

# Science Fair Tips

Rebecca Henry, PhD  
Clayton Elementary Science Fair  
Coordinator



# 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.





# 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.

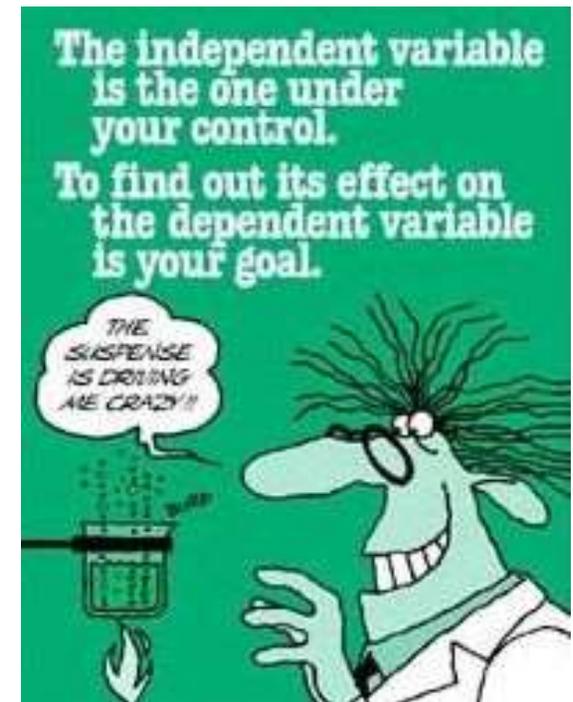
# Scientific Method

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

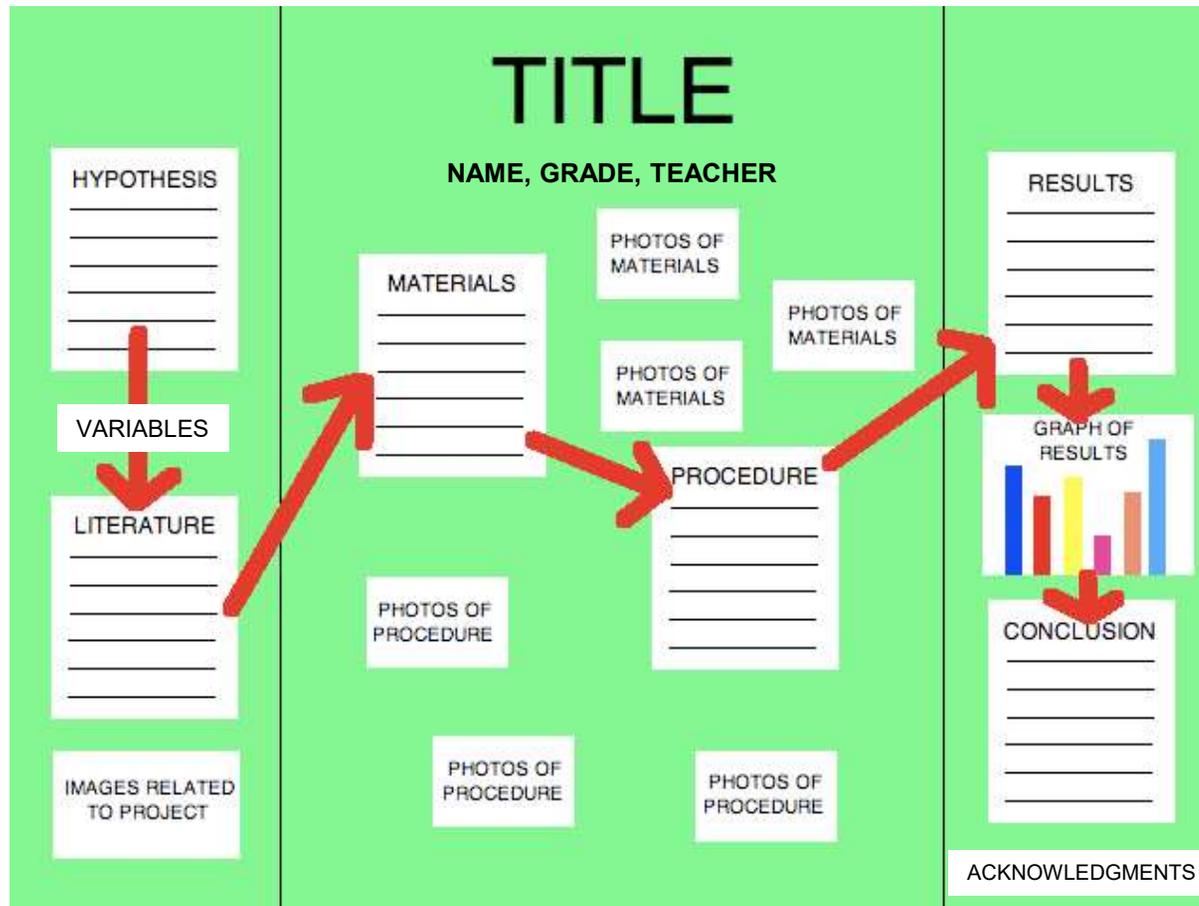


# Project Board - Experiment

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

Use large, easy-to-read font

Layout should be left to right, top to bottom

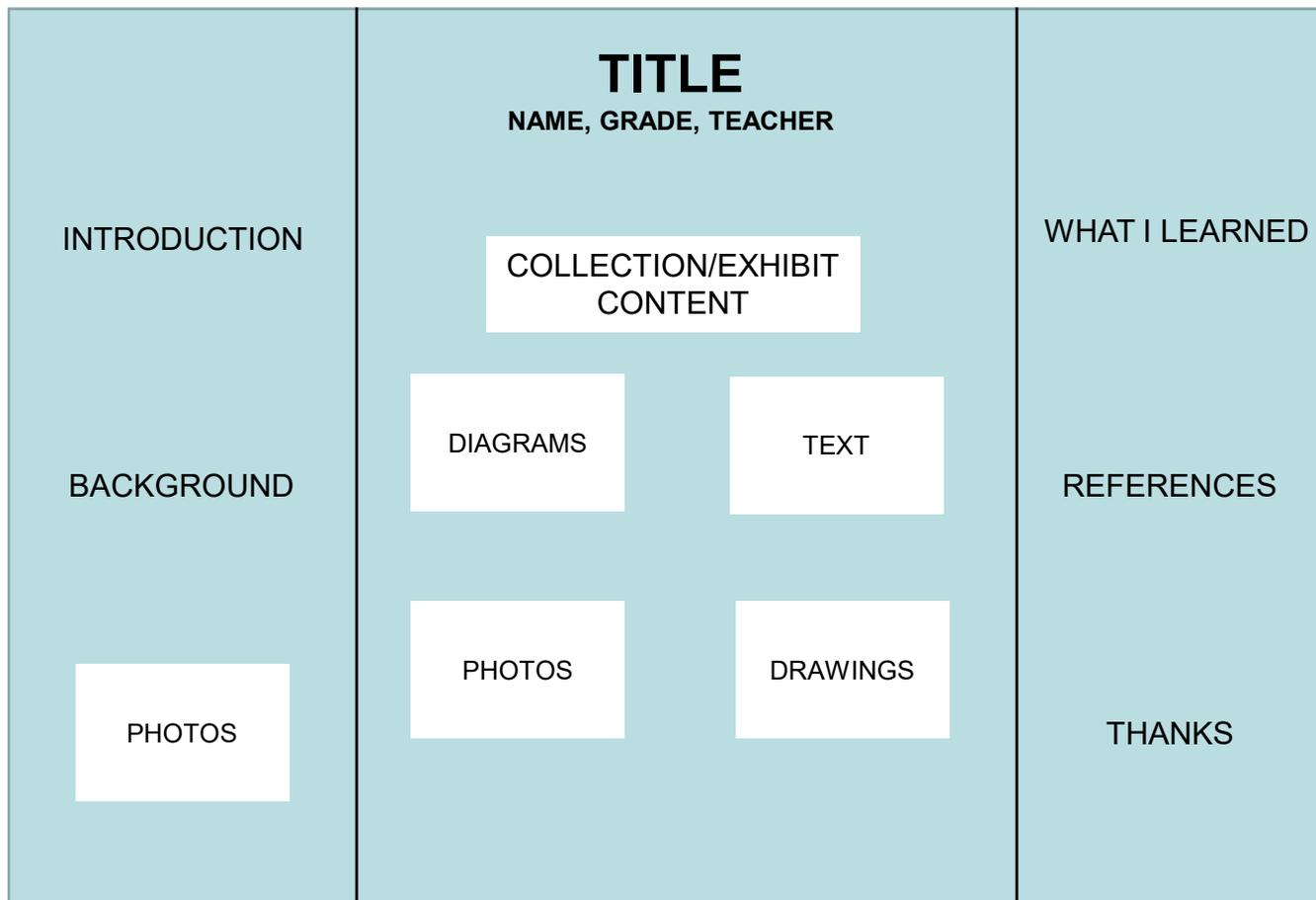


# Project Boards - Other

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