

Science Fair Project Package 2019

Name: _____



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THE FUTURE BELONGS TO THE **CURIOUS**.
THE ONES WHO ARE NOT AFRAID TO **TRY** IT,
EXPLORE IT, **POKE** AT IT, **QUESTION** IT
AND **TURN** IT INSIDE OUT.

Starting Your Project

When you've selected your topic, it's time to get started. Here are some tips for launching a successful project.

Project Journal

Every entry should be as neat as possible and dated. A neat, orderly journal provides a complete and accurate record of your project from start to finish, and it can be used to add to your project report. It is also proof of the time you spent searching out the answers to the scientific mystery you undertook to solve. You will want to display the journal with your completed project.

This may look something like this:

Daily/Weekly Log Report:

Date: _____

Project Report

Your report is the written record of your entire project from start to finish. As you type sections of your science fair project you will make two copies. One copy will go into your report and the other copy will be filed to be used on your display board. Your report can also include a title page and sources.

Sections of a Science Fair Project

1. Title

Ideally the title of your project should be catchy, an "interest-grabber," but it should also describe the project well enough that people reading your report can quickly figure out what you were studying. You will want to write your Title and Background sections **AFTER** you have come up with a good question to study.



2. Background or Purpose

The background section is where you include information that you already know about your subject and/or you tell your project readers why you chose the project you did. What were you



hoping to find out from the project?

3. The Question (Or Selecting Your Subject)

Probably the most difficult part of a science fair project is coming up with a good subject to research.

First - think about WHAT INTERESTS you.

Second - think of a QUESTION about the subject.

If you are working to ANSWER A QUESTION, you will be doing real research. Be careful of choosing projects such as "volcanoes" or "tornadoes." It is possible to build cute models of these things, but it is pretty hard to come up with questions about them that are testable with materials available to the average person. Another problem occurs when students need special equipment to test a question. For example, it might be interesting to find out if television commercials really are louder than regular programming ... but how would you test that without a decibel-meter?

4. Prediction or Hypothesis

As soon as you come up with a testable question, you will probably instantly have a hypothesis (prediction) about what the results will be from your testing. It's a good idea to write this down before starting, because it may change as you go about your experimenting.

5. Materials and Methods

Once you have come up with a question that you can actually test with materials at your disposal, you need to figure out how to set up the tests. If you will have a survey for your participants to fill out, get that written up and duplicated. If you will need a chart to write down your test results, get it made. If you take the time to make it look nice you can include the actual chart or survey form in your project display. This really impresses the judges!

Keep good notes of the things you have tried and plan to include even the "didn't-works" and "mess-ups" in your project report. Be sure to try your experiment several times to be sure you have enough data to make a logical conclusion. You need lots of "trials" (generally at least 3; the more, the better) for believable data. Remember, too, that you want to keep all of the experimental factors (variables) the same except the one you are testing.

In science fair projects as in life, "a picture is worth a thousand words." Plan to take pictures of the materials you used and of the experiment as it is being carried out. If you get started early, you will have time to have the pictures developed and include them as part of your report.

6. Results or Data

The results section is where you tell your reader the actual numbers (or other data) that you got as you were doing the experiment. (In a tennis ball experiment, this would be a table with the different brands of balls and the actual heights each of them bounced on each trial.) You might also include a graph, if your data lends itself to it.

7. Conclusion

In the conclusion you finally get to tell your readers what you found out from the experiment, or how you interpret your data. Students often like to use this section to expand upon how much they liked doing the experiment or how much they learned from it ... but really this section should be focused on what you learned about your original question and hypothesis. For example, DID cheaper cereals get soggy in milk faster?

If your results do not support your hypothesis:

DON'T change your hypothesis.

DO give possible reasons for the difference between your hypothesis and the experimental results.

DO give ways that you can experiment further to find a solution.

If your results support your hypothesis:

You might say, for example, "As stated in my hypothesis, I believe that light is not necessary during the germination of bean seeds. My experimentation supports the idea that bean seeds will germinate without light. If I were to

improve on this experiment, I would place the 'no light' containers in a light-proof box and/or wrap them in light-proof material, such as aluminum foil."

Here is an example of what a finished board may look like:

