

# MAKING HOMEMADE SOAP AND TESTING ITS pH

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Parent/Teacher: \_\_\_\_\_

**OVERVIEW:** In this experiment, you will make a simple bar of soap using a safe melt-and-pour method, then test its pH to see whether it is acidic, neutral, or basic.



## MATERIALS

- Melt and pour soap base (glycerin)
- Measuring cup (heat-safe)
- Microwave-safe bowl
- Spoon or stirring stick
- Soap mold (silicone molds work well)
- Optional: essential oil or fragrance
- pH test strips (range 0–14)
- Distilled water
- Small cup
- Paper towel
- Gloves (optional)



## SAFETY FIRST!

- Do not leave hot materials unattended.
- Be careful when handling hot soap base.
- Keep out of reach of young children.
- If irritation occurs, rinse skin with water.



## PART 1: MAKING THE SOAP

- 1 Cut the soap base into small cubes and place them in a microwave-safe bowl.
- 2 Heat in the microwave in 20–30 second intervals, stirring between each interval, until the soap is completely melted.
- 3 If using, add a few drops of essential oil or fragrance and stir well.
- 4 Carefully pour the melted soap into the mold.
- 5 Let the soap cool and harden completely (about 1–2 hours).
- 6 Remove the soap from the mold.



1. Cut soap base



2. Melt &amp; stir



3. Pour into mold



4. Cool &amp; remove

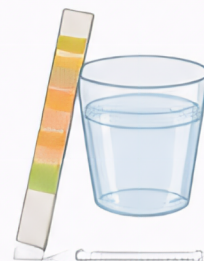


## PART 2: TESTING THE pH

- 1 Wet a small piece of your soap with distilled water.
- 2 Rub the wet soap on the pH test strip or dip the strip into the water that has touched the soap.
- 3 Wait 15–30 seconds.
- 4 Compare the color on the strip to the pH chart (on the bottle or package).
- 5 Record the pH.



**REMEMBER:** pH scale: 0–6 = acidic, 7 = neutral, 8–14 = basic (alkaline)



## RESULTS

| Sample Tested               | pH (0–14) |
|-----------------------------|-----------|
| Homemade Soap (your soap)   |           |
| Store-bought Soap (compare) |           |
| Water (control)             |           |

### What does your result mean?

pH 0–6 (Acidic): \_\_\_\_\_

pH 7 (Neutral): \_\_\_\_\_

pH 8–14 (Basic/Alkaline): \_\_\_\_\_



## REFLECTION QUESTIONS

1. What was the pH of your homemade soap? \_\_\_\_\_
2. Is your soap acidic, neutral, or basic? What does this mean for how soap works? \_\_\_\_\_  
\_\_\_\_\_
3. How does the pH of your soap compare to the store-bought soap? \_\_\_\_\_
4. What would you like to try differently next time? \_\_\_\_\_



**SCIENCE TIP:** The pH of a substance can affect how it feels, cleans, and interacts with your skin.

## DID YOU KNOW?

Soap is usually basic (alkaline) because it helps lift away dirt and oils. Most soaps have a pH between 8 and 10.

