

Science Fair Tips

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All About the Attitude

Have a positive attitude!

Children will mirror their parents' attitudes.

Show your student that science can be fun.

A science fair project is not a burdensome chore.



Creativity

Science projects = creativity

Projects allow students to explore any topic.

Is your student interested in art, sports or music?

These are great topics for science projects!



Benefits of Science Projects

Science projects help develop important skills for the future

- Project management: manage a project and meet deadlines
- Innovation: develop an idea, plan and test the idea
- Communication: write results, create a presentation board, present and discuss results



Science projects involve active (hands-on) learning

Advice from Judges

Simpler is better! Projects don't need to be sophisticated.

An original project is most likely to win a prize.

If you can communicate your science fair project well, you maximize your chances of winning.

Have a clear, well-organized presentation board. Graphs are better than tables.

Give credit where credit is due. Thank anyone who helped with the project on your poster board.

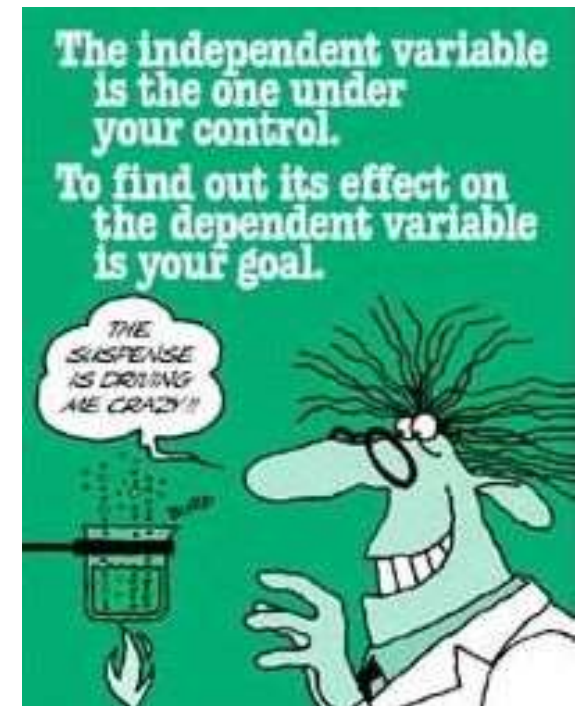
Scientific Method

1. **Ask a Question:** Ask a question about something you observe
2. **Do Background Research:** Learn what is known about your topic
3. **Form a Hypothesis:** Your “best guess” answer to the question/problem before conducting the experiment; often stated as **If...then...because....**
4. **Conduct Experiments:** Perform tests to determine whether the hypothesis is correct
5. **Analyze data:** Review measurements taken during experiments
6. **Communicate Results:** Clearly labeled charts, tables, graphs, and/or other written explanations that show what happened
7. **Write Conclusions:** Explain how the results answered the question



Variables

1. **Independent variable** – the factor that is changed to test the effects on the dependent variable; the “cause” which leads to the “effect”
2. **Dependent variable** – the factor being tested, observed and measured in the experiment. It **DEPENDS** on the independent variable. The dependent variable is the “effect”.
3. **Controlled variables** – the factors that are held constant in an experiment; Although these factors can change, the experimenter keeps them the same in order to minimize their effects

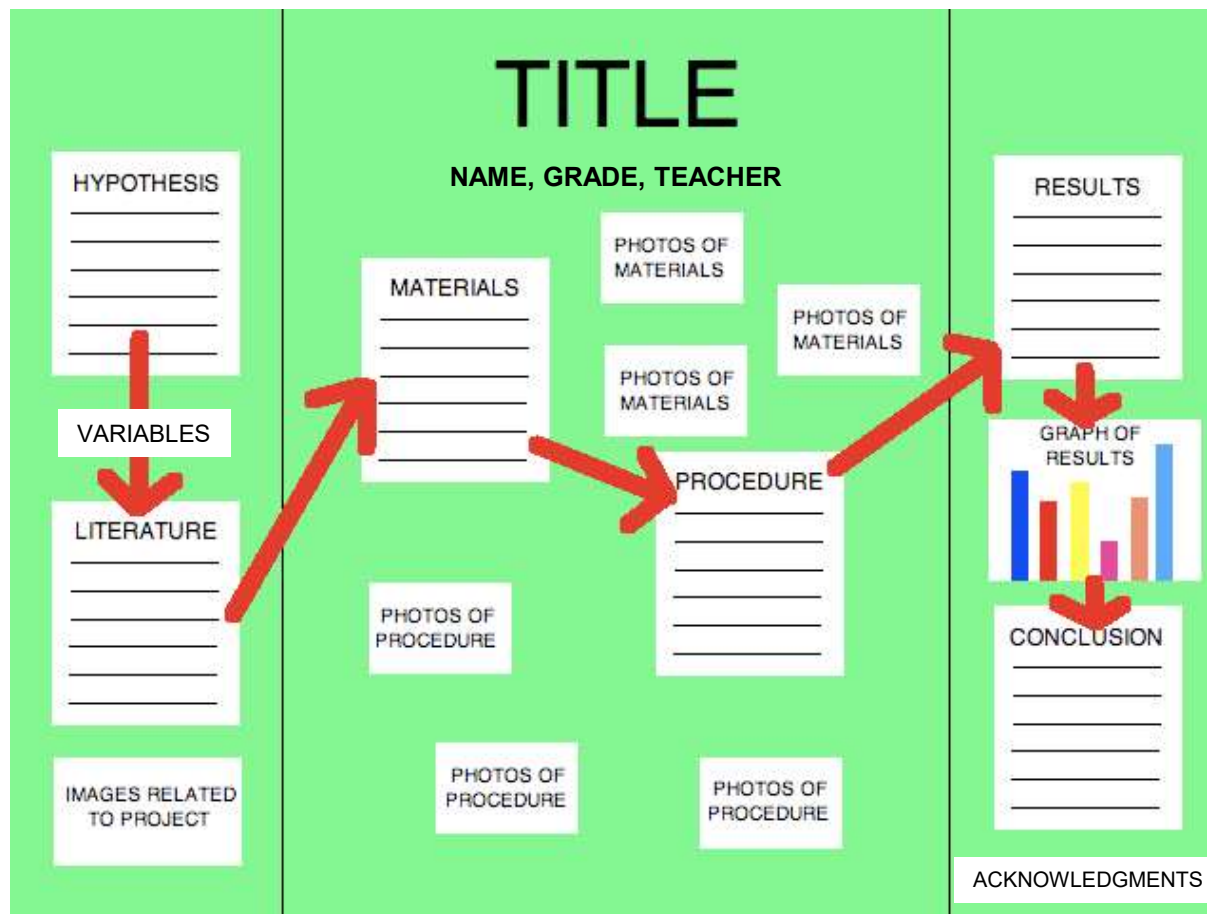


Project Board - Experiment

Tri-fold display board (36"x48" or smaller)

Use large, easy-to-read font

Layout should be left to right, top to bottom

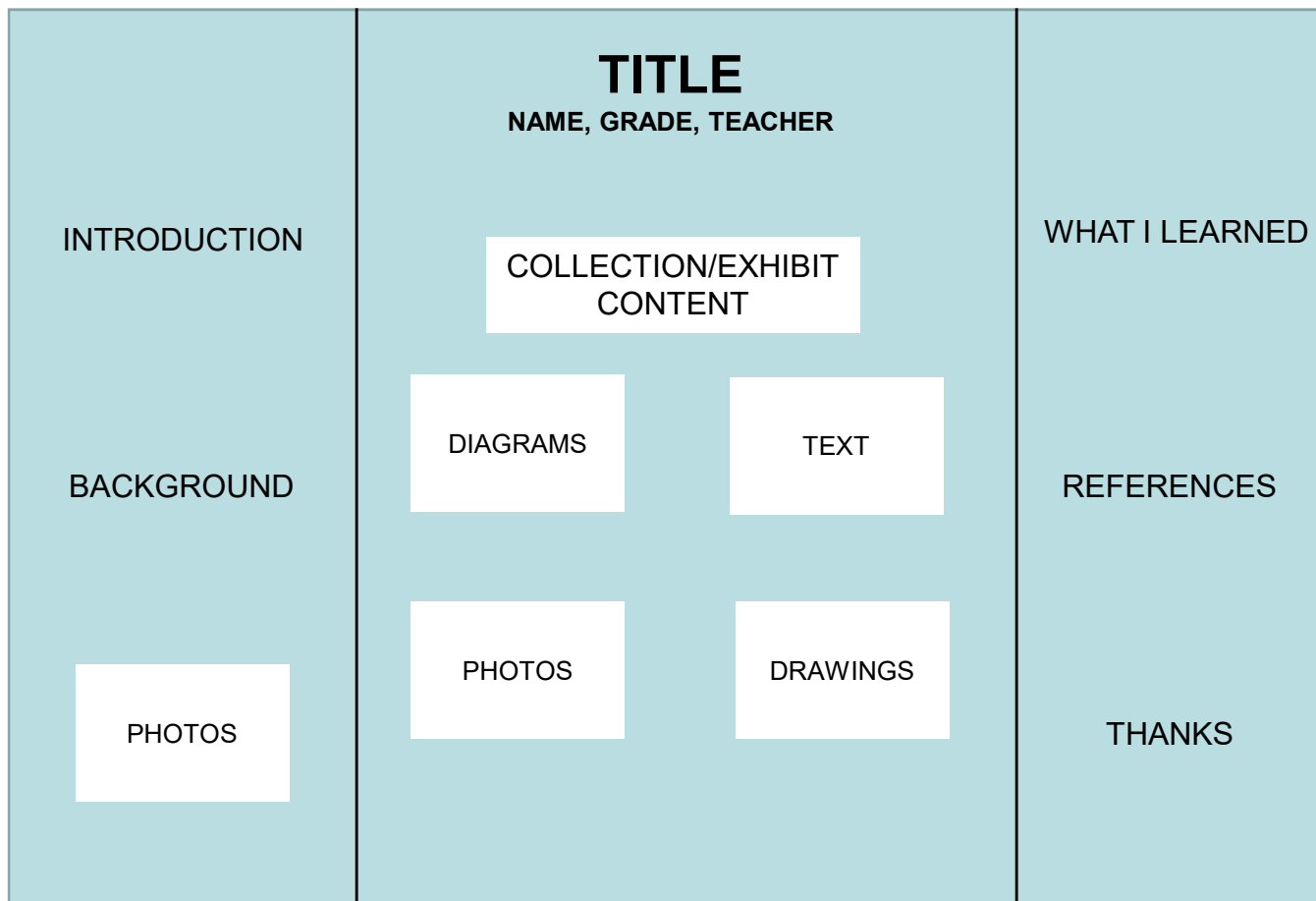


Project Boards - Other

Tri-fold display board (36"x48" or smaller)

Use large, easy-to-read font

Format is flexible



Avoid Text Wall

A poster full of text (textwall) is difficult to read quickly.

Posters should be summaries: readers (esp. judges) want to find out what you have to say as quickly as possible.

Follow these simple tips to keep your information readable:

- Bulleted Lists: Like this one, bullet points break up long paragraphs into readable segments.
- Big font: Using a larger font will not only make your poster more readable, it will force you to remove non-vital information.
- Paragraphs: Don't go more than 3 or 4 lines without making a new paragraph. People will get lost.
- Whitespace: Put a blank line between paragraphs to visually divide pages into smaller bites.
- Sentence Fragments: Can help get your point across in fewer words. Complete sentences are not always necessary!
- Communicate information through pictures, graphs and tables.

Helping at the Right Level

Project Step	Parent Help
Ask a question	<ul style="list-style-type: none">• Discussing with your child whether a project idea seems practical
Background research	<ul style="list-style-type: none">• Taking your child to the library• Helping your child think of keywords for Internet searches
Hypothesis	<ul style="list-style-type: none">• Asking how the hypothesis relates to an experiment the child can do
Test the hypothesis by doing an experiment	<ul style="list-style-type: none">• Assisting in finding materials• Monitoring safety
Analyze data and draw a conclusion	<ul style="list-style-type: none">• Asking how your child will record the data in a table or graph; help with Excel or similar program• Reminding your child to tie the data back to the hypothesis and draw a conclusion
Communicate your results	<ul style="list-style-type: none">• If a presentation is assigned, acting as the audience• Helping assemble presentation board and bring it to school