# Science Fair Project Planner

Name(s): _____

| ✓ | Due Dates | Tasks |
|---|---|---|
| | March 7 | Choose topic and write project question. |
| | March 10 | Get approval from your teacher. |
| | March 7-14 | Research your topic. Write science terms and paragraph. |
| | March 14 | Write hypothesis. |
| | March 14 | Design experiment; list variables and write procedure. |
| | March 14 | List and gather materials. |
| | Spring Break | Conduct experiment multiple times. Record observations and data. |
| | April 4 | Create a table, chart, or graph of the data. |
| | April 5 | Draw conclusions. Explain how you would improve your experiment. |
| | April 10 | Make the project display. |
| | April 11 | Present project at science fair. |
| | | |

# The Scientific Method

# Project Question

Think of a Question

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. You may use the project question for your project title.

Brainstorm some possible questions that you are interested in learning more about.

Once you have decided on your project question, write it on the lines below and then get approval from your teacher to begin your project.

_____

_____

_____

# Project Research

*A paragraph describing the science behind your project* - after you have completed your research give us, your audience, some background information on your topic in a complete and well-written paragraph. Give us specific, rather than general information. Use the space provided to write a draft. You will edit a final copy to place on your display board.

# Project Hypothesis

State Your Hypothesis

Based on your research, decide what you think the outcome of the project will be and make a good guess as to what you think the answer to your question will be. **Also explain WHY you think that will be the outcome.** Remember, it is ok if you don't have the right answer; that is how scientists make discoveries. Make sure that your hypothesis is written in a complete sentence.

Start by listing some possible outcomes or answers to your question.

Decide which outcome is most likely. This will be your hypothesis. Clearly write your hypothesis in complete sentences.

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# Project Experiment

Design Your Experiment

Clearly write out the procedure you are going to follow. Remember that your experiment needs to follow the scientific process and that you need to have one variable that you are going to change (independent variable). There are three variables in a scientific experiment: independent, dependent, and controlled.

The *independent variable* is the one, and only one, variable you will change.

The *dependent variables* are those being observed and measured throughout the experiment.

The *controlled variables* are those that remain constant and allows you, the scientist, to understand how the experiment would react under normal circumstances.

Independent Variable:

_____

Dependent Variables:

_____

_____

_____

_____

Controlled Variables:

_____

_____

_____

_____

# Project Experiment

Materials

List *all* materials needed to complete the experiment. Be specific about type, size, brand, etc.

# Project Experiment

Procedure

Write out each step of your experiment. Remember to number each step and clearly explain what to do. Other scientists should be able to follow the same steps and get similar results.

# Project Experiment

Conduct experiment

Scientists conduct an experiment many times in order to get the most accurate data, so make sure you also conduct your experiment multiple times. During your experiment you need to collect data and make observations. You will record these in your Experiment Log. After you have completed the experiment use your log to write down the data and observations below. In your log you will need to:

*Collect Data* - you will need to collect numerical data; that means you need to take measurements during the experiment. Measurements can be temperature, distance, height, etc. Creating a chart is a helpful way to organize your data. 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.

## Observations

# Project Experiment

## Data

# Project Results

Determine the Results

Now it is time to review your data and observations to find out what happened during the experiment. Think about the best way to show your data: bar graph, line graph, chart, etc. and then create a table or a graph below. This visual will help you analyze your data for trends.

## Results

Use this space, or a separate sheet in your notebook, to sketch 1 or more tables, charts, or graphs to analyze your data.

# Project Results

Determine the Results

You will also write out the results of each test in the experiment in paragraph form using complete sentences. Make sure that you include the numerical data (measurements) as well as any other important observations that you made.

# Project Conclusions

Draw Conclusions

Analyze the results and determine how the results helps you answer your project question. Write your answer in a complete sentence using the question to begin your answer. You also need to tell whether your hypothesis was supported or if the results contradict the hypothesis. If it was not supported, explain why you think so. End this paragraph by saying how you would change or improve your experiment in the future.

Answer to your project question: _____

_____

_____

_____

Did the results support or contradict the hypothesis? Explain. _____

_____

_____

_____

How would you improve or change the experiment? _____

_____

_____

_____

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_____

# Project Presentation

Display board

Now that you have completed your experiment you will begin setting up your display board to communicate the results of your experiment to others. Remember, the board is graded on the information you present, not how colorful or pretty it looks. 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 at least a size of 16pt or greater.
- Photos should not include faces of students.
- Information on the board can be typed or written neatly by hand.

**Hypothesis**

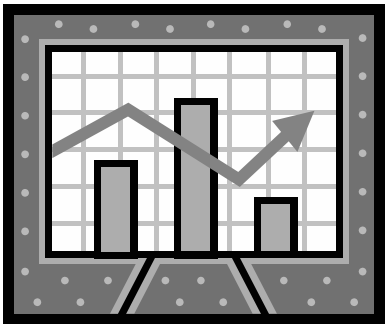
**Key Words and Research**

**Procedure and Materials**

**Question/Title**

**Photos or Drawings**

**Graphs**



**Results**

**Conclusion**