

PAPER TOWEL TEST

In this experiment, we will compare different paper towel brands scientifically to determine which absorbs the most water.

INSTRUCTIONS:

STEP 1: Take one sheet from each roll of paper towels.

(Do a quick measurement to make sure they are all the same size.)

STEP 2: Fold your first paper towel into a square.

STEP 3: Drop the towel into the bowl of water.

STEP 4: Once saturated, take out and hold above the bowl until it stops dripping.

STEP 5: Now squeeze out the paper towel completely into your measuring cup or plastic cup.

STEP 6: Use measuring cup or draw a line on the plastic cup showing where the water line is. Label with the brand. Repeat this process for all.

Materials

3 to 5 different brands of paper towels
Measuring cup or clear plastic cup
Small bowl of water
Marker



THE SCIENCE

When you place the paper towel in water, the adhesive forces between the water and the cellulose fibers in the paper towel cause the water to be drawn up into the fibers. The water molecules also stick to each other (cohesion), pulling more water along with them, allowing the paper towel to absorb more liquid.

Paper towels with more fibers, or more porous structures, provide more space for water to be absorbed. Thicker towels or towels with a "quilted" structure may have a greater ability to trap water. Many paper towels are made of multiple layers to improve absorbency. Quilting or patterns on the paper towel can increase the effective surface area for water absorption.

Paper Towel Test

Use this worksheet to process and evaluate your observations.



<u>PAPER TOWEL BRAND</u>	<u>RANKED BY AMOUNT OF WATER</u>	<u>OUNCES</u>

Which paper towel brand absorbed the most water?

Why do you think that brand performed the best?

How would this information be helpful for someone buying paper towels?

