



# CALIFORNIA STATE SCIENCE FAIR 2010 PROJECT SUMMARY

<b>Name(s)</b> <b>Clayton M. Nadeau</b>	<b>Project Number</b> <b>J2220</b>
<b>Project Title</b> <b>The Big, the Bad, and the Brawny: Paper Towel Absorbency</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The objective of this experiment is to find the most absorbent paper towel product amongst four top brands. Each of the four brands will be subject to three tests, each designed to provide the clearest results. The results of the experiment will clearly establish one brand of paper towel to be superior to the other three brands, for reasons based in product design and materials used. I also considered the cost of the paper towel brands, and if the more expensive paper towel is more absorbent, or if the less expensive paper towel is more absorbent.</p> <p><b>Methods/Materials</b> Four brands of paper towels were selected at the grocery store for the experiment: Brawny, Bounty, Viva and Scott. The four brands were subject to three different tests. Each test was conducted five times in order to compile and compare data. Paper towel squares of equal size were cut, and the tests were conducted. Once the tests were concluded, the data was compiled and the results were calculated. Materials used: 1 role each of Viva, Bounty, Scott and Brawny paper towels; 2 glass pyrex bowls; 1 measuring cup; 1 syringe; 1 container blue food coloring; 1 container red food coloring; tap water; 1 ruler; pens and pencils.</p> <p><b>Results</b> As a result of the experiment, certain patterns became very clear. The difference between single-ply and two-ply consistently showed that two-ply paper towels, by design, are better products. After the experiment was complete for this assignment, it was decided to do the dip test for a longer period, just for fun. Instead of 10 seconds, the dip time was increased to 30 seconds. The overall results remained the same, with Brawny being the most absorbent of the four. The results of the experiment completely support the hypothesis. Brawny paper towels performed better in each of the three tests.</p> <p><b>Conclusions/Discussion</b> Even though all the tests were performed multiple times, for varying lengths of time, the results did not change. It was surprising to note that Viva responded so poorly in the drip test, with red water dripping directly through the surface of the paper towel. The design and the thickness of the paper towel did make a difference in the absorbency. I also learned that cost did have some bearing in the final results. In conclusion, I would not buy Viva, sometimes buy Scott, often buy Bounty, and always... buy Brawny!</p>	
<b>Summary Statement</b> The project is a comparison of four different brands of paper towels, to learn which of the four brands is the most absorbent, and to what degree.	
<b>Help Received</b> Mother helped type report, father helped hold paper towel in the drip test	