Name: _____ Date: _____

TESTING THE pH OF HOUSEHOLD LIQUIDS

WITH CABBAGE JUICE INDICATOR

BACKGROUND

pH (potential of hydrogen) tells us how acidic or basic a substance is. Cabbage juice contains a natural pigment called anthocyanin that changes color depending on the pH of a liquid.

Acids turn the juice pink or red. Bases turn it green or yellow. Neutral solutions stay purple.

MATERIALS

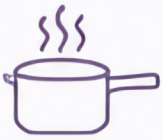
- ½ small red cabbage
- Water
- Saucepan
- Strainer
- Clear cups or test tubes
- Dropper or spoon
- Household liquids to test (see ideas below)
- pH color guide (below)
- Lab sheet and pencil

HOUSEHOLD LIQUIDS TO TEST (IDEAS)

- Lemon juice
- Vinegar
- Soda (cola)
- Orange juice
- Coffee or tea
- Baking soda solution (1 tsp baking soda in ½ cup water)
- Hand soap
- Dish soap
- Milk
- Tap water

MAKE CABBAGE JUICE INDICATOR

1. Chop ½ small red cabbage.
2. Add cabbage to a saucepan with 2 cups of water.
3. Bring to a boil, then simmer for 10–15 minutes until the water is deep purple.
4. Remove from heat and let cool.
5. Strain the liquid into a container. This is your cabbage juice indicator. Store in the fridge if not using right away.



PROCEDURE

1. Pour a small amount of each liquid into separate clear cups or test tubes.
2. Add 2–3 teaspoons of cabbage juice indicator to each cup.
3. Stir gently and observe the color change.
4. Use the pH color guide to estimate the pH of each liquid.
5. Record your results in the table below.

SAFETY REMINDERS

- Do not taste any of the liquids.
- Wash hands after the experiment.
- Clean up spills right away.

RESULTS

Liquid Tested	Color Observed	Estimated pH	Acidic / Neutral / Basic

OBSERVATIONS / NOTES:

_____

_____

pH COLOR GUIDE (CABBAGE JUICE)

pH 1–2	Strongly Acidic
pH 3–4	Acidic
pH 5–6	Slightly Acidic
pH 7	Neutral
pH 8–9	Slightly Basic
pH 10–11	Basic
pH 12–13	Strongly Basic
pH 14	Very Strongly Basic