

Science Experiment (Grades 6-8)



WISH Showcase

Top projects will have superior work in ALL four areas:

1. Well Designed Overall Project

Well defined problem or project; uses comprehensive scientific method to determine correct or incorrect hypothesis or clearly demonstrates how something works

2. Topic

Topic is creative and interesting; contains valuable or useful information

3. Written Report

Well written and thorough

4. Display

Display board is nicely put together and attractive

Science Project Ideas

Finding an idea for your project can be the hardest part. Ideas for science fair projects come from many sources. Here are some websites that can get you started in the right direction. Just remember to choose a topic that interests you and have fun with your project!

Bill Nye The Science Guy

<http://www.nyelabs.com>

Click on the Home Demos link and you can use the pull down menu to select from forty experiments.

Bug Info: Science Fair Project Suggestions

http://www.si.edu/Encyclopedia_SI/nmnh/buginfo/scifair.htm

Science fair topics related to bugs. If you have an interest in insects be sure to take a look at this site.

Energy Quest Science Fair Projects

<http://www.energyquest.ca.gov/projects/index.html#chemical>

The California Energy Commission lists topics on the areas of Chemical/Stored Energy, Electricity, Geothermal, Hydro-Power/Water Energy, Nuclear Energy, Saving Energy, Solar, Transportation, and Wind Energy. It also includes a really Great Reference Sheet for What makes a Good Science Fair Project.

Exploratorium: The Science Explorer

http://www.exploratorium.edu/science_explorer/index.html

From blowing, bouncing, bursting bubbles to dramatic static, this site tells you what you need, what to do, as well as explaining what's going on.

MadSci Network Experiments

<http://www.madsci.org/experiments/>

A comprehensive list of experiments and descriptions in the following categories: Astronomy, Biological Sciences, Chemistry, Earth Sciences, Mathematics, Physics.

Neuroscience for Kids: Experiments and Activities

<http://faculty.washington.edu/chudler/experi.html>

Dr. Chudler publishes a long list of games and creative ideas for science fair projects in the area of Neuroscience. Some questions asked are: Can your eyes deceive you?, How good is your memory?, Do you remember your Dreams?. Experiments are good for grades 3-12.

Northern Illinois University: Science Fair Ideas

<http://www.neiu.edu/~pjdolan/chemistry.htm>

A list of chemistry-related science fair ideas.

Science Fair Central: Project Ideas

<http://school.discovery.com/sciencefaircentral/Science-Fair-Projects.html>

This site breaks down ideas into topic areas such as "Animals and Insects," "Food and Our Bodies," and "Plants and Gardening."

The Franklin Institute: Science Fair Activities

<http://sln.fi.edu/tfi/activity/act-summ.html>

List of science fair projects under many categories. Level of difficulty K-8 is indicated.

U.S.G.S. Science Fair Ideas

<http://earthquake.usgs.gov/4kids/sciencefair.html>

The U.S. Geological Survey provides a fun list of earthquake project ideas.

Science Experiment Project Guidelines

Open to Grades 6-8

(Grades K-5 are eligible to participate, but SIMPLE Science may be more appropriate)

Project Notebook

The project notebook should be organized in the order shown below. Use one side of a pocket folder.

A. Abstract

- See attached page for directions on completing abstract.

B. Title Page

- Title of project

C. Table of Contents

- Name sections of notebook with page numbers

D. Acknowledgements

- Credit given to those who helped with the project.
 - Ex: I would like to thank my mom for helping me...

E. Purpose and Hypothesis

- What do you want to understand?
 - Ex: The purpose of this project was to determine the effects of sunlight on plants.
- A statement about what you thought would happen (hypothesis).
 - Ex: It was hypothesized that if plants were put in sunlight, they would grow taller than plants without sunlight.

F. Review of Literature

- Review at least THREE current books, newspapers, journals, electronic sources regarding your topic.
- Summarize important information that helps provide background for those viewing your project.
- Use MLA style for citations (use www.stylewizd.com).

G. Materials

- A list of materials used for your project.

H. Procedure

- Explain what you did to conduct your experiment.
 - Ex: First, I...Then, I...; or list 1.2.3.

I. Results

- Data, Data, Data! Graphs or tables with numerical data or statements regarding what was observed.

J. Conclusion

- Statement regarding hypothesis.
 - Based on the results, the hypothesis was (correct/accepted or incorrect/rejected).
- In 1-3 sentences, summarize the data.
 - Ex: The plants in sunlight grew an average of 3 inches taller than the plants not in the sunlight.
- Finally, make a conclusion statement about what you learned from your project.
 - Ex: Plants need sunlight to grow.

K. Reference List

- Reference all sources cited in the Review of Literature
- Use MLA style (use www.stylewizard.com)

Important Information

****If the purpose of your project is to build something to see how it works****

- Your hypothesis should state: I think I can create/build a _____ to show how _____.
- Your results should indicate what happened when you tried to use the object.
- All of the other information will follow along with the above steps.

Display Board

The following items should be displayed on the board:

Purpose:

- What do you want to understand?
 - Ex: The purpose of this project was to determine the effects of sunlight on plants.

Hypothesis:

- A statement about what you thought would happen.
 - Ex: It was hypothesized that if plants were put in sunlight, they would grow taller than plants without sunlight.

Materials:

- A list of materials used for your project.

Procedure:

- Explain what you did to conduct your experiment.
 - Ex: First, I.... Then, I ...; or list 1.2.3

Results:

- Data, Data, Data! Graphs or tables with numerical data or statements regarding what was observed.

Conclusion:

- Statement regarding hypothesis.
 - Based on the results, the hypothesis was (correct/accepted or incorrect/rejected).
- In 1-3 sentences, summarize the data.
 - Ex: The plants in the sunlight grew an average of 3 inches taller than the plants not in sunlight.
- Finally, make a conclusion statement about what you learned from your project.
 - Ex: Plants need sunlight to grow.

Acknowledgements:

- Credit given to those who helped with the project.
 - Ex: I would like to thank my mom for helping me...

****The Abstract should be typed using the attached guideline and placed in a folder in front of the display board.****

- ❖ Your display must fit within a space of 24" x 12" x 36"
- ❖ Boards should be constructed with the parent or teacher providing guidance and encouragement.
- ❖ The title should be brief, captivating, and sufficiently descriptive to identify the project.
- ❖ Lettering should be neat and easy to read. Spelling should be correct.
- ❖ Displays should be neat and presentable.
- ❖ NO personal identification should be displayed on the front of the board.
Do not put your photo or name on the front.
- ❖ No living organisms, except plants; no valuable or potentially dangerous items.

Suggestions

- Use rubber cement as your glue.
- Type pages or use pre-cut letters.
- Frame the material you place on your backboard by placing them first on colored paper.
- Keep margins of the frames the same.

Sample Display

Title		
Materials	Purpose	Results
Procedure		Conclusion
	Hypothesis	
	<i>Optional: Pictures or other supporting information</i>	Acknowledgements

*****Complete the Project Identification Cover Sheet and attach to the back of the display board before bringing it to your school for judging.*****

Abstract Guideline

Complete for your project and type on a single piece of paper with **Abstract** at the top center of the page. (See next page for set up). This is an overview of your project, so each section should be brief.

Project Name: _____

Purpose:

- The purpose of this project was to determine the effect of (Independent Variable) on (Dependent Variable). It was hypothesized that if (How the Independent Variable was Manipulated), then (Prediction About How Dependent Variable Would be Affected).
 - Ex.: The purpose of this project was to determine the effect of sunlight on plants. It was hypothesized that if plants were put in sunlight, they would grow taller than plants without sunlight.

OR

- The purpose of this project was to investigate...

Procedure:

- Explain what you did to conduct your experiment.
 - How did you do it?
 - What did you measure?

Results/Conclusion:

- Statement regarding hypothesis:
 - Based on the results, the hypothesis was (accepted/correct or rejected/incorrect).
- Results
 - In 1-3 sentences, summarize the data. Ex.: The plants exposed to the sunlight grew three inches taller than the ones in the dark room.
- Conclusion:
 - Make a conclusion statement: Ex: Plants in light will grow better because...

Abstract

Project Name: _____

Purpose: _____

Procedure: _____

Results/Conclusions: _____

Project Identification Cover Sheet

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Date

Title

Category: Invention, SIMPLE Science, Science Experiment, History

Student's Name

Teacher/CAP Class

Grade

School

****Attach this form to the BACK of the project display board.**