It's Science Project/Fair Time

The Official Science Project/Fair Handbook
### Count Down to Science Fair 2017 Student Time Line

<table>
<thead>
<tr>
<th>Due Date</th>
<th>Activity Description</th>
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<tr>
<td></td>
<td><strong>Read</strong> through Science Fair Information Packet with a parent.</td>
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<td><strong>Turn in Science Fair Planning Sheet to your teacher</strong></td>
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<td><strong>Obtain paperwork</strong> If you plan on competing in the Mid-Columbia Science Fair, and working with people or animals, you will need special paperwork—get it filled in and back as soon as possible</td>
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<td><strong>Begin keeping a journal.</strong> You can use a composition notebook or a 70 - 100 page spiral notebook.</td>
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<td><strong>Begin researching your topic.</strong> Sources include science books, technical journals, and interviews with people in your field of study and even an Internet Search. Keep notes in your notebook. Remember to write down bibliography data as you collect notes.</td>
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**Keep all information below in journal**
- Make sure the plan for your experiment is set: question, hypothesis, materials and procedure
- Have a place in your journal to enter your data (data table)

**Keep all information below in journal**
- Start your experiment. Remember that you need to do your experiment more than once to verify your data. Collect your data in metric units when possible. Keep data in your journal.
- If you are working with animals or people, you cannot start your experiment until your paperwork has been OK’d and returned to you.

**Keep all information below in journal.**
- Analyze data collected—make tables and graphs displaying collected data.
- Write conclusion and discussion

Start finalizing your report
- Work on writing your report and your display.
- Work on your display. Present the information you collected in easy-to-read graphs or tables. Reserve special areas on your display for your Question (Problem), Hypothesis, Procedure, Results, Discussion and Conclusion. If you plan to use photographs allow enough time to have them developed.

- **Finalize Research Paper:** include summary (abstract) describing the problem, procedures, results, conclusions, and bibliography. Keep in your notebook. (see Science Fair Information Packet)
- Be prepared to give a 3--5-minute presentation that describes your project.

Bring board and report to school
- For in-class project-presentations will start the following week.
- **Science Fair** -bring your board to school on Friday Feb 24 to set-up, set-up will be in the gym during Enhancement class

**Science Fair Judging – To Be announced!!**

Science Project & Fair Requirements for 6th and 7th Graders

Students: choose the science project (Choice A) or the science fair (Choice B)

### Choice A (Class Science Project)
1. Planning Sheet
2. Question
3. Hypothesis with Reason
4. Materials
5. Procedures
6. Results (Data tables & Graphs)
7. Conclusion
8. Bibliography
9. Display (Board or Poster)

### Choice B (Science Fair)
1. Planning Sheet
2. Question
3. Hypothesis with Reason
4. Materials
5. Procedures
6. Results (Data tables & Graphs)
7. Conclusion
8. Bibliography
9. Display Board
10. Project Book
11. Abstract
12. Report
13. Registration & Special Papers

#### Planning Sheet (choice A & B)
- Used to help organize the entire experiment.

#### Ask a Question (choice A & B)
- Ask a question to begin your experiment.
- The best questions make a comparison that will allow the scientist (you) to control changes and observe the result of those changes.
- How does _____ (manipulated variable) affect _____ (responding variable)?
- Example: Which marble will travel farther down an incline, a marble with a mass of 10 grams or a mass of 30 grams?

#### Hypothesis with Reason (choice A & B)
- The hypothesis is what you think will happen in your experiment.
- Your experiment is testing your hypothesis.
- The reason is why you think your hypothesis is going to occur.

#### Materials (choice A & B)
- A list of what you need to complete this experiment.
- Your list needs to have the manipulated variable, responding variable, and controlled variable embedded, but **DO NOT label or underline them**.

#### Procedures (Choice A & B)
- The step by step method you will use to do your experiment.
- Make sure someone else can follow your procedures.
- Don’t forget to repeat and record data for your experiment in your procedures.
- A good experiment has at least 3 trials.
- Be sure to include the manipulated, responding, controlled variables, and Control Group in your investigation. They have to be labeled.

#### Results with Data tables & Graphs (Choice A & B)
- Record your results in a data table. **Label** and title your data table.
- Average your data for the 3 trials.
- Graph your results using your data table. **Label** and title your graph.

#### Conclusion (choice A & B)
- Answer the investigative question.
- Include supporting data from your data table.
- Explain how these data support your conclusion.

#### Bibliography (choice A & B)
- Give credit to the books, Internet sites, journals, and people who helped you in your investigation by citing resources properly in MLA format.
- See your Science Fair Packet for examples on how to write a bibliography.

#### Display (choice A)
- Choose either a display board or a poster for your project.
- See “Display Board” below for what needs to be on your display.
| **Display Board**  
(Choice B)  
See Handout | o The goal of a display board is to attract and inform spectators and judges.  
o Display needs to reflect current year’s work only.  
o A good title that grabs spectators and judges’ attention.  
o Photographs of the experiment.  
o Logical organization. A judge wants to be able to find the title, experiment, results, and conclusion  
o Visually stimulation- use colorful headings, charts, graphs, etc.  
o Stick to the size limitations and safety rules. |
|---|---|
| **Project Book**  
(Choice B) | o A project book is accurate and detailed notes of your experiment from beginning to end.  
o These notes will help you when you write your report. Detail, detail, detail.  
o I would suggest a composition book for this, but it is not required. |
| **Abstract**  
(Choice B) | o A (maximum) 250 word, one page abstract. This is done after research and experimentation.  
o Abstract needs to include: 1) purpose of the experiment, 2) procedures used, 3) data (results), and 4) conclusions. |
| **Report**  
(Choice B) | o You have basically already done everything for the report. Now it must be put it together into a report format.  
o Report needs to include:  
1) *Title Page* and *Table of Contents*  
2) *Introduction*-sets the scene of your report and needs to include: your hypothesis, problem or engineering goals, an explanation of your research, and what you hoped to achieve.  
3) *Materials*  
4) *Procedure*-describe in detail the procedures you used to collect all the data, make observations, design apparatuses, etc. Your report needs to be detailed enough that someone can repeat your experiment from the information in your paper. Include detailed photographs or drawings of self-designed equipment.  
5) *Results*- should flow smoothly and logically from your data.  
6) *Discussion*-the essence of your paper. Compare your results with theoretical values, published data, commonly held beliefs, and/or expected results. Include discussion of possible errors. How did the data vary between repeated observations of similar events? How were your results affected by uncontrolled events? What would you do differently if you repeated this project? What other experiments should be conducted?  
7) *Conclusion*-Briefly summarize your results. Be specific, do not generalize. Never introduce anything in the conclusion that has not already been discussed.  
8) *Acknowledgments*-You should always credit those who assisted you, including, businesses, and educational and research institutions.  
9) *References/Bibliography*-Your reference list should included and documentation that is not your own (i.e. books, journal articles). See an appropriate reference in you discipline format. |
| **Special Papers**  
(Choice B) | o If you choose to do the Lake Stevens Science Fair, there is no paperwork that needs to be filled out.  
o Miami Dade County Public Schools Science Fair has its own registration and paperwork that needs to be filled out, checked and returned to you before you can begin your experiment.  
o See Miami Dade County website for the complete list. (www.science.dadeschools.net) |
Items needed on board for in class project:
- Title
- Question
- Hypothesis
- Materials list
- Procedure
- Data tables and Graphs
- Photos of experiment (optional)
- Conclusion
- Bibliography

Items needed on board for Science fair:
- Title
- Question
- Hypothesis
- Materials list
- Procedure
- Data tables and Graphs
- Photos of experiment (optional)
- Conclusion
- Bibliography
- Abstract (optional)

How to Layout Your Display Board

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Title</th>
<th>Results (written)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypothesis</td>
<td></td>
<td>Conclusion</td>
</tr>
<tr>
<td>Independent</td>
<td></td>
<td></td>
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<tr>
<td>Dependent Variable</td>
<td></td>
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<tr>
<td>Materials</td>
<td></td>
<td></td>
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<tr>
<td>Use metric units</td>
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<td></td>
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<tr>
<td>Procedure</td>
<td></td>
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<tr>
<td>Needs to be numbered</td>
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<tr>
<td>Graphs</td>
<td></td>
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<tr>
<td>Pictures</td>
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<tr>
<td>Data table(s) – should be done on computer</td>
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Tips:
- Don’t glue until you have arranged everything.
- Check and double check for spelling errors.
- Never write directly on the board.

Glitter glue should not be used.
- Use colored border behind information.
- Cut straight!!! Glue on straight!!!