

# **Lindley Middle School**

**Science Fair Packet**

**When: October 29, 2019**

**Where: LMS Cafeteria**

**Who: All Students**

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

Dear Parents,

We hope that all of you have had a pleasant beginning to the school year. We are very excited about the progress and hard work demonstrated by this year's students. As you are aware, one of the requirements for this class is participation in the Science Fair. The students will spend the next few weeks investigating topics and designing their experiments.

This endeavor will be a memorable experience for these students. The experience could be positive or negative based not on the final score, but rather on the process of completion. I feel that students learn and appreciate science when they do science-- when they perform meaningful experimentation. This project offers such enrichment. However, most students do not realize the work involved in conducting inquiry. I will provide the guidelines and structure for developing and completing a scientific inquiry. The students, however, are responsible for taking action.

Accompanying this letter is a timeline to help students pace their effort and attention to their science fair project. It is also a way for parents to keep tabs on their child's progress. While this research is to be conducted by students, parents can play a key role in motivation and resources. Also, parental monitoring will decrease the chance of procrastination, and parents are encouraged to inquire about their child's progress often. Please review the timeline and the other science fair guidelines with your child. Every student has the guidelines and the basic requirements for the project. Please make sure that your child has purchased a logbook (a composition notebook). If you have any questions or concerns, please contact me your science teacher by email.

Sincerely,

*The LMS Science Department*

Parent Signature \_\_\_\_\_

Date \_\_\_\_\_

# Science Fair Timeline Checkpoint Dates

Check when completed	Science Fair item to be done	Date item should be done
	Select Topic and Complete Background Research	September 20
	Develop your hypothesis and purpose of your experiment	September 27
	Create the experiment Procedures, Materials, and Variables list. And gather these materials.	October 4
	Conduct your experiment. Collect and Record Data. Create Data Tables and Presentation.	October 11
	Project Board Completed and Written Report Completed and DUE to teacher	October 18
	Final Revisions (If needed)	October 25
	Science Fair Night!!! 6pm LMS Cafeteria (Bring the whole family)	October 29

## Project Ideas

**You are not limited to this list. Your topic must be approved by your teacher!**

Basketball Physics: Where does a bouncing ball's energy go?  
 Battle of the Senses: Taste vs Smell  
 Can Plants Stop Soil Erosion?  
 Can Water Float on Water?  
 Can You Make a Happy Song Sad?  
 Bouncing Basketballs: How Much Energy Does Dribbling Take?  
 Can A Toilet Paper Tube Support Your Weight?  
 Cold Room? Heat It Up With a Solar Air Heater  
 Fruit Ripening  
 Give It a Lift with a Lever  
 How Salty Does the Sea Have to be for an Egg to Float  
 How the Strength of a Magnet Varies With Temperature  
 How well do Different Materials Create Static Electricity?  
 Making a Candy Waterfall: Can Solids Flow Like Liquids?  
 Potato Battery: How to Produce into Veggie Power  
 Separating Mixtures: Can you Design a Device to do it?

**Scan this QR Code for more ideas!**



**Bring all ideas to your teacher to get approved!**

# SCIENCE PROJECT STEPS

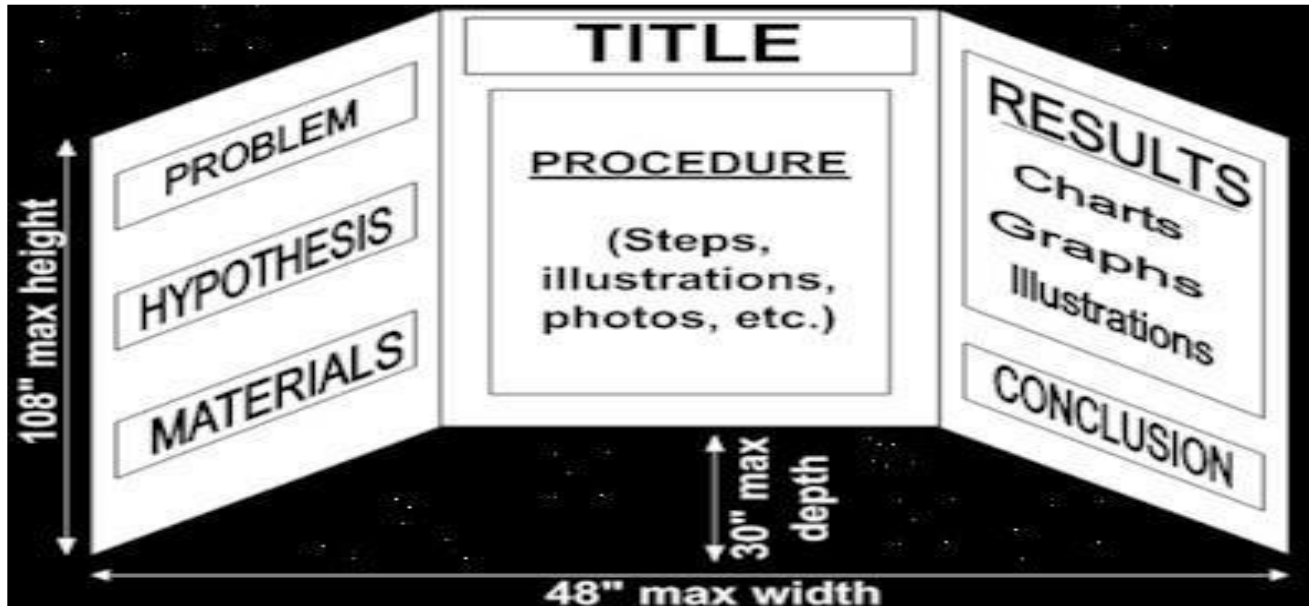
1. Choose a topic. Be sure it interests you. Don't pick one because you think it will be easy. Talk it over with your parents and when you have decided, inform your teacher, and do not ask to change your topic later. Get your Registration form from your teacher be sure it is signed by your parent and turn it in.
2. State your purpose as a question. What is it that you want to find out by doing this project?
3. Research your problem. Look at any books/websites that might help you, make observations by simply looking at things, talk to people, and find out as much as possible about your topic. Write down any ideas you have and where you got them. Also, keep note of all information needed for citing your resources.
4. Form a hypothesis. What do you think is going to happen? Based on what you know or found out from step #3, what do you think the results of your experiment(s) will be? After doing the experiments, it may turn out that your guess was wrong. It is okay if this happens.
5. Plan your project. How will you test your hypothesis? What experiments will you do? How will you measure the results? Where will you keep your information? Be sure to keep notes and write down everything you do and what happens.
6. Collect all your materials. Find a place to keep things where others won't bother them. Let other family members know what you are doing so they do not throw your materials away by mistake.
7. Conduct your experiments. Remember, the more times you do an experiment the more reliable and accurate the results will be. Do each experiment at least three times and get an average of the results for your graph. Use something to measure your experiments: a ruler or yardstick if you are measuring distance, a clock to measure time, etc. Check the measurements to be sure you are correct.
8. Record your data. As you do your experiments, you will want to write down what you saw or found out. Organize this information in an orderly manner. Put the date, time, and any other useful information. Write your measurements clearly.
9. Draw conclusions. What did you learn from your experiments? Have you proved or disproved your hypothesis? You made a guess about what you thought would happen. Now tell what really did happen. You don't lose points if your guess turned out to be wrong.
10. Prepare your titles, charts, graphs, drawings, and diagrams. Make them large enough to see, neat, and colorful.
11. Construct your science fair display.
12. Prepare and practice your presentation. Be able to tell about what you used what you did in your experiments, and what you found out. Know it well enough that you don't have to read it from the display.
13. Plan a time line so you don't leave everything until the last minute. If you need help, tell your parents and your teacher, the earlier the better.

# SCIENCE FAIR SCORING RUBRIC

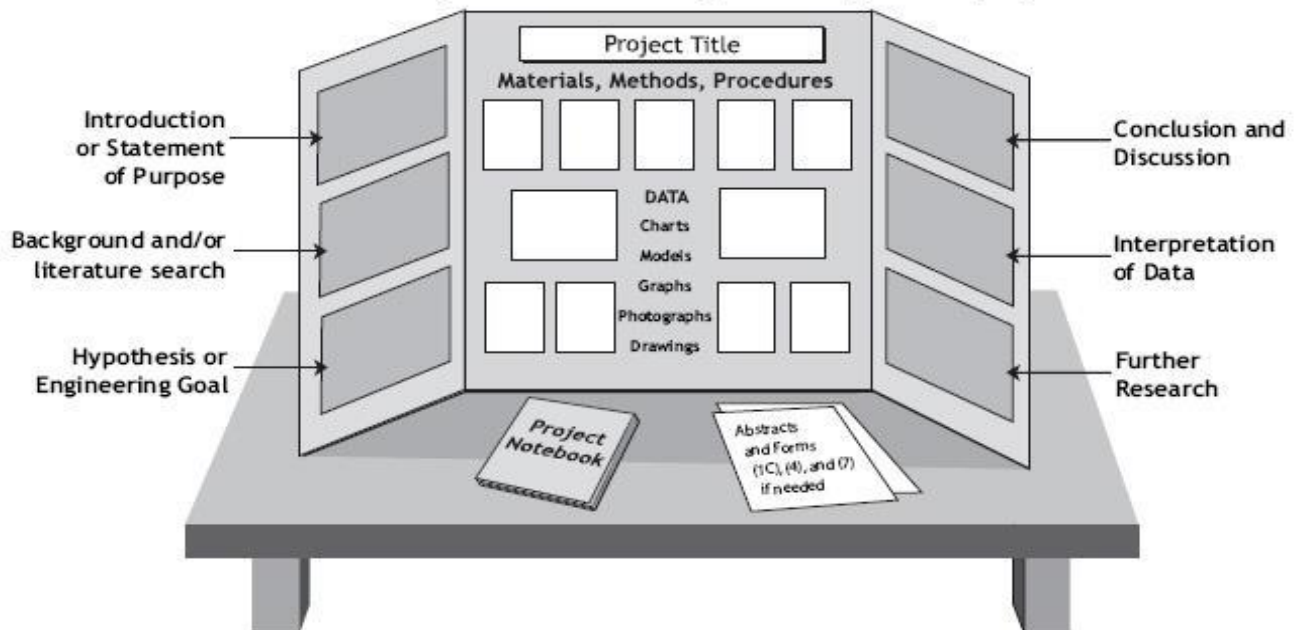
**Project:**  
**Student(s):**  
**Title:**

	Comments:	Suggestions for Improvement (as needed)	Score
<b>Research Question (10 pts)</b> <ul style="list-style-type: none"> <li>• clear and focused purpose</li> <li>• identifies contribution to field of study</li> <li>• testable using scientific methods</li> </ul>			
<b>Design and Methodology (15 pts)</b> <ul style="list-style-type: none"> <li>• well-designed plan and appropriate data collection methods</li> <li>• variables and controls defined, appropriate and complete</li> </ul>			
<b>Execution: Data Collection, Analysis &amp; Interpretation (20 pts)</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>			
<b>Creativity (20 pts)</b> <ul style="list-style-type: none"> <li>• project demonstrates significant creativity/originality/inventiveness in one or more of the above criteria</li> </ul>			
<b>Presentation of Display Board (10 points)</b> <ul style="list-style-type: none"> <li>• logical organization of material</li> <li>• clarity of graphics and legends</li> <li>• supporting documentation well selected and displayed</li> </ul>			
<b>Total:</b>			

# Helpful Tips and Links



Material Normally Included on a Typical Project Display Board



## Helpful Link:

Website provides ideas for science fair projects. It also allows you to take a survey to help you narrow your interest and topic ideas.

[http://www.sciencebuddies.org/science-fair-projects/project\\_ideas.shtml](http://www.sciencebuddies.org/science-fair-projects/project_ideas.shtml)