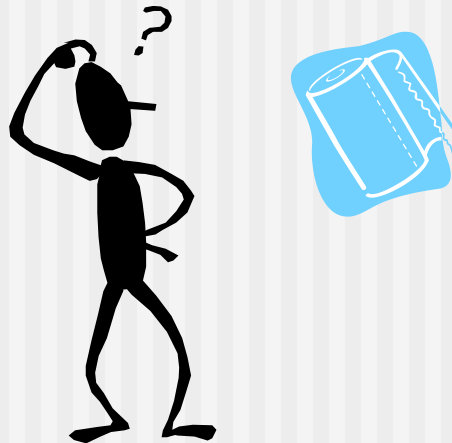


District Science Pacing Guide 2012-2013
Grade 5 Quarter 1 Topic 6
Supplementary Resource

Grade 5 Quarter 1 Essential Lab # 4

Which brand of paper towels do you think is best?



Which brand of paper towels do you think is best?



Brawny

Sparkle

GreenWise

Viva

Publix Ultra

Scott

How are the paper towels different?

Get a notebook to record all information collected for your project.

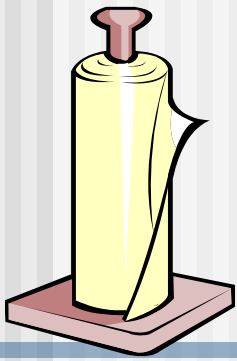
- Cost
- Ply
- Absorbency
- Strength
- Texture
- Content

Paper Towel Comparisons

Sample

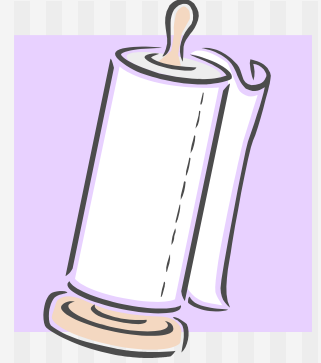
* Cost and price from Publix's 6/11/11

| Brand | Cost Per Sq. Ft. | Ply | Claims |
|--------------|------------------|-----|---|
| Bounty | 3.28 cents* | 2 | Quicker picker upper, reuseble, durable, quilted, flower print, |
| Brawny | 2.92 cents* | 2 | Soft and strong, flex tech embossed design, strength and durablity, premium performance |
| GreenWise | 1.69 cents* | 2 | Strong, soft, free of ink, dyes, frangances, 100% recycable |
| Publix Ultra | 1.33 cents* | 2 | Ultra absorbent, folds easily, colorful |
| Scott | 2.53 cents* | | |
| Sparkle | 2.17 cents* | 2 | Registered thirst pockets, advantage of no color |
| Viva | 4.00 cents* | 1 | Cloth like, soft, strong, |



Which paper towel is best?

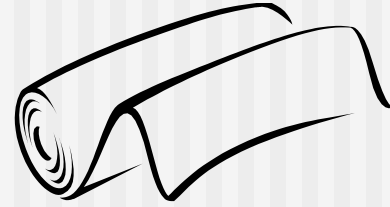
Using the Scientific Method
Scott Foresman pp. xxvi-xxvii



Scientific Method

- Ask a question
- Do research
- Form hypothesis
- Identify the variables
- Gather materials
- Identify the procedures
- Conduct the experiment
- Collect and record data
- Analyze data/results
- Draw conclusions
- Communicate results
- Identify new questions

Online Sources



- **The World's Strongest Paper Towel:**

<http://handdryerreview.com/paper-towel-strength.html>

- **How to Test Paper Towels Absorbency:**

http://www.ehow.com/how_5676085_test-paper-towels-absorbency.html

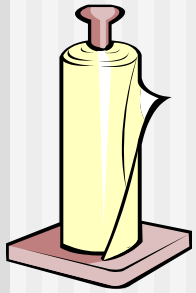
Plan a test to determine the best paper towel.

Will you test absorbency or strength or ...?

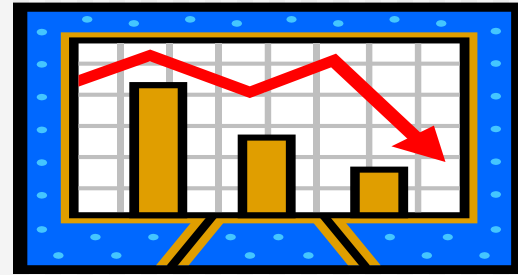
- Problem Statement: One testable question that can be answered by performing an experiment.
- Hypothesis (“**if** (I do this) **then** (this) **will happen.**”)
- Test(Independent/manipulated) Variable
- Outcome(Dependent/responding) Variable or what you plan to measure and how
- Control(Constant) Variables or all the factors to be kept the same in the experiment
- List of materials you think you will need

Finalize the Investigation

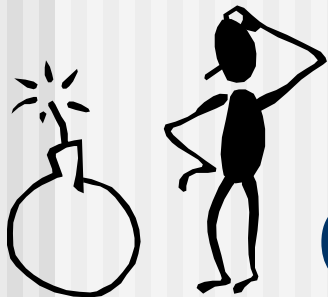
- Write your procedures or the steps you will follow in your experiment.
- Each procedure step needs to be numbered.
- Each step needs to begin with a verb.
- Check procedures to insure that all variables are kept the same (constant) except the one you are testing (independent/manipulated).
- Collect the materials needed for the experiment.
- Create data tables.



Data



| Paper Towel Brand ↓ | Trial 1 | Trial 2 | Trial 3 | Average |
|---------------------|---------|---------|---------|---------|
| | | | | |
| | | | | |
| | | | | |



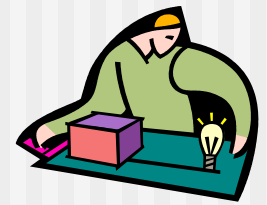
Conduct the Experiment

- Start the experiment to test your hypothesis.
- Observe and record the quantitative data (numbers or measurements) collected during the experiment on a data table.
- Repeat the experiment three or more times to confirm results.
- Graph your data from all trials. (Dry Mix)
- Restate your data in a narrative form as the Results.

Data

Drawing Conclusions

- What was investigated? (Describe the problem statement.)
- Restate your hypothesis, and tell if it was supported(true) or not supported (false).
- What were the major findings? (Explain your results.)
- Look at everything that may have affected your results. What possible explanation can you offer for your findings?



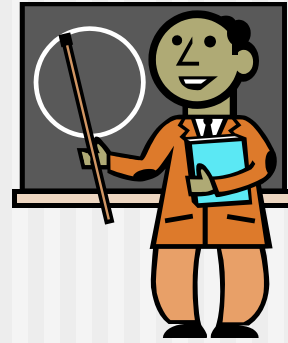
Making Applications

- What recommendations do you have for further study and for improving the experiment?
- Explain what you learned from your experiment that could be applied in real life.
- List any new questions that your experiment lead you to ask that could be tested in a new investigation.

Abstract and Bibliography

- Describe your purpose and hypothesis.
- Briefly describe your procedure.
- Describe and explain your results and also state if your hypothesis was supported or not by the results. Give possible reasons.
- Explain your conclusion.
- List your bibliography.

Communicate Your Inquiry



- You can use a large chart paper to present your data.
- You can use the science fair blank template to create a Power Point presentation.
- You can duplicate your Power Point presentation and display on a Science Fair Project Board.