

GEMS Club Sample Lesson

Consumer Testing—which paper towel is best? (You can also do this with squares of disposable diapers)

Goals: To use principles of scientific investigation to determine which product is best and inform the public through letter-writing

To look at advertising and refute or confirm claims

Supplies and preparation needed:

- Five different brands of paper towels, including the school system’s brand. Tear off three towels per girl of each brand, labeling each one with a number. For example, 48 sheets of Bounty would each be labeled “1”, 48 sheets of Wegman’s brand would each be labeled “2”, etc. Keep the sheet identifying the brands hidden. Each girl will use two sets of 1-5 (with a numbered spare for mistakes), but we will use one number at time so that the tables are dried between tests. Keep a spare roll at the tables to keep things clean and dry.
- Eye droppers
- Small tub of margarine, divided so that there is a chunk available to each table
- Plastic knives
- Water in small cups—to use for the drip tests
- Extra paper towels to clean up between tests
- Clipboards, if available and pencils

Vocabulary:

- Consumer
- Absorbent
- Strength
- Hypothesis

Preparation:

As described above, get the sets of paper towels ready for the girls. Each girl also needs a small cup of water, an eye dropper, a plastic knife, and access to the butter.



GEMS Club Meeting:

Introduction—the challenge:

- Read the challenge:

“Your mother insists that it is better to buy the store brand of paper towels because “there is no difference.” Your father watches the ads on TV and thinks that one brand is better because he sees the paper towel wipe up everything from spaghetti to volcano eruptions. You are tired of the arguments. How can you settle this?”

- Explain to the girls that they are going to test the paper towels and then write letters to the companies that make them and inform them of their results.

Section One--Making Predictions and Testing:

Ask the girls to remember the names of the paper towels they see advertised on TV or use at home. Tell them that they are going to test paper towels and ask them to give some ways to test paper towels. Do not identify any of the brands you are using for this experiment. Ask them to choose which is the best paper towel and why. Write these comments on the board. Remind them that their predictions are their **hypothesis**.

Instruction:

Review the attached data sheet. Explain that they are going to test each of the paper towel samples in the same manner. Remind them that it is essential to use the same procedures for each sample so that they get accurate results. Offer to the girls that they can work in teams of two. This lesson lends itself well to teamwork, but you know your girls best.

Pass out the five numbered samples of paper towels. Remind the girls to keep the untested samples away from the water.

Demonstrate the procedure—dropping the water onto the table, letting the towel soak it up, writing down the observations, etc. The first two tests go together.

With the smear test, you should use the plastic knife to smear the butter on the table so that approximately the same amount is used each time. Each girl or team of girls works through the data sheet on their own, writing down their observations and data, including comments. These comments are important, as they form the basis for the letters they will write in the second session.

Discussion/Analysis:

- When all of the experiments are done and data noted on the sheets, discuss which number was the best and identify the brands. Allow for comments, discussion and arguments if needed.
- If the girls can come to a consensus, great. If not, have them divide into groups to prepare for the letter writing.

Section Two—Informing the Producers:

Goal: Write letters to the winning paper towel companies informing them of the results of the experiments.

Materials needed:

- Notebook paper
- Pens
- Addresses of paper towel companies—easily found on the packages or by searching the internet—on paper for the girls to copy into their letters

Gather the girls into the teams they were in during the data-collection phase and have them discuss their results again. Tell the girls that they are going to do one of the most important parts of consumer testing—informing the producers of their results.

Active Learning:

- Review the results and make sure the girls know which company they are writing to.
- Distribute the addresses to the girls.
- Review the parts of a business letter—use a template if you want for the draft (attached)
- Have the girls write a draft in teams.
- Review the draft quickly and allow them to copy it over while they are in the meeting. Remind them to use the school address as the return address and not to use their last names.
- Enclose pictures if you want. Companies love that.
- Mail them off and see what you get back!



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GEMS—Product Testing and Evaluation--Paper Towels

	BRAND 1	BRAND 2	BRAND 3	BRAND 4	Brand 5
SOAK—drop 10 ml water on table. Lay paper towel on wet spot. Wait 1 minute. Draw or describe results .					
WIPE—using the same paper towel, lift up the wet paper towel by the corners. Does it hold together? Can you then clean up the rest of the spot with it or do you need more towels? Is the table dry? Write results.					
SMEAR—spread 1 tsp. butter on table. Lay 1 new paper towel on top. Can one paper towel clean it?					
Comments:					

What is your choice for the best brand? _____



Sample Consumer Testing Letter to Company

_____ School

_____ Company

Sir:

(Description of our test)

(What happened during the test)

(How I (we) feel about your product)

(In the future, I (we) will)

Sincerely,

First names only

