

Science Fair Project Planning Packet

Name: _____

Check Off	Due Date	Things To Do
	March 20	Choose topic. Write a Proposal with a Question. Get approval from your teacher. Get approval from Parent. (March 12 – March 19. Parent Signature due March 20)
	April 16	Research your topic and write Key Words and Research paragraph. (March 20 – April 16)
	April 16	Write a hypothesis. (March 20 – April 16)
	April 24	Design an experiment; list variables and write procedure. (April 17 – April 24)
	April 24	List and gather your materials (April 17 – April 24)
	April 25	Get Teacher and Parent approval signatures.
	April 29	Conduct experiment and record data and observations. AT HOME. We will begin graphing data on April 30 in class. (April 24 – April 29)
	May 8	Create a table, chart, or graph of the data. (April 30 – May 8)
	May 8	Write results and conclusions. (April 30 – May 8)
	May 15	Make the trifold project display. See instruction page. (May 8 – May 15)
	May 15	Write the Abstract. (May 14-May 15)
	May 16	Turn in Science Fair Notebook and Trifold Display Board.
	May 17	Present your project at the Science Fair.

1. Think of a Question or Topic to study and write a Proposal - Your question will drive your entire project. Make sure that your question is something that can be measured and answered by following the scientific process. Your question will also be the title of your project.

In this notebook, write your proposal. Your proposal needs the following items:

Title: _____

I propose to test _____

To test this I will _____

Although my experiment is not completely designed, I know I will need the following items:_____

I also know I will need help from my mom or dad _____

2. Research Your Topic - spend some time learning more about your topic. Use reliable Internet sources, books from the library, science books, or other resources. Not only do you want to be an expert on your topic, but you want to teach others about your topic.

Part 1. Research Description - A paragraph describing the science behind your project - After you have completed your research write a well-paragraph (5-7 sentences) about what you learned. Give specific, rather than general information. In your notebook, write a rough draft. You will edit a final copy to place on your display board. This research is linked to your hypothesis. The research and hypothesis go together.

Part 2. Key Words – From your research, find at least 3 key science words or phrases related to your topic. Make sure that the words you choose are directly related to your topic. Provide a definition of each

key word or phrase IN YOUR OWN WORDS. This is like a glossary for your readers. Put the words and definitions in the form provided.

Key Word (at least 3)	Definition

3. State Your Hypothesis - Decide what you think the results of the project/experiment will be and make a good guess as to what you think the answer to your question will be. Your research will help you decide the results of your experiment. Remember, it is ok if you don't have the right answer; that is how scientists make discoveries.

Your hypothesis should be in the following form:

“If I _____, I predict _____ because _____.”

4. Procedure - GO BACK AND READ YOUR HYPOTHESIS...THIS IS WHAT YOUR EXPERIMENT IS TESTING! Clearly write out the procedure you are going to follow to test your hypothesis. Remember that your experiment needs to follow the scientific process and that you need to have one variable that you are going to change. You need to list the following items in this notebook:

1. Variables to keep the same- List what you are going to keep the same as you do your experiments. (distance, quantity of something, volume of music, etc)

2. Variable to change – List what you are going to change and test. (this may also be distance, quantity, volume, force, etc.)

3. Procedure – Think through each step of your experiment very carefully and list them in numbered order. For your final written procedure, you may need to add steps that you forgot to write out the first time. Someone should be able to do your experiment from your Procedure. Make sure you include how much of something to use (for example, “1 tablespoon of water”) or how far apart something is (for example, “hold the rock 2 feet above the ground”)

5. Materials List and a Second Parent Signature - list all the materials that you will need to complete your experiment. Get another signature from your parent. Things may have changed from the first signature.

Signature: _____

Materials:

6. Conduct Experiment and Record What is Happening – Now you do your experiment. When you do your experiment you need to collect data and make observations. If you are doing your experiment 5 times, write down the experiment number and the data and observations that go with it. You will use these notes to write your Results. Write the data and observations in this notebook:

Collect Data - you will need to collect numerical data; that means you need to take measurements during the experiment. It can be temperature, distance, height, etc. You will analyze the data later to determine the results of your experiment.

Make Observations - as you conduct your experiment you will use your senses (sight, smell, touch, etc.) and write down any observations you make during the process.

7. Graphing the Results - Now it is time to review your data and observations to find out what happened. Think about the best way to show your data: bar graph, line graph, chart, etc. and then create a table or a graph using your data. Your graph should have:

1. Main title
2. horizontal axis title
3. vertical axis title
4. Your graph can be hand drawn or computer generated.

8. Writing the Results – Look at your chart and observations to find out what happened. Look at the graph and observations you wrote down and write a few sentences about each experiment. Write the results of each test in the experiment in paragraph form using complete sentences. Make sure that you include the numerical data (numbers) from your graph as well as any other important observations that you made. Do not say why things happened, just say what happened.

9. Conclusions – Now you tell if your hypothesis came true and WHY/WHY NOT your test came out the way it did. This will take some thinking! After you have determined the results it is time to decide the answer to write a paragraph about your original question. Include the following in your paragraph:

1. Begin the paragraph by answering the original question.
2. Tell whether your hypothesis was correct or incorrect. If it was incorrect explain why you think so.
3. End this paragraph by saying how you could change or improve your experiment in the future.

10. Make the Trifold Display Board - Now that you have completed your experiment you will begin typing your information and setting up your trifold display board. Your display board must have ALL of the following components located in the same places. Other board guidelines:

- Font should be easy to read and consistent throughout your display
- Font size for paragraphs should be 20 pt or greater.
- Font size of headings and titles should be consistent and 24 pt or larger.
- Remember to put a question mark at the end of your question on the display board. The question is the title of the trifold display board.
- Do not glue anything until you have it all typed and laid out. Space things evenly.
- PUT YOUR NAME ONE TIME ON THE BACK OF THE DISPLAY TRIFOLD. IT SHOULD BE NOWHERE ON THE FRONT.

Cut and paste display board picture from pdf file "ScienceFairProjectPlanner" here.

11. **Write an Abstract** – The abstract is a short version of your science fair final report. It does NOT go on the display board. Turn this in separately. It should be about 1 page long. Most of the information you will put in your abstract is already written, you will just need to copy it over. You must have the following five components in your abstract:

- Introduction begins with your project question
- Procedures
- Results
- Conclusions

Science Fair Grading Rubrics**Student Name:** _____

Component	Possible Points	Points Received	Comments
Return this page with Parent Signature by March 15, 2018	50 Bonus		
Deadlines met	100 Points		
Science Notebook: All components are in the notebook and notebook has necessary entries.	100 Points		
Display Board is neat and orderly. Written parts are typed.	100 Points		
Question is relevant and testable through experimentation. Hypothesis is based on observations	100 Points		
Key Words & Research are relevant to the question being tested	100 Points		
Procedure & Materials are clearly outlined and present a controlled experiment	100 Points		
Results are communicated clearly through a well written explanation	100 Points		
Photos/Drawings/Charts clearly explain process and data	100 Points		
Conclusion includes appropriate evaluation of data and proves or disproves the hypothesis	100 Points		
Abstract is a clear recap of the experiment and results.	100 Points		
Total Points	1000 Points		

This project will make up the grade for the entire trimester.

Parent Signature: _____

