

Planning my Science Fair Project

**STEP #1: Topic Selection Due: \_\_\_\_\_\_\_\_\_\_\_**

The project I am interested in investigating or building is:

|  |
| --- |
|  |

The reason I think this will be interesting to do for the science fair is:

|  |
| --- |
|  |

Which general theme does it classify under? (Check one)

* Creation
* Engineering
* Product design
* Other (please specify): \_\_\_\_\_\_\_\_\_\_\_\_

Teacher approval signature \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Student signature \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Parent signature \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

***Parents****- please sign and return this form within two days of your son or daughters project being approved by the teacher as this will help you know what stage they are at in the progress of their project! Thanks ☺ ~ Ms. Cassie and Ms. Shannon*

**STEP #2: Scientific Method Due: \_\_\_\_\_\_\_\_\_\_\_**

Teacher approval signature \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Student signature \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Question:**

* *What is your research question?*

|  |
| --- |
|  |

**Hypothesis:**

* *Make an educated guess about what you think will happen*

|  |
| --- |
|  |

**Materials:**

* *List the materials you will need for your project and why they are needed*

|  |  |
| --- | --- |
| **Material Description** | **Why I’ve selected it…** |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

**Variables:**

It is important for an experiment to be a **fair test**.

🡪 You conduct a **fair test** by making sure that you change one variable at a time, while keeping all other conditions the same.

|  |  |  |  |
| --- | --- | --- | --- |
| Variable | **Controlled** | **Manipulated** | **Responding** |
| What is this? | The variables (list all) that **remain the same** throughout the experiment | The variable (only one) that is controlled or **changed by you**, the scientist! | **The outcome** that you expect will be different or changing |
| My variable(s): |  |  |  |

🡪 Is your test fair? Yes \_\_\_\_\_ No \_\_\_\_\_

**Timeline until science fair:**

 Today is: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Science Fair is on: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 I need \_\_\_\_\_\_\_ weeks to do my experiment.

🡪 Do you have enough time? Yes \_\_\_\_\_ No \_\_\_\_\_

**Procedure:**

Write the **experimental procedure** like a step-by-step recipe for your science experiment.

🡪 A good procedure is so detailed and complete that it lets someone else duplicate (or repeat) your experiment exactly!

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**Observations and Analysis:**

**Record** the results of your experiment in **a log book** (information below). Create a **table and/or graph** to review the data.

🡪 Results could be taken over a long or short period of time but you need to ensure that results are recorded or measured accurately. Tables and graphs can be created by hand, using Microsoft excel, or other computer programs. Remember to clearly label all tables and graphs.

🡪 Take some time to carefully review the data that you’ve gathered. Look for any trends or patterns. Try to look at the results of your experiment with a critical eye.

Did you get the results you had expected? Yes\_\_\_\_\_ No\_\_\_\_\_

If no – Ask yourself these questions:

1. Is it complete, or did you forget something?
2. Do you need to collect more data?
3. Did you make any mistakes?

What did you find out from your experiment?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Logbook:**

🡪 Every science fair project **must include a logbook**, also sometimes called a research notebook, which is a complete, permanent record of how you did your experiment/research project; it shows what you did and thought every step along the way.

**LOGBOOK POINTERS:**

* write your logbook in a notebook or scribbler
* make an entry every time you work on your project and date each entry
* make your notes in point form
* don’t worry about neatness; you do not need to re-copy your logbook to make it look “tidy”
* organize your logbook into sections such as: schedule, daily notes and ideas, background research, contacts and references, experimental procedure/method, data collection sheets, observations/results in tables and graphs, conclusions
* Write everything down, even if it seems insignificant at the time; the information may be useful later on
* Make sure that you describe things in enough detail that you and anyone else reading your logbook in the future will be able to understand your thoughts and repeat the entire experiment exactly like you did it in the first place, just using your logbook.
* You must create your logbook as you go; it is unacceptable to create your logbook on the computer after you have finished your project
* NOTE: The text that appears on your backboard/tri-fold is just a summary of what you write in your logbook; there is much more information in your logbook than what appears on your backboard/tri-fold.

\*Remember, keeping up a great logbook throughout the entire duration of the science project really pays off later! Not only will a nicely maintained logbook impress your teacher and the judges at the fair, it will also help you stay out of trouble later when you need to look back and provide details of what you did.

**Conclusion:**

Your **conclusion** summarizes how your results support or contradict your original hypothesis.

🡪 **Summarize** your science fair project results in a few sentences and use this summary to support your conclusion. Include key facts from your background research to help explain your results as needed.

Summary of project:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Link to key facts from background information:

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My results supported my hypothesis: Yes\_\_\_\_\_\_ No \_\_\_\_\_\_

Final conclusion:

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**Suggestions for further study:**

Suggest changes in the experimental procedure and/or possibilities for further study.

🡪 These are three (or more) **sources** I can use to find more information on this research topic:

(These could be websites, books, or other informational resources. – Be specific!)

1.
2.

1.