

# Grades 4-8

# Science Fair

# Forms Packet

# 2023 - 2024

**These forms include checklists and assignment forms to be turned into Science teachers for a grade.**

**You may handwritten or type this information if you are unable to print these forms**

## **Assignment #1**

### **Problem Statement**

**Select a topic that can be answered only by experimenting. Write your topic as a question to be investigated.**

*Example:* "Which brand of paper towels is the most absorbent?"

Student Name\_\_\_\_\_

Teacher Name\_\_\_\_\_

\_\_\_\_\_

**My Problem/Statement**

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### **Hypothesis**

**A hypothesis states what you think is going to happen when you investigate a question.**

*Example:* "If Brawny, Viva, and Bounty paper towels are tested for their absorbency, then Bounty paper towels will be the most absorbent."

**Return this form to teacher by Tuesday, September 26, 2023\*\***

## Assignment #2

### Materials

**List all the materials used in your investigation. Include specific details such as size and quantity. Remember to use only metric units.**

#### **Good Example:**

1. 3 – 15x15 cm. sheets of each paper Towel: Brawny, Viva, and Bounty.
2. 1 20x20 cm. square cake pan
3. 750 ml water, 20° Celsius
4. Celsius thermometer
5. Clock with a second hand

#### **Poor Example:**

1. Paper Towels
2. Measuring Cup
3. Water
4. Container
5. Thermometer
6. Clock

#### **My Materials:**

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## Assignment #2 Continued

### Procedures

List your step-by-step directions like a recipe. Anyone who reads them should be able to duplicate your investigation. **DO NOT** write what you did (avoid words such as "I" and "me").

*Example:*

1. Cut 3 – 15x15 cm. Sq. from each brand of paper towels.
2. Label each cut piece with a brand name.
3. Pour 50 ml. of 20° Celsius water into 20x20 cm. sq. pan
4. Place 1 square of generic brand paper towel into the water and pan
5. Leave for 30 seconds
6. Remove paper towel
7. Measure water remaining in pan and record
8. Dry the cake pan
9. Repeat steps 4 through 8 for each brand of paper towel
10. Repeat entire process twice more for each brand of paper towel

**My Procedures** (*use extra paper if needed*):

**\*\*Return this form to your teacher by Tuesday, October 10, 2023\*\***

# Assignment #3

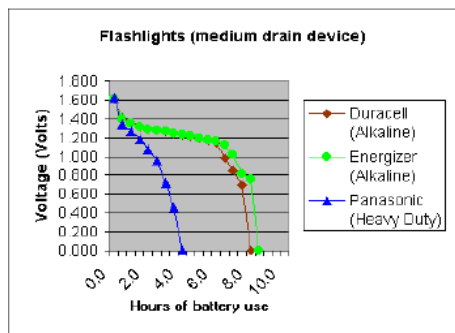
## Data

**Data refers to information gathered during your investigation. Writing in a spiral notebook is the most convenient way to keep a log.**

**\*Your log should include:**

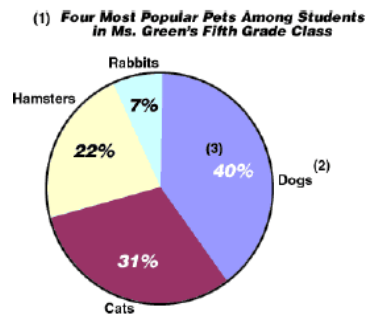
1. A list of all materials you use.
2. Notes on the preparations you made prior to starting your investigation.
3. Information about the resources you use (books, people, library, museum, universities, etc.)
4. Detailed day-by-day notes on the progress of your project.
  - a. What you are actually doing
  - b. Problems you have with your investigation
  - c. Things you would change if you were doing this investigation again.
5. Any drawings that you feel might help explain your work.
6. Data that you gather from your investigation (notes, table, charts, graphs). Be sure that you date each entry in your log.

### Line Graph



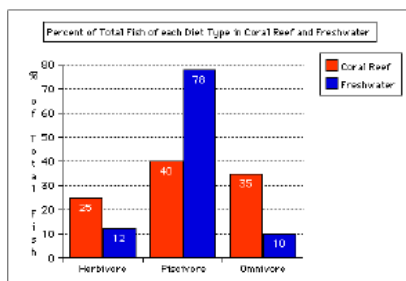
\*Line Graphs are used to show change over a period of time.

### Circle Graph



\*Pie Graphs use percents to show how parts are compared to a whole.

### Bar Graph



\*Bar Graphs are used to compare quantities or amounts of similar things.

### Data Table

DATA TABLE		
	Mass (in grams)	Volume (in milliliters)
Paper sack		
Plastic sack		

\*Data Table shows an organized way to calculate and record this information.

## Assignment #3 Continued

### Results

**Write the results of the experiment based on the information you have observed.**

*Example:* A sheet of Viva paper towel absorbed an average of 50 ml of water. A sheet of Suave paper towel absorbed an average of 36 ml of water.

### Conclusion

**Before you write your conclusion, carefully examine all your data (graphs, charts, tables).**

Ask yourself these questions:

1. Did you get the results you expected to get? If not-how were the results different?
2. Were there any unexpected problems or occurrences that may have affected the results of your investigation?
3. Do you think you collected sufficient data? (Were there enough trials? Samples?)
4. Do I need to revise my original hypothesis? (If you write a revised hypothesis, **DO NOT** use it to replace your original hypothesis for this project!)

**Your conclusion should include:**

1. Statement of support or non-support of the original hypothesis.
2. Description of any problems or unusual events that occurred during your investigation.
3. What you would do differently next time.
4. Revised hypothesis (if data did not support original hypothesis)

**\*\*Return this form to your teacher by Tuesday, October 24, 2023\*\***

**My Results**

**My Conclusion**

***\*\*Return this form to your teacher by Tuesday, October 24, 2023\*\****

## **Assignment #4**

### **Written Report**

**This includes the topic,  
hypothesis, data, results and  
Conclusion**

**My Written Report**



## **My Written Report (*Continued*)**

**\*\*Return this form to your teacher by Tuesday, October 24, 2023\*\***

# Research/Resources

*\*See Resource Pages \**

Once you have chosen your topic, it is important to research the written materials on your subject. By finding out as much information about the subject, you will gain a better understanding of your problem.

**4<sup>th</sup> - 6<sup>th</sup> grade students need at least 4 sources;  
7<sup>th</sup> - 8<sup>th</sup> grade students need at least 5 sources.**

1. Read books, websites and articles on your subject. Make sure this information is up to date (not older than 5-10 years).
2. Interview and talk with people who are knowledgeable about your subject.

**\*This section is not included on your Display Board.**

## Bibliography

**Make a list of all the books, magazines, internet articles, interviews, or other sources that were used. \*Write our bibliography using the following format:**

### Books

#### **Format:**

Author's last name, first name. *Book title*. Additional information. City of publication: Publishing company, publication date.

#### **Example:**

Allen, Thomas B. *Vanishing Wildlife of North America*. Washington, D.C.: National Geographic Society, 1974.

### Website or Webpage

#### **Format:**

Author's last name, first name (if available). "Title of work within a project or database." *Title of site, project, or database*. Editor (if available). Electronic publication information (Date of publication or of the latest update, and name of any sponsoring institution or organization). Date of access and <full URL>.

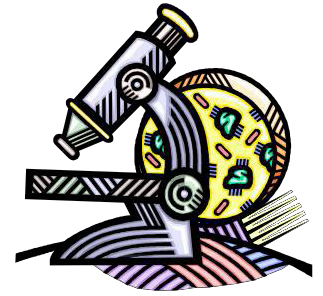
Note: If you cannot find some of this information, cite what is available.

#### **Examples:**

Devitt, Terry. "Lightning injures four at music festival." *The Why? Files*. 2 Aug. 2001. 23 Jan. 2002  
<<http://whyfiles.org/137lightning/index.html>>.

**\*\*Return the following Resource pages to your teacher by Tuesday, October 24, 2023\*\***

## Assignment #4 Continued



### Resource Pages

#### Resource #1

**4th - 6th grade students need at least 4 sources;**

**7th - 8th grade students need at least 5 sources.**

#### Resource:

Type of Resource: \_\_\_\_\_

Website: <http://> \_\_\_\_\_

Author: \_\_\_\_\_

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

Publishing Company: \_\_\_\_\_

Location of the Publishing Company:

\_\_\_\_\_  
\_\_\_\_\_

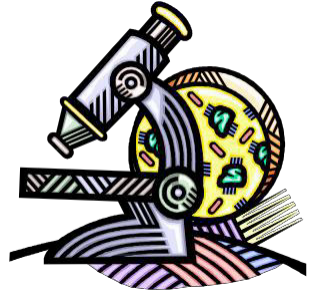
Date of Publication:

\_\_\_\_\_

#### Information found in your own words:

(Must be at least one paragraph summary.)

# Resource Pages



## Resource #2

**4th - 6th grade students need at least 4 sources;  
7th - 8th grade students need at least 5 sources.**

### Resource:

Type of Resource: \_\_\_\_\_

Website: <http://>\_\_\_\_\_

Author:\_\_\_\_\_

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

Publishing Company: \_\_\_\_\_

Location of the Publishing Company:

\_\_\_\_\_

\_\_\_\_\_

Date of Publication:

\_\_\_\_\_

### Information found in your own words:

(Must be at least one paragraph summary.)



# Resource Pages

## Resource #3

4th - 6th grade students need at least 4 sources;  
7th - 8th grade students need at least 5 sources.

## Resource:

Type of Resource: \_\_\_\_\_

Website: <http://>\_\_\_\_\_

Author: \_\_\_\_\_

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

Publishing Company: \_\_\_\_\_

Location of the Publishing Company:

\_\_\_\_\_

\_\_\_\_\_

Date of Publication:

\_\_\_\_\_

## Information found in your own words:

(Must be at least one paragraph summary.)



# Resource Pages

## **Resource #4**

**4th - 6th grade students need at least 4 sources;  
7th - 8th grade students need at least 5 sources.**

### **Resource:**

Type of Resource: \_\_\_\_\_

Website: <http://> \_\_\_\_\_

Author: \_\_\_\_\_

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

Publishing Company: \_\_\_\_\_

Location of the Publishing Company:

\_\_\_\_\_  
\_\_\_\_\_

Date of Publication:

\_\_\_\_\_

### **Information found in your own words:**

(Must be at least one paragraph summary.)

# Resource Pages



## **Resource #5**

**4th - 6th grade students need at least 4 sources;**

**7th - 8th grade students need at least 5 sources.**

### **Resource:**

Type of Resource: \_\_\_\_\_

Website: <http://>\_\_\_\_\_

Author: \_\_\_\_\_

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

Publishing Company: \_\_\_\_\_

Location of the Publishing Company:

\_\_\_\_\_

\_\_\_\_\_

Date of Publication:

\_\_\_\_\_

### **Information found in your own words:**

(Must be at least one paragraph summary.)

# WRITTEN REPORT RUBRIC

	<b>Exceeds Expectations 10 Points</b>	<b>Adequate 8 Points</b>	<b>Needs Improvement 6 Points</b>	<b>Inadequate 4 Points</b>
<b>Title Page</b>	<b>*Exceeds Expectations</b>	*Neatly includes name, grade, title *Correct spelling *Legible	*Missing item(s) *Messy, Illegible *Misspelled words	*Handwritten or missing information *Missing item(s) *Messy, Illegible *Misspelled words
<b>Table of Contents</b>	<b>*Exceeds Expectations</b>	*Neatly lists all sections with correct page numbers *Correct spelling *Legible	*Lists sections with page numbers (1-2) *Messy, Illegible *Misspelled words	*No page numbers *Missing section(s) *Messy, Illegible *Misspelled words
<b>Introduction and Purpose</b>	<b>*Exceeds Expectations</b> *Uses attention-getting statements *Clearly states why topic was chosen and why interested *On a separate page alone *Correct spelling *Legible	*Clearly states why topic was chosen and why interested *On a separate page alone *Correct spelling *Legible	Somewhat states why topic was chosen, or not on a separate page *Messy, Illegible *Misspelled words *Incorrect grammar	*Unclear statement *Not on separate page *Messy, Illegible *Misspelled words *Incorrect grammar
<b>Posing Question</b>	<b>*Exceeds Expectations</b> *Stated the problem in question form: How does _____ affect _____? How will _____ affect _____? *Correct spelling *Easy to understand	*State the problem *Correct spelling *Variables are present, but are incorrect or incomplete	*Stated the question using incorrect form *Messy, Illegible *Misspelled words *Incorrect grammar	*Not titled *Incorrect question or doesn't use correct format *Not clearly stated *Messy, Illegible *Misspelled words *Incorrect grammar
<b>Hypothesis</b>	*Statement shows extensive thought and planning by the student *Answers the question in a complete sentence *Is an educated guess *Correct Spelling *Legible	*Answers the question in a complete sentence *Applies directly to the question *Correct grammar *Legible	*Answers the question in a complete sentence *Does not apply to the question *Messy, Illegible *Misspelled words *Incorrect grammar	*Not a complete sentence. *Does not apply to the question *Messy, Illegible *Misspelled words *Incorrect grammar



<b>Background Research</b>	<b>*Exceeds Expectations</b> *3 or more paragraphs focusing on topic of research *Bibliography contains at least : 3 sources (gr 6-8) 2 sources (gr K-5) *Correct grammar *Correct Spelling *Legible *Not internet pasted	*3-5 paragraphs that focus on the topic of research *Bibliography contains less than the number of required sources : 3 sources (gr 6-8) 2 sources (gr K-5) *Correct Grammar *Correct Spelling *Legible *Not internet pasted	*Less than 3 paragraphs that are loosely related to the topic of research *No Bibliography *incorrect Grammar *Incorrect Spelling *Illegible *Evidence of internet pasted and/or not personalized	*Less than one paragraph that is loosely or not related to the topic of research *No Bibliography *incorrect Grammar *Incorrect Spelling *Illegible *Evidence of internet pasted and/or not personalized
<b>Materials</b>	<b>*Exceeds Expectations</b> *Complete and extensive list of materials *No misspelled words	*Complete list of materials *No misspelled words	*List of materials is messy or incomplete *Misspelled words	*Missing list of materials
<b>Procedure</b>	<b>*Exceeds Expectations</b> *Procedures are detailed and complete *All variable information is present *Used complete sentences, no fragments *No misspelled words *Neat and organized	*Procedures are complete *All variable information present *Used complete sentences, no fragments *No misspelled words	*Missing variable information *Procedures are incomplete *Fragments in steps of progress *Misspelled words	*Missing variable information *Missing procedures
<b>Results and Data</b>	<b>*Exceeds Expectations</b> *Completed results with a graph/data table or both to support the explanation of results *Easy to read graphics *Used complete sentences, no fragments *No misspelled words *Neat and organized *Correct grammar	*Completed results with a graph/data table and explanation *Easy to read graphics *Stated in complete sentences, no fragments *No misspelled words *Neat and organized	*An explanation is provided, but without a graph/data table *Confusing graphs/data table or missing information *Graph/data table with no explanation *Sentence fragments *Misspelled words *Incorrect grammar	*No graph/data table *No accompanying paragraph
<b>Conclusion</b>	<b>*Exceeds Expectations</b> *Conclusion is related to the hypothesis *Correct wording and format *Stated in complete sentences, no fragments *No misspelled words	*Conclusion is related to the hypothesis as the answer to the problem or question *Used correct grammar and sentence structure.	*Not related to the problem *Not written in correlation to the hypothesis *Incomplete sentences, fragments *Misspelled words *Incorrect grammar	*Incomplete sentences, fragments *Misspelled words *Incorrect grammar
<b>Points Earned</b>	<b>Points: _____</b>	<b>Points: _____</b>	<b>Points: _____</b>	<b>Points: _____</b>



