



In Class Activity

Which Paper Towel is More Absorbent?

Boyer, Rumsey, Bilder, & Malone. Retrieved at <https://www.causeweb.org/repository/StarLibrary/activities/>
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Group Names: _____

Objective

The purpose of this activity is to conduct an experiment to compare the absorbency properties of two brands of paper towels by measuring the amount of water each can absorb.

Part One – Prepare for the Experiment

- **Roles of the Team Members** (write the name of the person taking the role in the blank)

1. _____ One person will fold and dip the paper towel in the cup of water.
2. _____ A second person will read all the water measurements using the ruler.
3. _____ Someone will need to record the data into the workbook for the group.
4. _____ Another group member can be the timer to measure how long the towel is left in cup absorbing the water and how long it is allowed to drip (for consistency).

- **The Experimental Design Process**

1. Start by deciding how many measurements (trials) you will make on each brand.
(A minimum of 4 is required.) Write down this number here: _____
Explain why you need to have as many trials as you do.
2. Have the person appointed to dip the paper towel describe the method by which they will insert the towel into the cup of water. For example, are they going to fold it carefully first, or will they wad it up, or will they just kind of cram it in? If folding, you need to consider exactly how many folds are made and in what direction the folds are made. Write 1-2 sentences to describe the paper towel dipping process here:
3. _____ Determine the starting level (height) of the water in the “dipping” cup. This needs to be the same for *every* trial of the experiment. (About 10 cm high works pretty well.)

4. Next, your group needs to decide how to do the timing process for the experiment, considering how long will the paper towel stay submerged in the water and how long will it drip after you remove it from the water. Briefly describe the timing process here:

5. Your group needs to consider how you will use with the ruler for the measuring the water absorbed, considering the placement of the ruler, the units you will use, and the level of precision of the measurement. Describe your measuring process here:

6. Finally, as a class, you need to decide which brand to designate as Brand A: _____ and which brand of paper towel to designate as Brand B: _____.

Part Two – Conduct the Experiment to Collect Data

1. Conduct your experiment for each brand, Brand A and Brand B, according to your experimental design process discussed in Part One. Record your data into the tables that follow.

Try to duplicate the conditions of the experiment for each trial as nearly as possible.

It may not be necessary to do 10 observations for each brand; there is space to do so, if needed.

Data for Brand A, known as: _____

Observation Number (Trial)	Initial Water Level (cm)	Water Level after Towel Dunking (cm)	Difference in Water Level (Amount Absorbed, cm)
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

Data for Brand B, known as: _____

Observation Number (Trial)	Initial Water Level (cm)	Water Level after Towel Dunking (cm)	Difference in Water Level (Amount Absorbed, cm)
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

2. Record your water level differences (the amount absorbed) for each brand in the table below. Refer back to the far right column of each table, from number 1 above.

Then transfer these difference data to lists L1 (Brand A) and L2 (Brand B) in your calculator.

Observation Number (Trial)	Difference in Water Level, or Amount Absorbed (Brand A)	Difference in Water Level, or Amount Absorbed (Brand B)
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

