

# **SCIENCE FAIR**

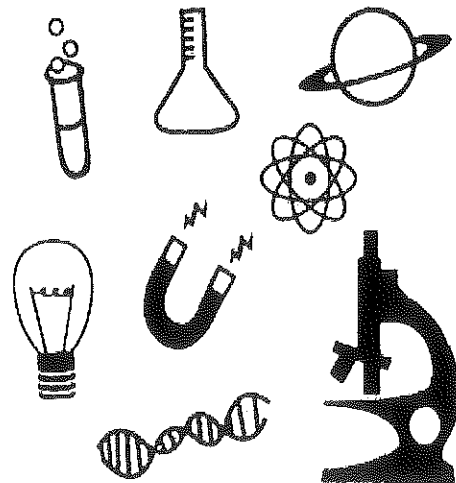
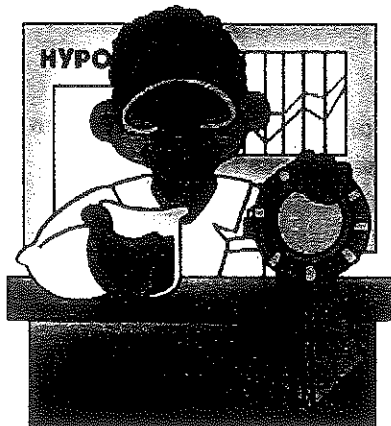
***STEPHEN DECATUR***

***SCIENCE FAIR***

***DIRECTIONS***

***BOOKLET***

***GRADES 4-6***



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# STEPHEN DECATUR ELEMENTARY

September 10, 2018

## FUTURE SCIENTISTS ALERT!!!

Dear Parents and Guardians,

We are proudly announcing Stephen Decatur's annual Science Fair for students in grades four through six. The Science Fair will be held in school the week of November 26th. All projects must be in school by Monday, November 26th. Judging of the projects will occur on Thursday, November 29th. Students in grades four through six will also be chosen to participate in the George Washington Carver Science Fair. All students in grades four through six will be required to do an individual or team project to meet the Philadelphia Science Standards. This project will account for 25% of their science grade for the second marking period. All the projects must be typed and displayed on a presentation board which can be ordered at school by filling out the enclosed form.

We will be available to help your child throughout this project. We will guide the students through each step of the Scientific Method in order to produce a successful science fair project. However, the Science Fair Project is to be completed at home. There will be homework assignments each week related to the science fair project. The initiative and responsibility still belongs to the student to bring assignments in on time, come for help when needed, and ask questions. Parents and other adults are encouraged to help when necessary. Each student will be given three major marks in science for these specific aspects of the project.

1. Specific parts of his/her science fair project must be handed in on time as stated in the student timeline enclosed.
2. Science Fair Board – all the parts of the format must be included and typed in the correct order.
3. Oral Presentation – each child will present his/her project to the class.

Also included in this booklet is a rubric of what your child can earn as a grade if the specific requirements are achieved for the final science fair project. A student timeline and guidelines are also included.

Your support is greatly appreciated! Have a great time working on your project. We hope to have many winners in the Stephen Decatur and George Washington Carver Science Fairs.

Sincerely,

Mrs. Genevieve Endy –O'Kane  
Principal  
Mrs. Michele Hutz  
Assistant Principal

Ms. Mathew and Ms. Lucas - 4th Grade  
Ms. Rex and Mr. Baldwin - 5th Grade  
Ms. Roane and Ms. Hess - 6th Grade

## 2018 STUDENT TIMELINE FOR SCIENCE FAIR

### DUE DATE

### ASSIGNMENT

#### WEEK OF:

SEPT. 24th

STEP 1: CHOOSE A TOPIC \*see attached sheet due for approval of topic\*

STEP 2: SET UP DATA LOG \*date each entry\*

STEP 3: WRITE YOUR PURPOSE

Oct. 1st

STEP 4: WRITE YOUR RESEARCH\*two pages\*

Oct. 15th

STEP 5: WRITE YOUR BIBLIOGRAPHY \*at least five sources, see bibliography guide for correct format\*

Oct. 22nd

RESEARCH AND BIBLIOGRAPHY COMPLETE!

Oct. 29th

STEP 6: WRITE YOUR HYPOTHESIS\* If, then statement\*

STEP 7: LIST YOUR MATERIALS

STEP 8: WRITE YOUR PROCEDURE\*step-by-step directions\*

Nov. 5th

STEP 9: DO YOUR EXPERIMENT AT HOME

\*\*\*at least three trials\*\*\*

Nov. 13th

STEP 10: MAKE CHARTS AND GRAPHS\*make sure to include a title and labels\*

STEP 11: WRITE YOUR RESULTS

STEP 12: WRITE YOUR CONCLUSION\*must relate to your hypothesis\*

STEP 13: WRITE YOUR FUTURE CONSIDERATIONS

DATA BOOK COMPLETED!

Nov. 19th

STEP 14: MAKE YOUR BOARD

STEP 15: TYPE YOUR RESEARCH AND BIBLIOGRAPHY

BOARD, TYPED RESEARCH AND BIBLIOGRAPHY COMPLETED!

Nov. 26th

WORK ON 2-3 MINUTE ORAL PRESENTATION  
BRING YOUR PROJECT TO SCHOOL

\*\*\*JUDGING BEGINS\*\*\*

## JUDGES GUIDELINES FOR AN EXCELLENT PROJECT

1. All projects must be grade level appropriate. Please visit the web site [www.sciencebuddies.org](http://www.sciencebuddies.org) and click on project ideas by grade and project guide for outstanding information or google science fair projects in order to find a science fair project appropriate for your age. A list of project ideas is also included.
2. All projects must be typed.
3. All projects must start with a question that can be answered by experimentation. The question must be appropriate for the grade level of the students. Projects cannot be demonstrations. For example, a model demonstrating how a volcano works or a model of the Solar System will not be accepted.
4. A handwritten data log must accompany each project. The log can be a copybook or a folder with pages stapled or attached by prongs. Loose pages will not be accepted. The data log must include all of the steps of the scientific method as well as day-by-day notes on the progress of your project. Every day you work on your project, please describe in detail what you did. Be sure to date each entry!!!!
5. At least two pages of background research about the topic must accompany each project. You may not submit pages from the internet or pages you copied from a book. You must read the information and write it in your own words. You must include a bibliography (see booklet for information). The bibliography must include at least 5 sources of information from books, magazines, encyclopedias, or internet sites. \*SEE BIBLIOGRAPHY GUIDE INCLUDED\*
6. Students' names and room numbers must be placed on the BACK of their display boards, logbooks, and research papers. School names MUST NOT be displayed at all.
7. All projects must be displayed on a Presentation Board. Signs for the boards should be typed and securely glued to the board. Neatness counts.
8. No plants, animals, food products or glass objects may be displayed. If your project involves any of the above, please use illustrations or photographs on your board. Photographs may not include a picture of the student.

## STEP-BY-STEP DIRECTIONS FOR COMPLETING A SCIENCE FAIR PROJECT

**STEP 1:** Choose a topic from the list provided or look in books or on the internet to find one that interests you. Make sure that you can get the materials for the topic you choose.

**STEP 2:** Setup a copybook or folder with pages securely fastened to use as your **DATA LOG**. The data log should include all the steps of the scientific method: Purpose or Question, Research, Bibliography, Hypothesis, Materials, Procedure, Data (charts, graphs, tables, notes), Results, Conclusion and Future Considerations. It should also include notes on all the preparations you made prior to starting your investigation, detailed day-by-day notes on the progress of your project. Be sure to date each entry.

**STEP 3: PURPOSE:** Write 1 to 3 sentences explaining what you want to find out by doing this project.

**Example:** The purpose of this project is to find out how sunlight and artificial light affect the growth of a bean plant. **OR**

Which bean plants will grow taller: ones grown in sunlight or ones grown in artificial light?

**STEP 4: RESEARCH:** It is important to know information about your science project topic before you begin your experiment. This will help you understand more about your experiment. Use books, encyclopedias, magazines or internet resources to find information about your topic. Read the information you find and take notes in your data log. You should use at least 5 different sources of information. This information will be used to write your research paper.

**STEP 5: BIBLIOGRAPHY:** A bibliography is a list of all the books, encyclopedias, magazines and internet sites you used to get your information. **A BIBLIOGRAPHY INFORMATION SHEET** is included in this packet. Please check it before you write the bibliography in your data log. It shows you the correct way to write each source of information.

**STEP 6: HYPOTHESIS:** Now that you know something about your topic, you are ready to make an "educated guess" or hypothesis" about how you think your experiment will turn out. It should be written as an if/then statement. Tell what you will do; then tell what you think will happen and why you think so. Write it in your data log.

**Example:** If I grow 10 bean plants in sunlight and 10 bean plants in artificial light, then I think the bean plants in artificial light will grow taller because the sunlight is not always bright, but artificial lights are always the same each day.

**STEP 7: MATERIALS:** Make a complete list of everything you will use in your experiment. Tell how many and how much you are using of each object. Use metric measures only - centimeters (cm) length, Celsius (C) temperature, milliliters (ml) volume, grams (g) weight. If you need to borrow measurement tools, ask the science teacher. Write it in your data log.

**Example:**

1 sunny window sill	1 grow light
20 bean plants	2 plastic dish pans
tap water	1 metric measuring cup
Miracle Gro Potting Soil	

**STEP 8: PROCEDURE:** You now need to write **step-by-step directions** on how to do your experiment. **DO NOT LEAVE ANYTHING OUT!** Remember to test for only one thing. This is the **manipulated variable**. Write the procedure in your data log.

**Example:**

1. Fill each plastic dishpan with potting soil to a depth of 10 centimeters.
2. Place 10 bean seeds in each pan according to the directions on the package.
3. Label one set "Sunshine" and label the second set "Artificial Light."
4. Water each set of plants with 500 ml of water twice a week.
5. Place pan #1 on the sunny windowsill for 8 hours each day.
6. Place pan #2 under a grow light for 8 hours each day.
7. After each seed sprouts, measure the plants once a week with a metric ruler.
8. Record data in your data log.

**STEP 9: DO YOUR EXPERIMENT:** Follow your step-by-step directions in your procedure. Keep careful records of what happens during your experiment by recording everything into your data book everyday as though it was a journal. This journal portion of your work should go right after your procedure and should include any charts and graphs that will help you record your data.

**STEP 10: MAKE CHARTS AND GRAPHS:** In order to keep careful records as you do your experiment, you need a chart to record your data. There are samples of charts in this booklet. You only need to use the one that best suits your experiment. If you are not sure, ask your science teacher for help. Use only metric measurements. Put the completed chart in your data log. Please note that the information in the sample charts is fictional.

Now take the results from your chart and put it on a graph. You can make a bar graph or a line graph. A line graph is used to show change over time. If you are not sure which graph to use, ask your science teacher. Samples of graphs are included in this booklet. **Remember to use only metric measurements. If**

your project does not require measurements, then you do not need graphs.

**STEP 11: WRITE YOUR RESULTS:** Look at your charts, graphs and your data book. Now write a few sentences describing how your experiment turned out. Only use the information (data) that was collected in your charts and graphs to write these sentences. (Exactly what happened) This is your results. Write them in your data log.

**Example:** From reading my charts and graphs, I know that:  
Plant group #1 grew an average of 40 cm in artificial light.  
Plant group #2 grew an average of 20 cm in the sunlight.  
The plant group that was grown under artificial light grew 20 cm more on the average than the plant group grown on the sunny windowsill.

**STEP 12: WRITE YOUR CONCLUSION:** Your conclusion tells the answer to the question and if your hypothesis was supported or not. Write it in your data log.

**Example:** My hypothesis was supported. The plants that were grown in the artificial light grew taller than the ones grown in the sunlight.

**STEP 13: WRITE YOUR FUTURE CONSIDERATIONS:** Tell what variable you would change if you could do this experiment again. This is your future considerations. Write it in your data log.

**Example:** If I could do this experiment again, the variable I would change would be the kind of grow lights. I would use a grow light with an incandescent bulb and another grow light with a fluorescent bulb. I want to see which plants grow taller.

**STEP 14: MAKE YOUR BOARD:** Use your data log. Type the following parts: Purpose, Hypothesis, Materials, Procedure, Data, Charts, Graphs, Results, Conclusion and Future Considerations. Make up a catchy title for your project. Take picture or draw pictures of your project. Remember not to show yourself or any other person in your pictures. Put your board together as shown in the picture on the next page.

**STEP 15: TYPE YOUR RESEARCH AND BIBLIOGRAPHY**

## **Suggested Topics**

### **Easy Topics**

1. Which materials work the best in conducting sound in string telephones?
2. How does distance affect the strength of a magnet?
3. Which brand of popcorn pops the most kernels?
4. Which method of popping popcorn pops the most kernels?
5. In which liquids will an ice cube float?
6. Will a wooden bat or an aluminum bat hit the baseball farther?
7. Which paper towel is most absorbent?
8. Which paper towel absorbs liquids when wet?
9. Which paper towel absorbs liquids the fastest?
10. Which detergent has the longest lasting suds?
11. Do plants grow taller with tap water or distilled water?
12. How do different designs of a paper airplane affect its flight?
13. How do different types of paper affect the flight of paper airplanes that are designed the same?
14. How do different designs of a paper airplane affect its flight?
15. How do different sizes of the same paper affect the flight of paper airplanes that are designed the same?

### **Physical Science**

16. Which metal conducts the most heat?
17. Which material makes the best heat insulator?
18. Which color of liquid absorbs the most heat?



19. Which color container absorbs the most heat?
20. Which color container cools off the quickest?
21. How does temperature affect the height at which a ball bounces?
22. How does light affect dyed materials?
23. What is the effect of washing on dyed materials?
24. What is the effect of dye absorption on different types of fabrics?
25. How do different materials affect sound absorption?
26. Which liquid conducts sound with the most clarity?

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27. Which type of wood is the strongest?
28. Which type of wood is the strongest?
29. Which ink will separate into the most colors with paper chromatography?
30. Does the thickness/thinness of a liquid affect its droplet pattern?
31. How do different tails affect the flight of a kite?
32. How does the height of a swinging mass affect its energy?
33. How does the weight of a swinging mass affect its energy?
34. How does changing the fulcrum affect a lever?
35. What are the factors that affect how fast liquids will mix?
36. Are boiling points of all liquids the same?
37. Do all liquids boil in the same amount of time?
38. Do all liquids freeze at the same temperature?
39. Do all liquids freeze to a solid state in the same amount of time?
40. Do all frozen liquids melt at the same rate of time?
41. What effect does the size of the particles have on how fast a solute dissolves?

42. Which metals will rust?
43. Which substances offer the best protection against rust?
44. Do objects rust faster above the soil or below the soil?
45. Does fat (lard, butter, etc.) keep cold out?

### **Consumer Projects**

46. What is the effectiveness of pre-wash products?
47. Which waterproofing agent best protects wood?
48. Which deodorant affects clothes by staining them?
49. Which paint protects wood from warping (weathering, wearing, etc.)?
50. How does the environment (heat, cold, moisture, time, etc.) affect the popping of a popcorn kernel?
51. Which uses more water, a shower or a bath?
52. Which container (or wrapping) preserves food the longest?
53. Which nails have the strongest holding power?
54. Which stain remover (in stick form) works the fastest?
55. Which stain remover (in spray form) works the fastest?
56. Which stain remover (in liquid form) works the fastest?
57. Which detergent removes grass stains the fastest?
58. Which detergent cuts grease the fastest?
59. How often can people tell if a drink contains real or artificial sweeteners?
60. Do real or artificial sweeteners have an effect on human performance?
61. Which foods contain the most starch?

### **Life Science**

62. Does temperature affect the growth of plants?

63. How do plants react to different kinds of music?
64. How do detergents affect the growth of plants?
65. What is the effect of root bounding on plant growth?
66. Do roots always grow down?
67. What is the effect of mirrors on plant growth?
68. Does the location of a plant affect the size of leaf growth?
69. What is the effect of artificial light versus natural light on plant growth?
70. Under which color cellophane do plants grow the tallest?

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71. Does too much fertilizer affect plant growth?
72. Do different kinds of potting soil affect the growth of a plant?
73. Do seeds sprout more quickly in cold or hot temperatures?
74. Does the thickness of a plastic cover (wrap) affect the growth of radish plants?
75. How does the amount of light affect the growth of marigold plants?
76. Does aspirin prolong the life of cut carnations?
77. Which plant will grow the tallest (longest) from plant clippings?
78. Do odors produce a response in plant root growth?
79. What is the longest amount of time seeds can be left in water before they are no longer able to germinate?
80. How does water rise in different kinds of plant stems?
81. Do plants respond to electrical impulses?
82. Do pyramids preserve food?
83. What is the relationship between age and response time?
84. Who does mirror tracing more quickly - a child or an adult?

85. Who can do mirror tracing more accurately - a left-handed person or a right-handed person? (Use the same age group.)
86. Which color paper helps the reader read and remember more accurately? (Use the same age group)
87. Which group is more flexible - boys or girls? (Use the same age group.)
88. Which sense organ (ears, eyes, nose, mouth, skin) can detect the greatest variety of sensory information?
89. How long can a person control their eye blinking?
90. Who can control their eye blinking longer - adults or children?
91. What effects do different kinds of physical activity have on pulse rates?

### **Engineering and Design**

92. How does weight affect the flight of a paper airplane?
93. Which design of a Popsicle stick bridge can hold the most weight?
94. Which design of a container made from a 5" x 7" card can hold the most M&M's?

### **Earth Science**

95. Which soil (potting, sand, dirt from outside, etc.) holds the most water?
96. Is the air cleaner inside or outside your house?
97. Does terracing affect erosion?
98. What are the effects of water on different types of wood?
99. What materials are biodegradable?
100. What factors affect condensation?
101. Does recycled paper decompose faster than others will?
102. Which material will decompose faster than others will?
103. Think of your own topic!!!

## Additional Science Fair Questions

- Do people who are frequent users of Facebook feel less or more lonely than infrequent Facebook-users?
- Did certain combinations of screen and text colors lead to consistently more words being remembered?
- Does noise affect coordination?
- Which decaffeinated tea type (black, green, oolong, white) contains the least amount of caffeine?
- What household objects form the best crystals?
- Which types of rocks are most damaged by freezing?
- Do gas stations cause soil pollution?
- Can I find a natural substance to use as a pesticide that can be safely used around the home?
- What is the effect of artificial gravity on a radish seed germination?
- Does our school cafeteria produce a great deal of waste?
- Are artificial sweeteners just as sweet as real sugar?
- Do you have to add more servings of artificial sweetener to get the same level of sweetness from one serving of regular sugar?
- Are teeth whitening at-home kits effective?
- Are plants able to get nutrients from different types of garbage to grow?
- Is my dishwasher making me sick?
- Which is better, electric hand dryers or paper towels?
- Are there dangerous levels of arsenic in local soil?
- Are there dangerous levels of lead in local soil?
- Will a hygrometer help you predict bad hair days?

## BIBLIOGRAPHY GUIDE

Underline or use italics for titles of books, periodicals and software.

Titles of articles are enclosed in quotation marks.

Note punctuation and follow exactly.

If required information, such as author or place of publication, is not available, just leave it out.

Arrange all sources in one list, alphabetically by first word, which will generally be either the author's last name or the first important word of the title.

Use the patterns below to make a list of sources you used. Put your list in alphabetical order.

### **Books**

Last Name, First Name. Name of book. City of publication:  
Publisher's name, Copyright Date.

*Example:*

Greenfield, Eloise. Rosa Parks. New York: Thomas Y. Crowell  
Company, 1973.

### **Book with Two Authors:**

Authors (in the order they are given in the book). Title of book. (underlined or  
italicized) City of publication: Publisher, date.

*Example:*

Ride, Sally and Tam O'Shaughnessy. The Mystery of Mars. New York: Crown,  
1999.

### **Encyclopedias (print)**

"Article title". Name of encyclopedia. Copyright Date.

*Example:*

"Ant". World Book Encyclopedia. 1990.

### **CD-ROM Encyclopedia**

Author (last name, first name). "Name of article." Name of encyclopedia.  
CD-ROM. City: Publisher, Copyright Date.

#### *Example:*

McGinnis, Terri. "Dog." The World Book Multimedia Encyclopedia.  
CD-ROM. Chicago: World Book, Inc. 1995.

### **Online Magazine Article**

Author. "Title." Journal Date. Date you read it URL

#### *Example:*

Halls, Kelly. "Juggling History." U.S. Kids June 1997. 10 Mar 2000  
<[http://discoverer.sirs.com/cgi-bin/dis-article-  
display?id=MA152516791158&artno=031110&searchkey=apples](http://discoverer.sirs.com/cgi-bin/dis-article-display?id=MA152516791158&artno=031110&searchkey=apples)>

### **Magazine Article**

Author. "Title of Article." Name of magazine DD Mo. YYYY: Pages.

#### *Example:*

Markham, Lois. "A Gallery of Great Native Americans."  
Kids Discover Aug.-Sep. 1966: 6-7.

### **World Wide Web**

Author. "Title." Group Title. Date created or revised. Institution.  
Date you saw it. <URL>

#### *Example:*

"Bones." Newton's Apple. National Science Teacher's Association. 10 March  
2000.  
<<http://ericir.syr.edu/Projects/Newton/14/bones12.htm>>

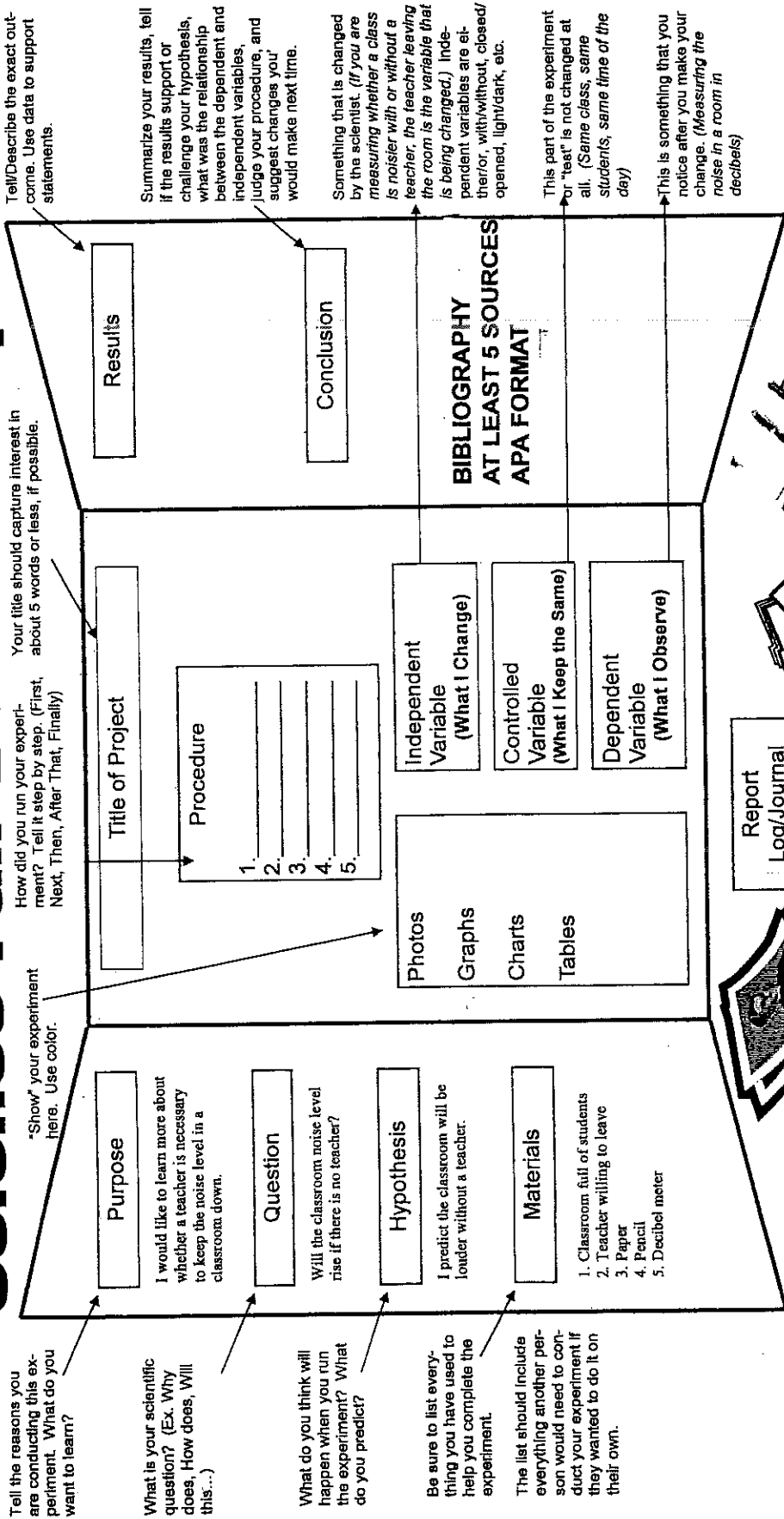
### **Interview**

Last Name, First Name. Kind of interview. DD Mo. YYYY.

#### *Example:*

Goodkind, Mary. Personal interview. 4 Sept. 1996.

# Science Fair Board Sample



©2012 by J. Ramirez  
<http://www.teacherspayteachers.com/Store/J-Ramirez>





# Science Fair Project Rubric

PROJECT#	Excellent/ Expert	Good/ Proficient	Needs Improvement/ Emergent	Not Present/ Novice
<b>Research Question</b>	<ul style="list-style-type: none"> <li>- Clear &amp; focused purpose</li> <li>- Identifies contribution to field of study</li> <li>- Testable using scientific methods</li> </ul>	<ul style="list-style-type: none"> <li>- Research question has minor clarity and focus issues</li> <li>- Research question is not fully testable</li> </ul>	<ul style="list-style-type: none"> <li>- Research question is not answerable or does not fit with the actual experiment performed</li> </ul>	<ul style="list-style-type: none"> <li>- No attempt to define a research question</li> </ul>
<b>Design &amp; Methodology</b>	<ul style="list-style-type: none"> <li>- Well designed plan and data collection methods</li> <li>- Variables and controls defined, appropriate, and complete</li> </ul>	<ul style="list-style-type: none"> <li>- Method had minor flaws, but an attempt for control or comparison was made</li> </ul>	<ul style="list-style-type: none"> <li>- Method was inappropriate, but an attempt for control or comparison was made</li> </ul>	<ul style="list-style-type: none"> <li>- Experimentation was not performed (i.e. demonstration or exhibit).</li> <li>- No control group present</li> </ul>
<b>Execution: Data Collection, Analysis, &amp; Interpretation</b>	<ul style="list-style-type: none"> <li>- Systematic data collection and analysis</li> <li>- Reproducibility of results</li> <li>- Appropriate application of mathematical and statistical methods</li> <li>- Sufficient data collected to support interpretation and conclusions</li> </ul>	<ul style="list-style-type: none"> <li>- Minor errors or flaws in technique(s)</li> <li>- Measurements mostly accurate and precise.</li> </ul>	<ul style="list-style-type: none"> <li>- Major errors or flaw in technique(s)</li> <li>- Little attention paid to accuracy and/or precision.</li> <li>- Too few trials or sample size too small</li> </ul>	<ul style="list-style-type: none"> <li>- No techniques reported.</li> <li>- No accuracy or precision in measurements.</li> </ul>
<b>Creativity</b>	<ul style="list-style-type: none"> <li>- Project demonstrates significant creativity and originality in two or more of the above criteria</li> </ul>	<ul style="list-style-type: none"> <li>- Project demonstrates creativity in the one of the above criteria</li> </ul>	<ul style="list-style-type: none"> <li>- Project demonstrates some creativity – a new twist on an old experiment</li> </ul>	<ul style="list-style-type: none"> <li>- Project lacks creativity: experiment copied exactly from a published source</li> </ul>
<b>Presentation: Poster</b>	<ul style="list-style-type: none"> <li>- Logical organization of material</li> <li>- Clarity of graphics and legends displayed</li> <li>- Supporting documentation displayed</li> </ul>	<ul style="list-style-type: none"> <li>- Information and results displayed somewhat organized, some difficulty in following.</li> <li>- Minor errors in graphics or legend</li> <li>- Some background information given.</li> </ul>	<ul style="list-style-type: none"> <li>- Information and results could be more organized, major difficulty in following.</li> <li>- Major errors in graphics or legends</li> <li>- Little or irrelevant background information given.</li> </ul>	<ul style="list-style-type: none"> <li>- Unorganized poster</li> <li>- Graphics or data tables missing</li> <li>- No supporting documentation of research provided</li> </ul>

OVER →

# Science Fair Project Rubric

	Excellent/ Expert	Good/ Proficient	Needs Improvement/ Emergent	Not Present/ Novice
<p><b>Presentation: Interview</b></p>	<ul style="list-style-type: none"> <li>-Clear, concise, thoughtful responses to questions</li> <li>-Understanding of basic science relevant to project</li> <li>-Understanding interpretation and limitations of results and conclusions</li> <li>-Degree of independence in conducting project</li> <li>-Recognition of potential impact in science, society, and/or economics</li> <li>-Quality of ideas for further research</li> </ul>	<ul style="list-style-type: none"> <li>- Clear, concise, thoughtful responses to almost all of the questions</li> <li>-Student has some misconceptions about the science related to the project</li> <li>-Student can answer most questions posed, but had not really given ideas much thought prior to interviews</li> </ul>	<ul style="list-style-type: none"> <li>- Student cannot answer some questions clearly, but generally understands his/her project</li> <li>-Student can answer a few questions posed to some extent, but had not really given ideas much thought prior to interviews</li> </ul>	<ul style="list-style-type: none"> <li>-Student unable to explain their project</li> <li>-Students unable to explain the science related to their project.</li> <li>-Student did not conduct this project independently – parent did all of the work</li> <li>-Students can not communicate any ideas for future research</li> </ul>

**Judges Comments:**

Dear Parents and Guardians,

We are selling display boards for the Stephen Decatur Science Fair. The size is 36"x 48". We have done some comparison shopping for the best quality board for the most reasonable price. The boards normally sell for approximately \$6.00 - \$8.00 in stores, but we are able to sell the boards to you at a major discount. Each display board will cost \$5.00.

If you wish to purchase a board, please fill out the bottom portion of this letter. Please put this order form and your money (exact change only!) in an envelope with your child's name and room number on it. Have your child give the envelope to his/her classroom teacher.

**THE MONEY MUST BE HANDED IN TO MRS. RUF, ROOM 217 NO LATER THAN FRIDAY, OCTOBER 5, 2018** so that we may order the boards and receive them in plenty of time.

If you cannot order a board because of special circumstances, please see your classroom teacher so we can work something out. If you have any questions, please feel free to call (215) 400-3050.

**PLEASE SIGN AND RETURN TO YOUR TEACHER BEFORE FRIDAY, OCTOBER 5, 2018**

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My child \_\_\_\_\_

Room \_\_\_\_\_ will purchase a science fair display board. Enclosed in the envelope is \$5.00.

\_\_\_\_\_  
DATE

\_\_\_\_\_  
PARENT/GUARDIAN SIGNATURE