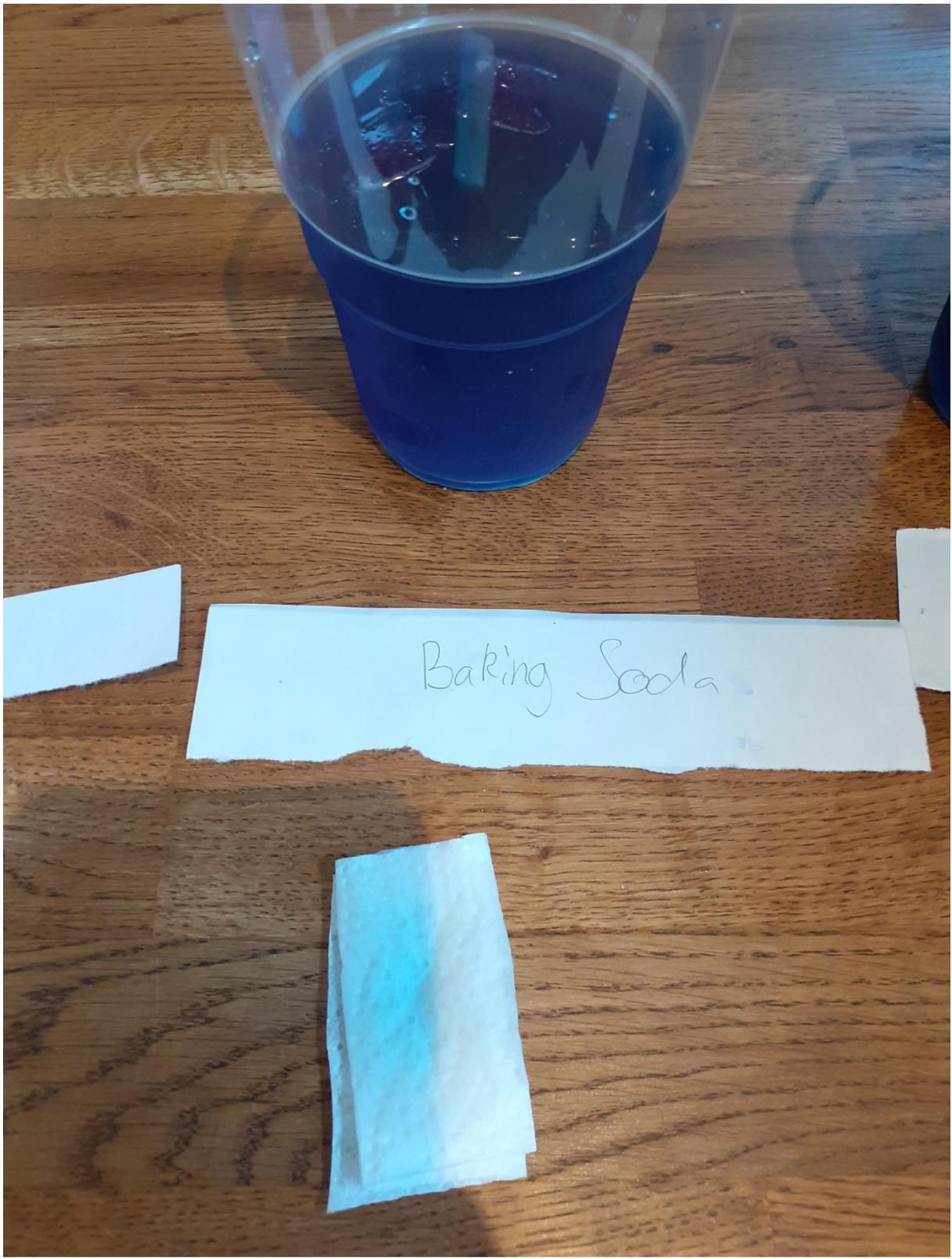
Lemon Juice



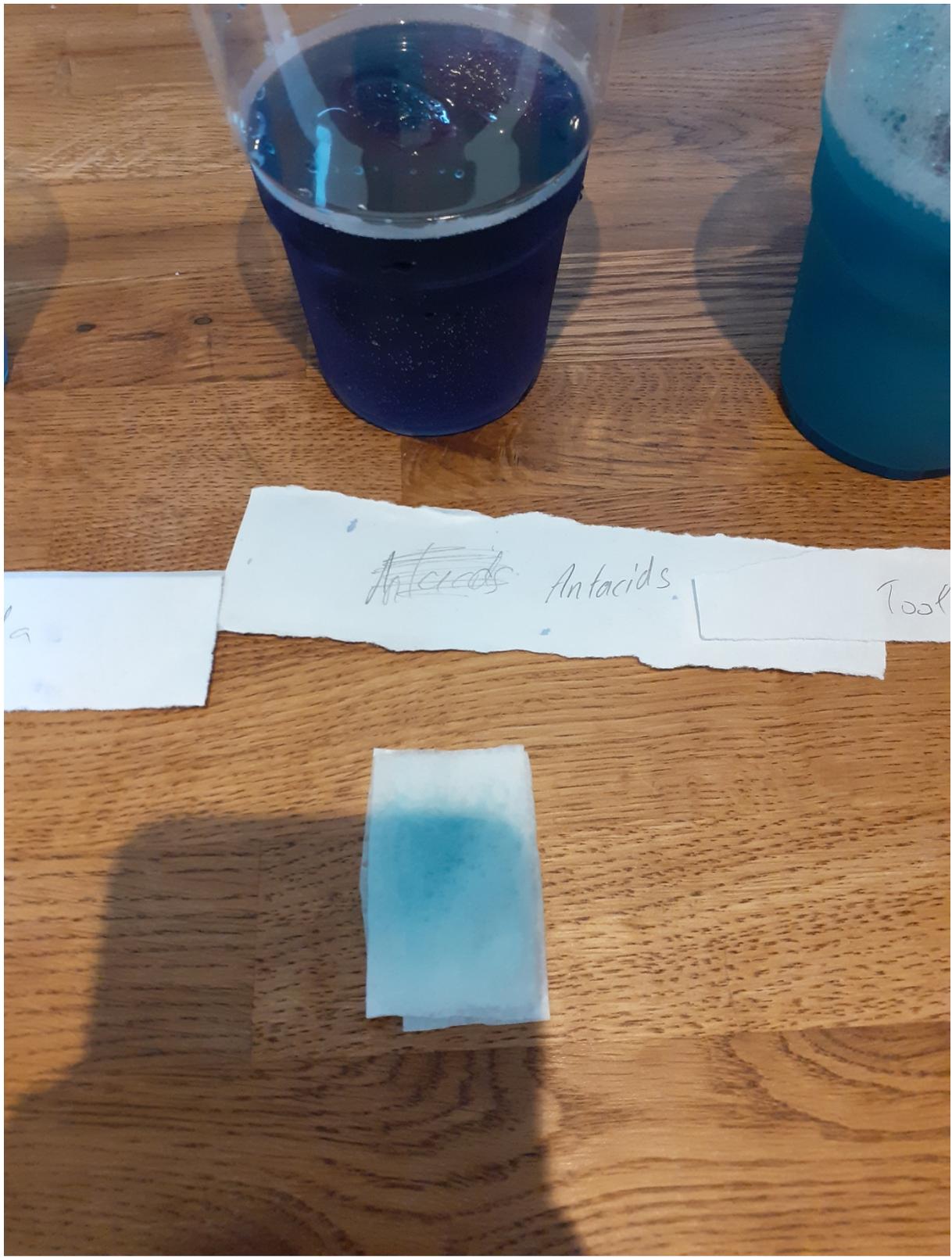


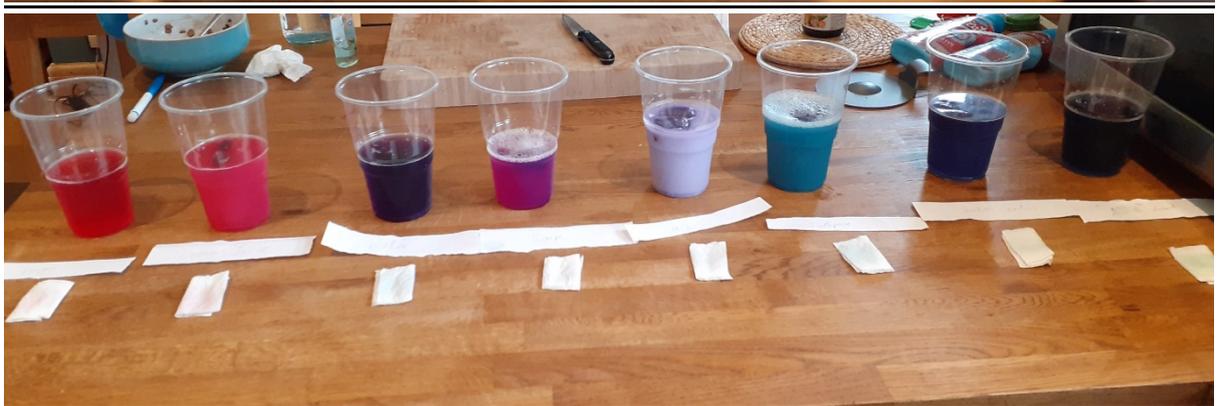
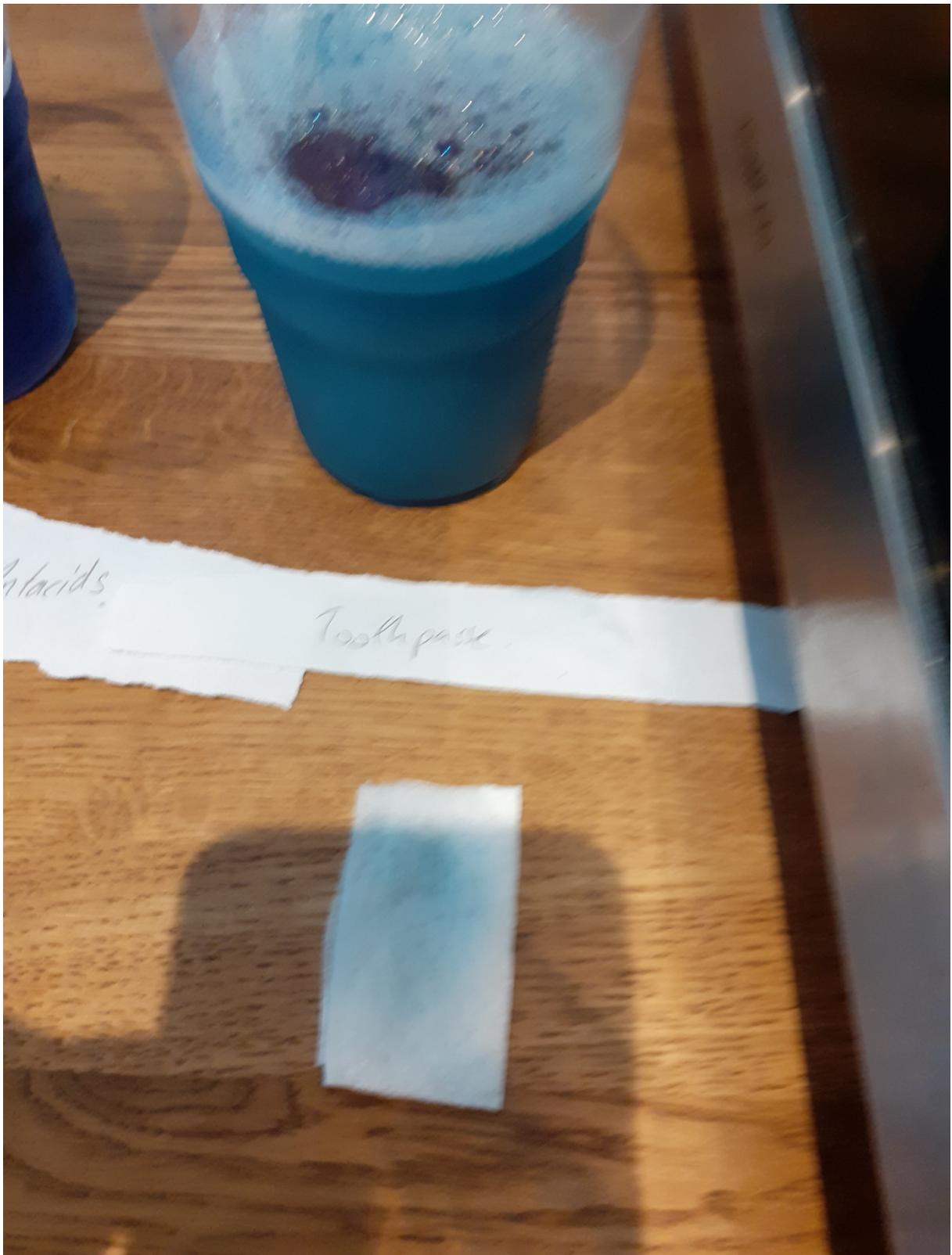


milk



Baking Soda





Things I tested:

Vinegar

Lemon juice

Water

Watered down soap

Watered down milk

Watered down toothpaste

Watered down baking soda

Dissolved antacids

What I expected to happen:

I expected the liquids listed above to go either purple, red or blue. I thought that pH indicators changed the colour of liquid, and the smell they emitted but I was definitely wrong especially on the vinegar.

What actually happened:

When I did the test, the vinegar turned vivid red, the lemon juice turned cloudy red, water turned purple; as I predicted, the soap turned a purple-pink, the watered down milk turned a violet, the toothpaste turned a murky blue, the baking soda turned dark blue and the antacid turned murky, dark blue.

What I learned from this:

I learned that a pH Indicator is used to see how acidic a liquid is. Vinegar was the most acidic and antacids were least acidic.

That was my experiment!

If you would like to know where I got all these instructions from, I got them from this website:

<https://www.sciencekiddo.com/red-cabbage-ph-indicator/>