Paper Towel Experiment

1) **Ask a Question/ Problem**: We have all seen advertisements where two brands of paper towels are compared by observing how quickly or thoroughly they suck up a mysterious blue liquid or by wiping up some muddy footprints from their kitchen floor. This, as we know, is not very [scientific](https://explorable.com/what-is-the-scientific-method)- there are no figures, no proof and little truth. Here we are going to show you how to [conduct an experiment](https://explorable.com/conduct-science-experiments) to test one of these claims: the absorbency of paper towels.

2) **Background Research**:

* Arthur Scott from Philadelphia, USA, invented paper towels around 1990.
* Paper towels have become a billion dollar industry.
* Paper towels are often made from post consumer recycled paper fiber, requiring fewer trees being cut down and using up to 50% less energy.

3.) **Form a Hypothesis** (remember this is what you think will happen during the experiment, what you believe to be true.)

Example: “More expensive brands of paper towels are more absorbent”.

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4.) **Experiment**

Materials

* At least five brands of absorbent paper towel
* A stopwatch/ Cell Phone
* A beaker
* A graduated cylinder
* A funnel
* Food Coloring
* 200 ml of water

Procedure

* Fill the beaker up with exactly 200 ml of water, add 1 drop of food coloring.
* Take a sheet of the first brand of towel.
* Fold and insert into the water. As you dip the towel into the water, start your stopwatch.
* After 20 seconds, remove the towel from the beaker and squeeze as much water as you can out of the towel in to the graduated cylinder using the funnel. Make a note of the volume extracted.
* Repeat 5 times for each brand and note the results in your data table. You must make sure that each sheet is folded in exactly the same way for the experiment to be constant and correct.
* Write down the results for each brand in your notebook.

In this experiment, what is your control? And what is your variable? (Remember you should only have 1 variable)

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**5.) Analyze Data/ Results**

Write your results down below.

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Brand, extracted \_\_\_\_\_\_\_\_\_\_ ml of water.
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Brand, extracted \_\_\_\_\_\_\_\_\_\_ ml of water.
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Brand, extracted \_\_\_\_\_\_\_\_\_\_ ml of water.
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Brand, extracted \_\_\_\_\_\_\_\_\_\_ ml of water.
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Brand, extracted \_\_\_\_\_\_\_\_\_\_ ml of water.

Plot all of your results onto a simple bar graph.

* This will allow you to show which brand of paper towel is the most absorbent and which is truly awful.
* Label your X axis with Brands and your Y axis with mL of water extracted.

Title: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Brands

6. Draw a Conclusion/ Report Results: Was you Hypothesis correct/supported or incorrect rejected based on the data above.

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