Science Fair Guide

This guide will give you suggested project steps,
project ideas, and display guidelines.

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Science Fair Project Steps

Doing a science project will help you to put into practice some of the science and math that you have learned. Also, a science project will help you to learn much more about a subject that interests you. Through this Science Fair you will have an opportunity to share your new discoveries with parents, teachers and other students.

Participation and preparation for the science fair will develop several valuable skills. In addition to learning more about science, you will also learn more about the use of the library. You will develop skills in art and perhaps photography as you prepare your display. You may discover an interest that can keep you actively in pursuit of knowledge well beyond high school. You will develop your communication skills during the fair, and you will gain confidence in presenting your ideas to a variety of people.

1. Selecting A Topic

The first step in preparing a good science fair project is to select a topic for your project. First of all, you should pick a topic you are interested in. Second, it doesn't have to be complicated. Students often select complicated projects and then end up not fully understanding the concepts or even giving up on the project. Refer to the 'Ideas' section of this document for a list of generic project ideas that can be either simplified or expanded upon to fit your needs. Other topics can be found in the links provided in this guide under 'Internet Websites'.

2. Research your Topic.

After selecting your topic, learn everything about it. Books on your topic can likely be found in your local library or bookstore. Another great source for information is the Internet. You can use the many search engines available to find information.

Warning: children, please use Internet search engines only with your parent's permission and supervision!

3. Make A Plan

Once you consider yourself an 'expert' about your topic, make a plan as to how you will conduct your experiment. Your plan should include the following:

1. The purpose of your experiment.
2. The variable(s) or the things that you are going to change during the experiment.
3. Your Hypothesis or what you think the outcome of the project will be. Note: your project may not have a hypothesis. If you choose to do a project that demonstrates a principle in science, you may not have a hypothesis to prove. Either type of project is great!
4. A detailed procedure outlining how you will conduct the experimentation.

4. Conduct the Experiments

The next step is to follow the plan that you have written. While conducting the experiments make sure you keep detailed notes on everything that you observe. You may even want to take pictures or make sketches of your observations. These notes are vital to your experiment because they are needed when you make your display.

5. Analyze Your Results

Once you have completed your experiment, organize your notes. You may want to recopy your notes so that they are more organized and can be easily understood by others. Then, analyze them. Ask yourself, what happened, did the results agree with your hypothesis (if you have one). Make graphs and charts to represent the data and to help you analyze it.

6. Make Your Display

The display is crucial to your success at the fair because it tells about your project. The display must be neat and well organized. It should include background information, the problem, your hypothesis (or what you are demonstrating), your procedure, your results, your conclusion, and any applicable graphs and charts. You can also include photos or drawings of your experiments. For more information on creating your display, see the Display Hints section of this document.

7. Practice Your Presentation

When you make your presentation, it is important that you are prepared and know what you are going to say before you have to say it. By rehearsing your presentation, you get an opportunity to 'work the bugs out' and become comfortable talking about your project. You should start out rehearsing by yourself, and then find volunteers to be an audience and present it to them. You will be calmer and more composed if you are prepared and know what you are going to say.

8. Do your BEST!

Try to be as calm and professional as possible. Know what you are talking about and be confident, you will do fine!

The Different Kinds of Science Fair Projects

1. A Model Kit

In this type of science project, a display of some kind is assembled in order to illustrate something related to science. A famous example is the "erupting volcano" model. This is a plaster model of a volcano that is filled with baking soda and vinegar; the reaction between the chemicals causes a violent foaming which erupts like lava. This type of science fair project can be appropriate for K-2nd grade. This project generally requires the least amount of work. It is a great way to get started for younger students.

2. The Demonstration

Like building a model, the "demonstration project" does not answer a question through experimentation, but instead illustrates a known scientific principle by demonstrating it. Tornados in a wind tunnel or an “oil drop” model of splitting the atom are examples of a "demonstration" science fair project. This type of project is less challenging because it doesn't require the student to think critically about scientific ideas, principles or procedures.

3. The Investigation

It is a proper scientific experiment, using the **scientific method** to seek out unknown answers to hypothetical questions. Basically, it is an experiment. Refer to page 5 and 6 of this guide for more information on the Scientific Method.

Steps of the Scientific Method

1. **Ask a Question**: The scientific method starts when you ask a question about something you observe: How, What, When, Who, Which, Why or Where? And in order for the scientific method to answer the question, it must be about something that you can measure, preferably with a number.

2. **Do Background research**: Rather than starting from scratch in putting together a plan for answering your question, you want to be a savvy scientist putting together library and internet research to help you find the best way to do things and ensure that you do not repeat mistakes from the past.

3. **Construct a Hypothesis**. A hypothesis is an educated guess about how things work:
   "if _____(I do this)_____, then_____(this)_____will happen"

   a. You must state your hypothesis in a way that you can easily measure, and of course, your hypothesis should be constructed in a way to help you answer your original question.

4. **Test Your Hypothesis by Doing an Experiment**: Your experiment tests whether your hypothesis is true or false. It is important for your experiment to be a fair test. You conduct a fair test by making sure that you change only one factor at a time while keeping all other conditions the same. You should also repeat your experiments several times to make sure that the first results were not just an accident. This is called 'trials'. There should be at least 3 trials for validity.

5. **Analyze Your Data and Draw a Conclusion**: Once your experiment is complete, you collect your measurements and analyze them to see if your hypothesis was true or false.
   a. Scientists often find that their hypothesis was false, and in such cases they will construct a new hypothesis starting the entire process of the scientific method over again. Even if they find that their hypothesis was true, they may want to test it again in a new way.

6. **Communicate Your Results**: To complete your science fair project you will communicate your results to others in a final display and/or display board. Professional scientists do almost exactly the same thing by publishing their report in a scientific journal or by presenting their results on a poster at a scientific meeting.

The scientific method is shown as a series of steps. Keep in mind that new information or thinking might cause a scientist to back up and repeat steps at any point in the process. A process like the scientific method that involves such backing up and repeating is called an **iterative process.**

Throughout the process of doing your science fair project you should keep a journal containing all of your important ideas and information. This journal is called a laboratory notebook.

Some Project Hints

1. **Choose A Topic that Interests YOU**

   The topic that you choose for your science fair project should be one that is of interest to you. If you have ever tried to do something that did not interest you, chances are that you did not do your best. It is much easier to do your best when you are actually interested in the topic you are studying.

2. **Do your own work**

   When you are at the fair and are asked to speak about your project, how can you talk about it if you didn't actually do it yourself? Getting help on a few specific aspects of your project is okay, there is nothing wrong with that, but it has to be YOU who does the project, not a parent. The amount of parent “help” will differ from grade to grade.

3. **Give yourself plenty of time**

   For your project to be the best you can make it, you must allow yourself plenty of time to get it done. A good project can't be done the night before the fair or even a few days before. A good project requires weeks of planning and experimentation to be successful. Try to leave yourself 6 weeks from start to finish.

4. **Your project doesn't have to be complex**

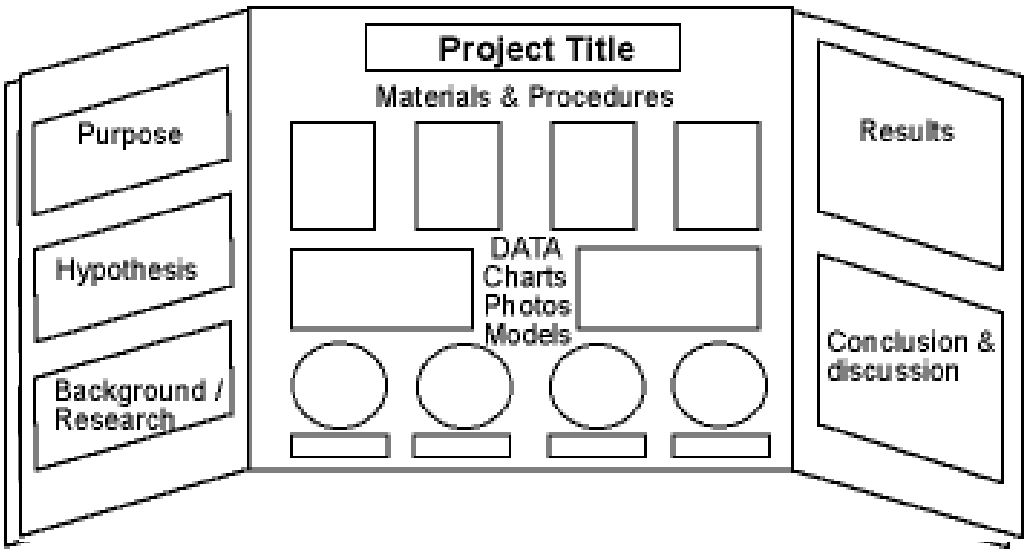
   The purpose of a science fair is to help you (the student) to learn about a specific topic. Often times, students choose very difficult and tedious projects because they think that it will help them to do better at the fair. In theory, it is a good idea, but more often then not, the student becomes overwhelmed with the project and ends up not learning very much about it. It is better to pick a simpler project and be able to speak confidently on Science Fair Day then to choose a difficult one and be unsure.

Display Hints

1. The purpose of your display is to exhibit your project to your audience. The information contained on the board is the most important thing. Many boards look good, but don't have very much information. Your display board should look professional – neat and organized. It should attract the attention of a viewer and make them want to come over and read about your project.
2. It is good to use color in your display but you shouldn't make it too colorful because it will make your display lose its professionalism. Stick to one or two colors that contrast, such as black and white or red and green. You don't want the viewers focusing on the colors instead of the content.
3. The title is very important in a display board. It should be eye-catching and easy to read. Be sure that the letters are large enough to read across a room. Use dark colors for the title. It is suggested that you use a computer or stencils to create the project title for your display board.
4. You will be receiving a 3-panel configuration display board. A traditional way to setup this type of board is:

Left Panel	**Center Panel**	**Right Panel**
Purpose	Title	Results
Problem	Illustrations/Photos	Conclusion
Procedure	Graphs/Charts	

EXAMPLE:



Before you begin, make sure you plan out your board - including making sketches. This will help prevent you from making a mistake on your final product.

5. **DEMONSTRATION MATERIALS** can be used along with your display board. These are items that illustrate your scientific principle, equipment or materials used, or any other item that will enable viewers to retrace your steps. These objects will make your exhibit more interesting and help others understand your discovery. Such materials should be placed in front of your backdrop display. If your experiment involves animals, dangerous chemicals or valuable equipment, take photographs to illustrate your work instead.
6. Exhibits will be left in the multi throughout two days and examined by many other students and their families. You will not want to risk damage or loss to yourself or others. Exhibit items should present no hazards to observers who may view the display.

Science Project Worksheet

NAME: _____

Write the purpose of your science project and what you are planning to do. Include the resources and materials you will need to complete your project.

1. The purpose is: _____
   _____
2. The title is: _____
3. My hypothesis is: _____
   _____
4. References I can use:
   _____
   _____
5. The experiment I have planned:
   _____
   _____
6. Materials I need:
   _____
   _____
7. How will I record my results:
   _____
   _____

   Imagine what your project will look like when it's finished. Draw a picture of it and label the parts.

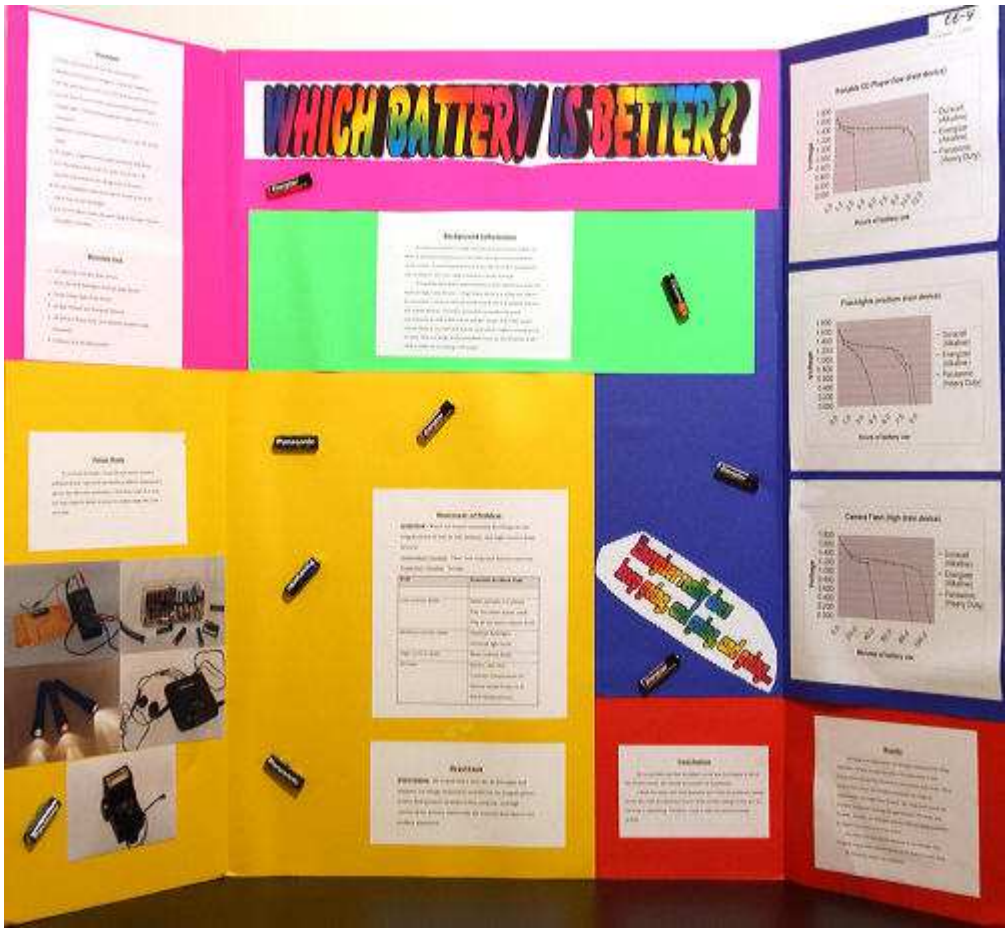
Challenge: Write a paragraph describing your project!

Safety Rules

1. All projects must be approved by your parent before beginning.
2. All experiments using animals or humans as subjects should cause no harm or undue stress to the subject.
3. No live animals may be exhibited at the fair (models, stuffed animals or photographs should be used instead).
4. No dangerous or combustible chemicals should be displayed at the fair. Rockets or engines must not contain fuel. All chemicals displayed should have the contents clearly marked on the container.
5. No open flames will be permitted.
6. If experimenting with fire, hot liquids or chemicals, students should do so only under parent approval and supervision.
7. All projects using household electricity must conform to standard wiring practices and safety. Please notify the Science Fair contact if you need electricity at least 2 days before judging.
8. Expensive or fragile items should not be displayed. Valuable items should be simulated or photographed for the display.
9. Items to be displayed in front of your backboard should be secured to a piece of wood, cardboard, or foam board.
10. Carefully pack all materials for transporting to and from the fair!
11. Be prepared to remove all of your exhibit and materials on time.
12. Have fun!

Example Project

This is an actual project that won first place in the **Physics and Electricity category at a 6th grade science fair**. Some science fairs prohibit product comparisons like this because students often perform them in an "un-scientific" manner. This project did not fall into that trap. The student scientist asked a simple question, but backed it up with excellent background research so that she could evaluate the products scientifically. She established three experimental groups, found a dependent variable that she could numerically and precisely measure, established good controlled variables, formulated an excellent hypothesis, collected lots of data in repeated trials, produced excellent graphs of her results, and reached a solid conclusion. In the process she learned about problem solving using the scientific method, not to mention a lot about batteries.



Which Battery Is Better

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ABC Middle School

Objective

My objective was to determine which AA battery maintains its voltage for the longest period of time in low, medium, and high current drain devices.

Materials and Procedures

Materials Used

- CD player & a CD (low drain device)
- Three identical flashlights (medium drain device)
- Camera flash (high drain device)
- AA size Duracell and Energizer batteries
- AA size of a "heavy-duty" (non-alkaline) battery (I used Panasonic)
- Voltmeter & a AA battery holder
- Kitchen timer

Procedure

1. Number each battery so you can tell them apart.
2. Measure each battery's voltage by using the voltmeter.
3. Put the same battery into one of the devices and turn it on.
4. Let the device run for thirty minutes before measuring its voltage again. (Record the voltage in a table every time it is measured.)
5. Repeat #4 until the battery is at 0.9 volts or until the device stops.
6. Do steps 1-5 again, three trials for each brand of battery in each experimental group.
7. For the camera flash push the flash button every 30 seconds and measure the voltage every 5 minutes.
8. For the flashlights rotate each battery brand so each one has a turn in each flashlight.
9. For the CD player repeat the same song at the same volume throughout the tests.

Question

Which AA battery maintains its voltage for the longest period of time in low, medium, and high current drain devices?

Hypothesis

My hypothesis is that the AA Energizer will maintain its voltage (dependent variable) for the longest period of time (independent variable) in low, medium, and high current drain devices, tested with the controls described in the problem statement.

Results

According to my experiments, the Energizer maintained its voltage (dependent variable) for approximately a 3% longer period of time (independent variable) than Duracell in a low current drain device. For a medium drain device, the Energizer maintained its voltage for

approximately 10% longer than Duracell. For a high drain device, the Energizer maintained its voltage for approximately 29% longer than Duracell. Basically, the Energizer performs with increasing superiority, the higher the current drain of the device.

The heavy-duty non-alkaline batteries do not maintain their voltage as long as either alkaline battery at any level of current drain.

My hypothesis was that Energizer would last the longest in all of the devices tested. My results do support my hypothesis.

I think the tests I did went smoothly and I had no problems, except for the fact that the batteries recover some of their voltage if they are not running in something. Therefore, I had to take the measurements quickly.

An interesting future study might involve testing the batteries at different temperatures to simulate actual usage in very cold or very hot conditions.

Acknowledgements

I would like to thank my teacher Mrs. Garmon, and my father who let me take over his workshop while I worked on my experiment.

Bibliography

"Battery." Encyclopedia Britannica 1990.

"Best Batteries." Consumer Reports Magazine, December 1994.

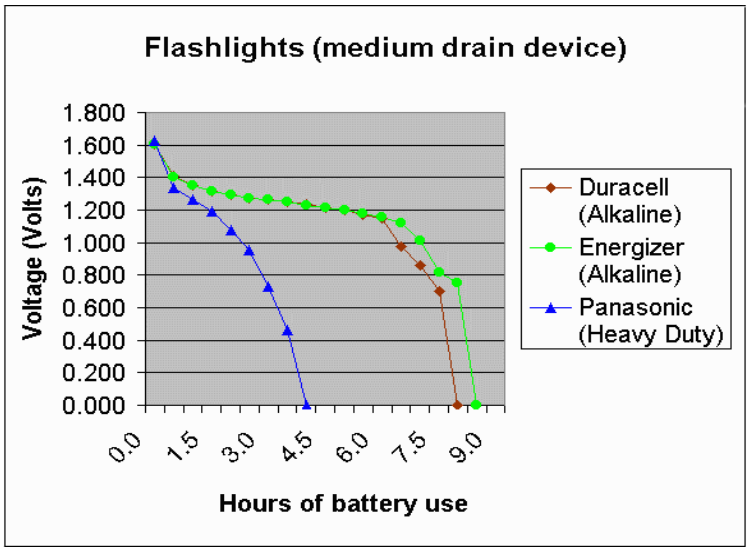
Booth, Steven A. "High-Drain Alkaline AA-Batteries." Popular Electronics, January 1999.

"Cells and Batteries." The DK Science Encyclopedia. 1993.

"Duracell." www.duracell.com/Fun_Learning/index.html. January 24, 1999."Energizer." www.energizer.com/index2.html. January 24, 1999.

Tables and Graphs

[Note: This table is only one of many completed for this project. The graph is one of three that the student prepared.]



Ways to Think of Project Ideas

1. Look at lists of science categories and pick one that you are interested in, and then narrow that down to a project. (Example, say you pick psychology, then narrow it to the differences between boys and girls, then to a topic like "Do boys remember boy-type pictures (footballs) better than girl-type pictures (flowers)?"
2. Use your experiences: Remember a time you noticed something and thought "I wonder how that works?" or "I wonder what would happen if..." then turn that into a project. Check the school library for books on science projects. Browse and look at book titles, then look inside the ones that look interesting to you. Also thumb through encyclopedias and magazines. Good magazines for ideas are: National Geographic, Discover, Omni, Popular Science, Popular Mechanics, Mother Earth News, High Technology, Prevention, and Garbage.
3. Think about current events. Look at the newspaper. People are hungry in Africa because of droughts - a project on growing plants without much rain, which types grow ok with little water? Or the ozone hole over Antarctica - how can we reduce ozone? -a project on non-aerosol ways to spray things. Or oil spills. How can we clean them up? -a project on how to clean oil out of water

Try putting different words in these blanks:

What is the effect of _____ on _____?
detergent ------- germination of seeds
temperature-------- the volume of air

How/to what extent does _____ affect _____?
humidity---------- growth of fungi
color of a material---------- its absorption of heat
fertilizer ---------- the growth of plants

Which/what _____ (verb) _____?
detergent---------- makes ----- the most bubbles

Sample Idea List

Physical Science

- What color of liquid absorbs the most heat?
- Which color container absorbs the most heat?
- Which color of container cools off the quickest?
- Does temperature affect the height at which different balls bounce?
- How constant is the temperature in my refrigerator?
- What effect does light have on dyed materials?
- How do different materials absorb sound?
- String telephones – what materials work best in conducting sound?
- What are the effects of washing on dyed materials?
- Splat – a study in droplet patterns.
- What effect does swimming pool water have on hair?
- How well do various fabrics absorb dye?
- How does the tail affect the flight of a kite?
- Study of the velocity of water through different tubes (same size, different materials)
- Study of the velocity of water through different tubes (same material, different sizes) Are the dyes used in various inks the same?
- How do you make an egg float?
- Which is heavier? Fresh or Salt Water?
- Measure the calories in a peanut
- How accurate is the temperature knob on my oven?
- Calculating liquid density using light refraction
- How strong is a spider web thread?
- What shutter speed is needed to photograph a moving fan?
- Performance of paper airplanes.
- Which colors and materials cool the fastest?
- How do matches work?
- Does cold air sink? Warm air rise?
- Are TV commercials louder than regular programming?
- Can I make a wind generator?
- How many visible colors in sunlight?
- How does light bend?
- What affects static electricity?
- Do all fluids weigh the same?
- Do all gasses weigh the same?
- How much does air weigh?
- Will an ice cube melt faster when crushed up?
- Do coins corrode more in salt or fresh water?
- How does vinegar affect egg shells?
- How does a shadow change throughout the day?
- Create and test a sundial with a clock.
- What concentration of bleach is needed to kill mold?
- Can I make my own perfume?
- How much salt will dissolve in a cup of water- and what about sugar?
- How can I clean oil out of water?
- Effects of washing on dyed materials
- Which fabrics are most fire-resistant?
- Can salt water be de-salted by freezing?
- Strength of different woods
- Ink evaluation with paper chromatography
- Chlorine levels in our drinking water
- Testing sugar in soft drinks
- Comparison of vitamin A content in frozen, canned and fresh peas
- Testing various orange drinks for vitamin C levels
- How fire affects roofing materials

Miscellaneous

- Can the game of "Rock. Paper. Scissors." be used to demonstrate statistics?
- Are people's left and right feet the same size?
- Does the moon always rise at the same time?
- Make a clock using honey.
- How do you detect a hard-boiled egg?
- Which toy car rolls the farthest?

Life/Earth Science

- How does terracing affect erosion?
- Water retention of different soils.
- What type of leaves produce the best leaf rubbings?
- Can plants grow without soil?
- Are some plants allopathic: able to kill or retard the growth of nearby plants?
- Does proximity to high voltage lines affect the growth of plants?
- Does gold dust have any affect on the germination of radish seeds?
- Do hydroponic plants grow taller than plants raised in soil?
- Do earthworms affect plant growth?
- Do electric or magnetic fields affect seed sprouting of plant growth?
- Does temperature affect the growth of plants?
- Do plants react to different kinds of music?
- Do plants grow better with tap water of distilled water?
- Speed of clouds using photography
- The effects of water on different types of wood
- Can you give a plant too much fertilizer?
- Which mulch covering works the best?
- Does the phase of the moon affect the germination of seeds?
- Do seeds sprout better in cold or hot climates?
- Compare the moisture content of five varieties of apples
- Do earthworms help plants grow?
- Can you grown a plant upside down
- How much weight can a growing plant lift?
- Do mirrors affect the way plants grow?
- Does artificial vs. natural light affect plant growth?
- Testing different potting soils.
- Does aspirin keep cut flowers fresh?
- Does aspirin keep certain types of cut flowers more fresh than others?
- Is the seed useful to plants after they have sprouted?
- Do plants need air?
- Are rocks classified according to hardness, color, density?
- Do pyramids preserve food?
- Do large apples have more seeds than small apples?
- Do different types of apples have different amounts of seeds?
- What is the best condition for the growth of mold?
- How much dust falls on your lawn in a month?
- How clean is our air?
- How acid is our rain?
- Do roots always grow down?
- Under which color cellophane do plants grow best?
- How does gravity affect he growth of seeds?
- Under which thickness of plastic do radishes grow best?
- How does the amount of light affect the growth of marigolds?
- Do avocados ripen more evenly with the stems left on?
- Which banana has the most sugar – green, yellow, or brown?
- How do vines grow?

Observation Projects (for the younger students)

- Fingerprints
- Shadows
- Crystals
- Properties of solids, liquids, and gases
- Objects that block and pass light
- Gravity
- Shapes of magnetic fields
- Parts of a flame (using a candle)
- Rocks and minerals
- The moon or the sun
- Planets you can see
- Local weather
- How to read a weather map
- Teeth
- Clouds
- All about horses (or some other animal)
- Local wildlife
- How animals hide and defend themselves
- Animal tracks
- Raising rabbits (or another type of animal)
- Spider webs
- How insects change
- Living things in my yard
- Trees near my home/school
- Leaf prints or parts of a flower
- Roots of different plants
- Inside an egg
- Seashells

Human/Animal Behavior

- Can I make frogs jump with static electricity?
- Can I determine how a bird eats by looking at its beak?
- Do the phases of the moon affect hamster behavior?
- Do insects prefer one color over another?
- Which color liquid do hummingbirds prefer?
- What food does a hamster prefer?
- Can an earthworm detect light and darkness?
- How far does a mealworm (or snail) travel in one minute?
- The speed of snails on different surfaces
- The effect of household pesticides on earthworms
- Are dogs colorblind? or Are cats colorblind?
- Do goldfish grow larger in a larger tank?
- The effects of light on fish feeding
- Can mice see colors?
- Can mice distinguish shapes – associate them with food?
- How many grams of food does a rabbit eat per day?
- Reading and remembering with different colored paper – which works best?
- How teeth react to different liquids
- Are taste buds weaker as you get older?
- Effects of coffee on a person's steady hand
- How important is the sense of smell in tasting foods?
- Does a blindfolded person walk in a circle?
- Do adults know U.S. geography?
- Do adults know math concepts?
- Do adults know science concepts?
- Does body language tell you when a person is lying?
- Is there a relationship between AP course students and SAT scores?
- Can you recognize whether a person is male/female from pictures of bare feet?
- Does practice "running" a maze help us learn other mazes?
  Can people identify flavors of Kool-Aid when blindfolded?
- Do males and females have different abilities in estimating object sizes?
- Who has a greater body density – boys or girls?
- Can insects pull more than their body weight?
- Ant control – natural Vs. chemical repellants
- Will chickens eat colored corn?
- Will a chicken lay more eggs with rock music playing?
- How does our vision affect our taste?
- The relationship between age and your response time
- Can you recognize your own profile?
- Effects of caffeine on blood pressure
- Hot tubs and their effect on blood pressure
- Effects of foul smells on blood pressure
- Lung power of different age groups
- To what extent can a person tell what a substance is by feeling its surface?

Engineering

- Make two different compasses that work?
- What materials conduct electricity best?
- Conductivity of various liquids
- How does increasing the number of batteries affect the speed of a motor?
- Do oil additives reduce friction on engine parts?
- How many rotor blades give maximum lift for a helicopter?
- Robots
- Using electromagnets to power a car
- Testing different water turbine blades
- Make a compass from a suspended magnet
- What types of magnets are stronger?
- Do electric or magnetic fields affect seed sprouting of plant growth?
- How temperature affects the amount of electricity given off by a solar cell
- The strength of a magnet Vs. distance
- Do magnetic fields affect he sound quality on a recording tape?
- A frictionless magnetic bearing
- Storing the sun's energy
- Power from rising air
- Power from the waves
- Make a compass from a magnet floating on a liquid

Consumer Projects

- Is there a difference in mass between differently colored M&M peanuts?
- The effectiveness of pre-wash products.
- Shampoo evaluation
- What detergent has the longest lasting suds?
- Water solubility of suntan lotions
- Which popcorn pops the most?
- What detergent cuts grease best?
- Which firewood gives the most heat per dollar?
- Which solar panel is most efficient?
- Which candle is the best buy?
- Which light bulb is most efficient?
- Which toothpaste is most abrasive?
- The frequency and length of TV commercials during a one-hour program
- Meat, fat, and moisture content of hot dogs
- Leaky faucets – how much do they cost us?
- Which uses more water, a shower or a bath?
- Which container or wrapping preserves food best?
- Which paper towel is most absorbent?
- Which diaper is best?
- Do parking meters keep the right time?
- Which brand of tissue is the strongest?
- What brand of raisin bran contains the most raisins?
- Which stain remover works best?
- What detergent removes grass stains best?
- Can a roof overhang cut summer cooling costs?
- A comparative study of various packing materials
- How much money can a pool cover save?
- Which battery is the best buy?
- How much does it really cost to run a refrigerator?
- Water proofing agents – which is best?
- The effects of deodorants on clothes
- The effectiveness of different wood preservatives
- Comparison of locks – which is best?
- Which nails have the best holding power?
- How long are yellow lights at various intersections?
- Which breads mold the quickest?

Model/Demonstration Projects (for the younger students)

- How a bicycle works
- How a motor works
- Simple machines
- Levers
- Pulleys
- Open and closed circuits
- How a switch works
- How fuses work
- How a flashlight works
- How light reflects
- Mixing colors
- How magnets work
- An electromagnet
- Friction
- How thermometers work
- Does fire give off water?
- Does fire use something in air?
- Does air exert pressure?
- How seeds travel
- Evaporation
- How are sounds produced?
- Why things float
- Why elevators have counterweights
- A boomerang can
- How things move on movie film
- Why the wind blows
- What makes hail?
- What is ground water?
- Inside our earth (model)
- The earth's surface features (model)
- Volcanoes (model)
- Features of the sea floor (model)
- Our solar system (model)
- Galaxies and our milky way (model)
- Optical illusions
- How the ear works (model)
- Do plants give off water?
- Tree rings

Helpful Internet Websites

http://www.energyquest.ca.gov/projects/index.html

http://www.sciencemadesimple.com/

http://www.sciencebuddies.org

http://www.scienceproject.com/projects/index/elementary.asp

http://www.science-city.com/

http://www.stemnet.nf.ca/sciencefairs/

http://www.ipl.org/youth/projectguide/

http://www.mcrel.org/whelmers/

http://www.usc.edu/CSSF/

http://www.super-science-fair-projects.com/

http://www.all-science-fair-project.com/

http://www.isd77.k12.mn.us/resources/cf/

http://www.education.com/topic/great-science-fair-project-ideas/