Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Section \_\_\_\_\_\_

Science

**Consumer Product Research**

Have you ever wondered if Bubble Yum tastes sweeter longer than another brand of bubble gum? Or does your hand sanitizer really kill 100% of germs? Or do Huggie Diapers really absorb the most liquid? Help solve these issues and others that face everyday consumers. Identify a product that you or your family uses. Design an experiment to test an aspect or claim about this product. Does your product really perform like the manufacturer claims? Your research and findings on an everyday product is very important to all of us and we look forward to hearing from your research team.

As consumer scientists, you must first apply to the FDA (Food and Drug Administration) for approval of your research. In order to apply you must send in a business letter introducing you and your colleagues, and the reason for your research. Secondly, you must collect background information about your product, including a profile of the product you are planning to test. Write a proposal about the experiment you would like to carry out. Finally, you and your group will present your findings to the class, other teachers, and your parents at Consumer Product Showcase!

**Preliminary Phase**

***Business letter to FDA***

1. Letter should be a minimum of one page in length.

2. Address your letter to the Director of Research of the FDA

3. Introduce yourself and your colleagues. What type of testers are you? Engineers? Chemists? Are you representing a “company”?

4. Explain what products you will be testing.

5. Explain why the FDA should care about your test research. Be persuasive! (How will it be helpful to all of us? Our society?

***Background Research***

Investigate and collect information about your product. Information should come from three different reliable sources (newspaper, magazine, TV, internet, company information, Consumer Product Safety Commission, FDA, or other sources). Include the following:

***Product Profile***

1. Name of Product

2. Company name and address

3. Size of products/contents

4. Ingredients

5. Nutrition information (if applicable)

6. Safety precautions/warnings

7. Other?

8. Directions

9. Storage conditions

10. Cost of product

What do advertisements say about your product? What do they not say about your product?

* How does your product compare to other similar products?
* Are there any consumer reviews about your product?
* Explain how your research will improve what is known about your product.
* Include a WORKS CITED page using MLA formatting.

***Proposal***

1. Your proposal must include an explanation for why this research would be important.

2. Include a hypothesis (If…then..)

* Explain what feature of the product you are testing- the INDEPENDENT VARIABLE
* Identify the DEPENDENT VARIABLE- what will you be measuring or determining
* Explain what the CONTROL group is and why it is the control

3. List the materials needed for the experiment. Determine who is responsible for obtaining needed materials.

4. Describe the experiment’s design:

* What is your PROCEDURE
* How will you collect data
* What CONSTANTS will you use

***Testing Phase***

***Data Analysis***

1. Test your product and collect results

* You should collect information in some type of table.
* Show results in a spreadsheet or graph data if applicable. (Use correct graphing techniques)
* Be sure to include things such as calculations, data, time, etc.

2. Analysis

* Analyze your data. How does your data support your hypothesis?
* After graphing your data, what claims can you make from them about your product and the results of testing?

3. Conclusions (typed and written in paragraph form)

* Explain the purpose of the experiment.
* Restate your original hypothesis and tell if the data you gathered supports or disproves the hypothesis.
* Include observations; summarize data, and state possible and actual sources of error in your testing.
* How do your ideas about the product and the testing compare with other research you did and with the opinions of commercials or advertisements?
* Make recommendations for future testing and research on this product.

***Communicating Findings Phase***

1. Trifold Board/Presentation

Information must be typed. Spelling, capitalization, punctuation and grammar count. For the tri fold board,

font size 18 or larger should be used. Include the following:

* Title of Project and authors
* Background information
* All parts of the scientific method - purpose, hypothesis, materials, procedure, data - observations and graphs, analysis of data and conclusion.
* Photographs of your experiments and testing

2. CONSUMER PRODUCT SHOWCASE – Oral Presentation

* Explain the contents of your trifold presentation
* Explain the purpose of your product testing and the background information about your product. What did other research or commercials say about this product?
* Explain how you did your experiment including materials and procedure used.
* Explain what your graphs and tables show and the conclusions you can draw from this data about your product.
* Tell about your recommendations for this product and what future studies or research you would suggest.

**Consumer Research team members**:

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**Proposed Consumer Product:**

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**TIMELINE Due date:**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Business Letter**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Background Research (complete in a TEAM Google Doc)**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Proposal (include in TEAM Google Doc)**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Testing Phase**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Presentation**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_CONSUMER PRODUCT SHOWCASE (Parents, Teachers invited)**

**NOVEMBER 13th at 7:00 pm (proposed)**

**Some suggested topics:**

Do shampoos with conditioner remove tangles better than shampoo without conditioner?

Does the shape of ice cream containers affect melting?

Do household cleaners with ammonia clean grease better or not?

Are nail polish removers with acetone more effective?

Do laundry detergents with added stain removers remove stains more effectively?

Do Green Bags used to store fruit or vegetables prevent food spoilage?

Do organic vegetables/fruits have a longer shelf life?

How much stronger are 2-ply and 3-ply sheets of toilet paper than a 1-ply sheet?

Which glue, super glue, wood glue or acrylic glue is the strongest?

Do all hairsprays hold equally well?

Do all brands of diapers absorb the same amount of liquid?

Do different brands of batteries (same size, new) last equally long?

If a brand lasts longer than others, does this change if you change the product (e.g., running a light as opposed to running a digital camera)?

How does distilled water compare with drinking water?

Do antibacterial liquid hand soap really kills the most bacteria?