

Science

Paper Towel Investigation

Purpose:

- Compare different brands of paper towels through scientific investigation
- Test for paper towel absorbency
- Test for wet paper towel strength
- Demonstrate that science is fun

Activity 1: Testing Brand Absorbency

Supplies (for each group):

- 4 different brands of paper towels
- Scissors
- Bowl of water
- Empty container
- Pencil and data sheet (sample on page 2)
- Medicine or eye dropper

Work in groups of three. Record the four brands of paper towels in the appropriate data sheet column. Make sure each brand of paper towel sheet is the same size by trimming with scissors. Ask two group members to hold each corner of the first paper towel brand for testing. Hold the paper towel horizontally flat with the empty container underneath. Have the third group member fill a dropper with water and squeeze one drop of water at a time onto the center of the paper towel. Count the number of water drops absorbed by the paper towel before starting to drip. In the second column on the data sheet, record this number by the appropriate brand of paper towel. Repeat experiment with each of the other three paper towel brands.

Discussion:

1. Rank the paper towel brands on the data sheet based on how many drops of water each could hold (with #1 holding the most drops and #4 holding the least number of drops). How did the different paper towel brands rank?
2. Which paper towel brand is the most absorbent? The least absorbent?
3. How is this information helpful when deciding what paper towel brand to buy?

Activity 2: Testing Brand Wet Strength

Supplies (for each group):

- 4 different brands of paper towels
- Scissors
- Bowl of water
- Empty container
- Pen and paper (to continue data sheet)
- Teaspoon
- Jar of coins with the same type of coin inside (so that each are of equal weight)

Wet paper towel strength can be measured by measuring the amount of weight a wet paper towel can support. Ask participants to predict how many coins they think each of their paper towel brands can support when wet. Again, trim each brand of paper towel sheet so all four are the same size. Have two group members hold the first paper towel brand by the corners horizontally over an empty container. Have the third group member pour five teaspoons of water onto the center of the paper towel. Carefully add coins, one by one, onto the wet area of the paper towel until it tears. Record

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how many coins it took to tear the paper towel in the indicated column on the data sheet. Repeat process with each of the other 3 paper towel brands.

Discussion:

1. Rank the paper towel brands on the data sheet based on how many coins they could hold (with #1 holding the most coins and #4 holding the least number of coins). How do these results compare to the predictions made?
2. Which paper towel brand is the strongest? The weakest?
3. How is this information helpful when deciding what paper towel brand to buy?

Sample Data Sheet

Paper Towel Brand	# of Water Drops	Rank	# of Coins	Rank

