

***Roosevelt Science Fair Project Worksheets***

Name \_\_\_\_\_ Class \_\_\_\_\_

This worksheet will help you determine when each assignment should be due. When components are due in class, please fill out the appropriate area in your science fair assignment worksheets. Each component will be scored as a project grade.

Assignment	Assignment Description	Suggested Time to Complete this Step	In Class Due Date
Topic Selection & Question	Visit my webpage for helpful websites, such as <b>sciencebuddies.org</b> Look for a science project that interests you! Make sure its age appropriate and within your time/ budget limits. Write a specific question that the student will be investigating.	1 week	November 2nd
Research Plan & Bibliography	The Research Plan is a roadmap of the research questions that need to be answered. The Bibliography is a list of the sources that will be used to answer the research questions. Remember, you must be educated to have an educated guess! <b>Source Requirement: at least 1 offline sources including one encyclopedia. 3 resources minimum!</b>	1 week	November 9 <sup>th</sup>
Research Paper	The purpose of the Research Paper is to provide information to help understand why the experiment turns out the way it does. It should include: <ul style="list-style-type: none"> <li>• The <b>history</b> of similar experiments or inventions.</li> <li>• <b>Definitions</b> of all important words and concepts that describe the experiment.</li> <li>• <b>Answers</b> to all the background research plan questions.</li> </ul> <b>Mathematical formulas</b> , if any, that are needed to describe the results of the experiment.		December 12 <sup>th</sup>
Variables and Hypothesis	<ul style="list-style-type: none"> <li>• An explanation of which factors will be changed while conducting the experiment and a hypothesis on the resulting impact of the change.</li> <li>• Hypothesis must be in "If _____ then _____" format.</li> </ul>	1 week	November 16 <sup>th</sup>
Materials and Procedures	A detailed list of the materials that will be used to conduct the experiment and the detailed steps that will be followed while conduct the experiment <b>*Project boards handed out*</b>	1 week	November 16 <sup>th</sup>
Conducting the Experiment	<b>Minimum Trials: 3 runs of experiment.</b> Make sure you record observations (data) while conducting the experiment. Take photos of you conducting your experiment.		THIS STEP IS COMPLETED AT HOME. THERE IS NO DUE DATE FOR THIS STEP. YOU WILL SHOW COMPLETION WHEN YOU TURN IN YOUR DATA.
Data Analysis and Graphs	The analysis of the experimental data. A summary of the findings of the experiment. Include pictures or create tables/graphs of your data.	3 weeks	November 30 <sup>th</sup>
Conclusions	An explanation of the results of the experiment. Do you accept or reject your hypothesis and why. How can you improve this experiment?	1 week	December 7th
Display Board and oral presentation to class	<ol style="list-style-type: none"> <li>1. Create and assemble display board.</li> <li>2. Presentation - write note cards to guide you through explaining what you tested, your data and conclusion. Be ready for questions from your audience.</li> </ol>	1 week	December 10 <sup>th</sup>
<b>RJHS Science Fair</b>	<b>3 finalists will be chosen for the TTTLP fair.</b>		December 12 <sup>th</sup>
<b>TTTLP Science Fair</b>	<b>Two 7<sup>th</sup> grade finalists will compete against all middle schools in the area.</b>		<b>To be determined</b>

**Topic:**


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**Question:**


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**Background Research Plan Checklist:**

What Makes a Good Background Research Plan?	For a Good Background Research Plan, You Should Answer "Yes" to Every Question
Have you identified all the keywords in your science fair project question?	Yes / No
Have you used the question word table to generate research questions?	Yes / No
Have you thrown out irrelevant questions?	Yes / No
Will the answers to your research questions give you the information you need to design an experiment and predict the outcome?	Yes / No
Do one or more of your research questions specifically ask about any equipment or techniques you will need to perform an experiment? (if applicable)	Yes / No
If you are doing an engineering or programming project, have you included questions from Engineering & Programming Project Tips?	Yes / No

\*\*\*\*\*For Bibliography help, go to [www.easybib.com](http://www.easybib.com)\*\*\*\*\*



Question Word	Possible Questions Choose one to answer. Substitute your keywords into the blanks.	Answer your question. You may use a separate sheet of paper for this section.
Why	Why does _____ happen? Why does _____ _____? Why _____?	
How	How does _____ happen? How does _____ work? How does _____ detect _____? How does one measure _____? How do we use _____? How _____?	
Who	Who needs _____? Who discovered _____? Who invented _____? Who _____?	
What	What causes _____ to increase/decrease? What is _____ made of? What is the relationship between _____ and _____? What do we use _____ for? What _____?	
When	When does _____ cause _____? When was _____ discovered? When _____?	
Where	Where does _____ occur? Where does _____ get used? Where _____?	

Variables and Hypothesis:

Due: 11/17
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**Independent Variable** (what are you intentionally changing)

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**Dependent Variable** (what you will measure or observe to obtain your results)

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**Control Group** (standard for comparison)

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**Experimental Group** (the group that receives the independent variable)

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**Constants** (all other factors that will be kept the same for all trials)

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**Hypothesis** Use this format! **If** (planned change in the independent variable) **then** (predicted change in the dependent variable) **because** \_\_\_\_\_.

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Data Analysis:

Due  
12/1

Use a graphic organizer to analyze your data. Graphs, charts, and pictures are necessary to explain your results of your experiment. Create a rough draft of your results below.

Conclusion:

Due  
12/4

I accept / reject my hypothesis because \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

To improve my experiment, I would \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

In a future experiment, I would \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_