



Rhodes School
for the
Performing Arts
Grades 4-8
Science Fair
Forms Packet
2021 - 2022



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

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 _____ Grade _____

My Problem/Statement

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."

My Hypothesis

*****Return this form to your teacher by Tuesday, September 28, 2021*****

**Assignment
5**

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.

**4th - 6th grade students need at least 4 sources;
7th - 8th 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 26, 2021****

**Assignment
5**

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.)

**Assignment
5**

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:

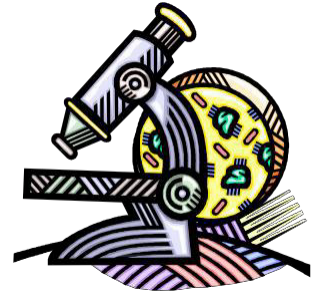
Date of Publication:

Information found in your own words:

(Must be at least one paragraph summary.)

**Assignment
5**

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.)

**Assignment
#5**

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.)

**Assignment
#5**

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.)

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:

****Return this form to your teacher by Tuesday, October 5, 2021****

Assignment #2

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 5, 2021****

Assignment #3

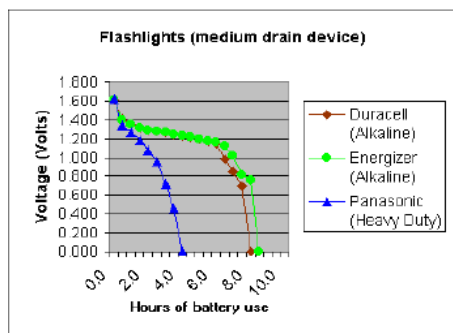
Data

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:**

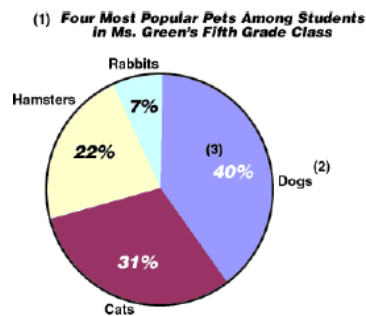
1. A list of all materials you use.
2. Notes on the preparations you made prior to starting your investigation.
3. Information about the resources you use (books, people, library, museum, universities, etc.)
4. Detailed day-by-day notes on the progress of your project.
 - a. What you are actually doing
 - 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



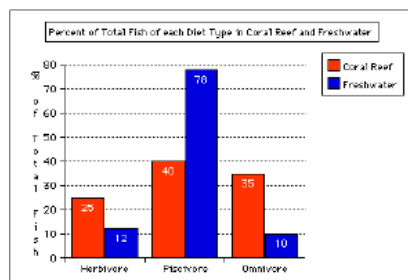
*Line Graphs are used to show change over a period of time.

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

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 50ml of water. A sheet of Suave paper towel absorbed an average of 36ml 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)

My Results

My Conclusion

*****Return this form to your teacher by Tuesday, October 12, 2021*****

WRITTEN REPORT RUBRIC

| | Exceeds Expectations 10 Points | Adequate 8 Points | Needs Improvement 6 Points | Inadequate 4 Points |
|---------------------------------|--|---|---|---|
| Title Page | *Exceeds Expectations | *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 |
| Table of Contents | *Exceeds Expectations | *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 |
| Introduction and Purpose | *Exceeds Expectations *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 |
| Posing Question | *Exceeds Expectations *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 |
| Hypothesis | *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 |

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

TOTAL POINTS: _____

**Assignment
#5**

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.

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

7th - 8th 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 26, 2021****

Assignment #6

Oral Presentation Due

Tuesday, November 9, 2021

Assignment #7

Display Board

- A. Liquids, food, accessible chemicals (including household products), gases, or open flames **may not be displayed**. Wrappers may be used on displays instead.
- B. Controlled or illegal substances, including drugs, alcohol, or tobacco **may not be displayed**.
- C. Animals and animal parts (*exception: hair, nails and teeth*) **may not be displayed**. Pictures or student-made models may be used instead.
- D. Micro-organisms, molds, or fungi cultures **may not be displayed**. Pictures may be used instead.
- E. Knives or any other sharp objects should not be displayed. Use **plastic items instead of glass ones** when possible.
- F. **Liquids MAY NOT be used as part of a display**. They may be simulated by using blue plastic wrap, etc.

****Due Tuesday, November 9, 2021****

| Component | Completed |
|--|-----------|
| Title: <i>Does the title catch people's attention and is it large</i> | |
| Purpose | |
| Hypothesis | |
| Procedures of Investigation | |
| Materials | |
| Results/ Graphs/ Charts: <i>Did the student use pictures and diagrams to effectively convey information about the</i> | |
| Conclusion | |
| Conventions: <i>Proper use of spelling, grammar, punctuation,</i> | |
| Neatness | |
| Organization: <i>Are the sections on the display board organized</i> | |

ORAL PRESENTATION RUBRIC

| | Excellent 10 points | Proficient 8 points | Basic 6 points | Below Basic 4 points |
|----------------------|--|--|---|---|
| Organization | <ul style="list-style-type: none"> *Accurate Introduction and Conclusion *Sequenced material within the body *Cohesive presentation content | <ul style="list-style-type: none"> *Accurate Introduction and Conclusion *Sequenced material within the body *Cohesive presentation content | <ul style="list-style-type: none"> *Accurate Conclusion *Sequenced material within the body is inconsistent | <ul style="list-style-type: none"> *Specific Introduction and Conclusion *No sequence in material |
| Language | <ul style="list-style-type: none"> *Enhances the effectiveness of the presentation *Correct grammar *Appropriate to audience | <ul style="list-style-type: none"> *Supports the effectiveness of the presentation *Correct grammar *Appropriate to audience | <ul style="list-style-type: none"> *Not interesting *Partially supports the effectiveness of the presentation *Correct grammar *Appropriate to audience | <ul style="list-style-type: none"> *Unclear *Minimally supports the effectiveness of the presentation *Occasional mistakes in grammar *Appropriate to audience |
| Delivery | <ul style="list-style-type: none"> *Good posture *Eye contact with the audience most of the time *Appropriate gestures and expressions *Delivered with confidence *Full group participation | <ul style="list-style-type: none"> *Good posture *Frequent eye contact with the audience *Appropriate gestures and expressions *Almost full group participation | <ul style="list-style-type: none"> *Intermittent good posture *Occasional eye contact with audience *Appropriate gestures and expressions *Partial group presentation | <ul style="list-style-type: none"> *Poor posture *Seldom eye contact with the audience *Not enough or too much gesture and expression *One person presentation |
| Content | <ul style="list-style-type: none"> *Student discusses the reasons for the support of the chosen organization in great details *Student describes in detail about their findings *Evident what student has learned | <ul style="list-style-type: none"> *Student discusses the reasons for the support of the chosen organization with some details *Student outlines their findings *Student shows what they have learned | <ul style="list-style-type: none"> *Student discusses the reasons for the support of the chosen organization with some details *Student does not outline their findings *Student's misconceptions are still seen | <ul style="list-style-type: none"> *Student discusses the reasons for the support of the chosen organization with very minimal details *Student does not outline what they have learned *Student still sounds confused on this topic |
| Display Board | The display board is complete, neatly presented, your name is not on the front of the board and it shows effort. ALL 7 elements are present on the board | The display board is complete, neatly presented, your name is not on the front of the board and it shows effort. at least half of the elements are present on the board | The display board is complete, fairly presented, your name is not on the front of the board and it shows effort. less than half of the elements are present on the board | The display board is lacking in neatness and effort and/or your name is on the front of the board. Less than half of the elements are present |
| POINTS EARNED | _____Points | _____Points | _____Points | _____Points |

TOTAL POINTS

****Due Tuesday, November 9, 2021****

EXAMPLE DISPLAY BOARD

