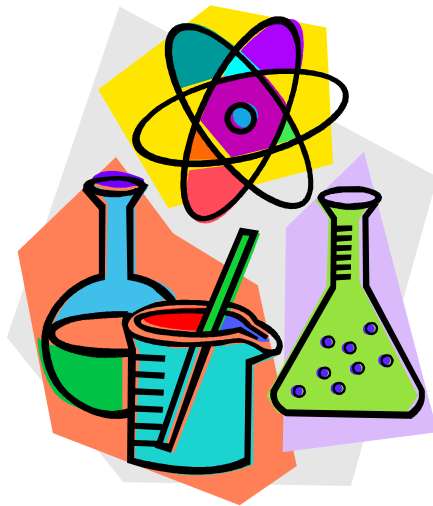


**Gattis Elementary  
Science Fair  
Handbook and Guidelines  
2009– 2010**



Dear Parents,

Thank you for taking the time to assist your child with the wonderful experience of bringing science into your home. The Gattis Elementary Science Fair will be held **on January 20, 2010.** I am sure that you and your child are anxiously awaiting the moment to display his/her wonderful project. Fourth and Fifth Grade Students are required to submit an experimental project for either fair entry and classroom credit or classroom credit only. Pre-Kindergarten through 3<sup>rd</sup> grade students are not required to complete a project, however, we want to encourage all students to participate. Guidelines are provided for the types of projects appropriate to each grade level. Students may enter individually or with a group (no more than 3). First and Second Place Winners in each category will qualify to compete in the Austin Regional Science Festival. Fourth and Fifth graders who would like to be eligible to move on to the Regional Science Festival must turn in a Project Research Form **with their registration form on January 20th.** Your child may also receive extra credit towards their science grade for participating. Selection of a project should match your child's interests and abilities. The science fair experience should be fun for your child, something they really want to do! You will find project ideas and guidelines within this packet to use as a springboard for you and your child's imagination. Here are some very important things to remember for our Science Fair.

- **School representatives will be available for all project drop-offs January 20th, during the day** as well as after-school. Students will have until 6pm to set up their projects. Please attach the Registration Form as directed below.
- A completed Science Fair Registration Form must be attached on the back of the project board at the top left corner.
- Students in grades 4 and 5 must complete a Project Research Form if they wish to be considered for moving on to the Regional Science Festival.
- **Projects will be judged on January 21th during the school day beginning at 8:30am. Judging areas will be closed to all but the judges during this time. Students may be called from class to explain their projects at the judges' discretion.**
- **Awards ceremony and public viewing will be held on January 21<sup>st</sup> from 6pm – 7:30 pm. Projects should go home that evening as well. A meeting for parents of students that will be moving on to the Austin Area Regional Science Fair will be held immediately following the awards ceremony.**
- **The results will also be announced on Tuesday morning.**

Please take the time to read through the Science Fair Information Packet with your child. If you have any further questions, please contact your child's teacher. Again, thank you for supporting your child in such a worthwhile event! We look forward to seeing your child's project!

The Science Fair Team

## Science Fair Time Line

**December 2, 2009 Science Night** - Learn what is expected, start choosing a project.

Open Library Night – Parents and students can come into the library and do research from 6:00pm-7:30pm.

### Due Dates:

**Friday, December 11** The bottom of this timeline signed by a parent and student.

• **January 20<sup>th</sup>, 2010** Science Fair Project Drop-Off with Registration Form, students may set up their projects until 6pm.

- **January 21, 2010** Science Fair Judging begins at 8:30am until complete.
  - Students may be required to explain their projects at the judges' discretion.
  - Judging closed to all but judges.
- Awards ceremony & Public Viewing 6:00pm-7:30pm.

(CUT AND RETURN LOWER SECTION BY FRIDAY, DECEMBER 11, 2009)

-----  
I, \_\_\_\_\_ have read this timeline and can't wait to get started!  
(Student's name)

I, \_\_\_\_\_ have read this timeline and will encourage my child to do their best.  
(Parent's name)

This project may be completed for Classroom Credit or to be entered in the Science Fair. My child will be completing their project for (check one):

\_\_\_\_\_ Classroom Credit only

\_\_\_\_\_ Science Fair and Classroom Credit (Fourth and Fifth graders, if you would like your project to be considered for the Regional Science Festival, a Project **Research Form must be completed and turned in with the Registration Form on January 20<sup>th</sup>**).

Student Signature \_\_\_\_\_

Parent Signature \_\_\_\_\_

Student's Name \_\_\_\_\_ Due Date: December 11, 2009

Science Fair

Part I

(Page 1 of 2)

Project Title:

Project Category (circle one):

Biological Science Physical Science Earth/Space Science Consumer Science Mathematics

Project Idea

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# General Information and Rules

## 1. Project Forms

Elementary Students grades 4–6 must complete an **Elementary Project Research Form** and submit it with their registration packets.

## 2. Projects That Are Not Allowed

No student in the Elementary Division will be allowed to design or conduct any science project that involves

- firearms, explosives, or discharge air pressure canister devices (i.e. potato guns)
- growing bacteria or mold at home
- causing pain, suffering, sickness, or death of an animal
- any activity or substance that presents a danger to the student or the environment, including hazardous chemicals or radioactive materials

## 3. Display and Safety Guidelines

All student projects must follow the guidelines listed below to be allowed to display in the festival exhibit hall.

### Items Not Allowed

- **No organisms; living, dead or preserved (plants or animals)**
- No human/animal parts or body fluids (for example, blood, urine)
- No human or animal food
- No bacteria or mold cultures
- No liquids – laboratory/household chemicals including water (Exceptions: water integral to an enclosed apparatus or water supplied by the Display & Safety Committee)
- No poisons, drugs, controlled or hazardous substances
- No sharp items (for example: syringes, needles, pipettes, knives, tacks, nails)
- No glass or glass objects unless encased or an integral and necessary part of a commercial product (for example, a computer screen)
- No pressurized tanks or containers
- No batteries with open top cells (so that battery acid can be seen)
- No dirt, soil, gravel, rocks, sand, waste product, etc.
- No project, device, activity, or substance that may be deemed hazardous to student health or safety
- No photographs or pictures of animals or people in surgical techniques, dissections, or necropsies.

### Exception

- Students in **1st – 3rd grades** may have **properly sealed\*** specimens (dead or preserved plant or mineral materials) as part of their project display. However, **no animal or human food is permitted.**

*“Properly sealed” means items cannot leak odor, liquid or particles out of their container. Items must be double bagged in sturdy (freezer) bags OR they must be placed in clear, plastic containers with the lid sealed using clear book tape. All items (shells, rocks, leaves, soil, eggshells, etc.) must be dried before sealing. We suggest that bags be attached to the project board with clear book tape for safe and neat display.*

### Discouraged Items

- Expensive, breakable, or fragile items.

### Allowed and Encouraged Items

- Photographs, drawings, stuffed animals/artificial plants, or imitation (play) food should be used to depict the prohibited or discouraged items. • Be sure to properly credit/acknowledge all photographers on the display board (Photograph taken by . . .).

- Students should always plan on taking photographs of their project steps as a visual explanation of their effort. Students must ask permission before photographing any other individuals for display on project.
- Students may use a computer and printer for written parts of the project.
- Electrical projects may use batteries as sources of electricity.

#### 4. Display Board

- Project display should be on sturdy 36" x 48" tri-fold board available at local craft and office supply stores.
- Written material, drawings, and pictures should be securely attached to the display board. For ideas on creating project boards, visit [www.showboard.com](http://www.showboard.com).
- Projects will be displayed on tables that are 36 inches high. Size of display boards may not exceed the following measurements: 30" deep, 48" wide, and 72" high. Due to space limitations, displays that exceed these measurements cannot be accepted.

#### 5. Electricity for Your Display

- Electrical projects may use batteries as sources of electricity.
- If a project requires electricity, that need should be indicated when registering the project online.

#### 6. Project Organization at Austin Energy Regional Science Festival

- a) Grade Level: Each project is categorized by grade level or grade level equivalent
- b) Project Types: There are three types of projects that students may enter. These categories are explained in detail later in this guide.
  - (1) Collection with Classification
  - (2) Exhibit: Demonstration, Model or Display
  - (3) Experiment

**Note:** Many students have difficulty discerning the difference between Exhibit and Experiment projects. Remember, an **Experiment** follows the steps of the scientific method. It clearly asks a question to which you do not already know the answer without testing. An **Exhibit** is an explanation of how or why something works. It reveals details about the topic. An Exhibit is an explanation, not a question.

- c) Categories: When registering, students must select one of 5 categories in which to be judged. Sometimes classification of a project is difficult because it crosses divisions. Students should choose the division they believe highlights the strength of their work most clearly.
  - Life/Biological Science (ex. Biochemistry, Botany, Zoology, Medicine/Health, Microbiology, Oceanography)
  - Earth/Space Science (ex. Geology, Astronomy, Environmental Sciences)
  - Physical Science (ex. Physics, Engineering)
  - Consumer Science (ex. Home Economics)
  - Mathematics (ex. Statistics, Technology)

\*Projects will be divided into these categories prior to judging. First and second place winners within each category will be eligible to continue to the Austin Regional Science Festival. (winners in 4<sup>th</sup> and 5<sup>th</sup> grade must include a Project Research Form in order to qualify for the Regional Science Festival)

#### 7. Parental Help

Some students are fortunate to have parents who have time to help them. However, parents who do the thinking or build the project for them do not really help students. Parents are encouraged to help their children in these ways:

- Read and discuss this handbook

- Select projects which are appropriate for the child's age and grade level
- Plan and manage project work times and clean-up times
- Take your child to the public library or other places for research
- Help draw straight lines for a young child
- Listen to your child's oral explanation of the project
- Ensure the child's safety

*Students must list any parental help in the References and Acknowledgements section of the project.*

## TYPES OF PROJECTS

### A. COLLECTION with CLASSIFICATION

A collection is a set of objects, which have been placed into groups according to similar properties.

#### DISPLAY BOARD ELEMENTS

**TITLE** of Collection

**RESEARCH REPORT** gives information about the type of items collected

**CLASSIFICATION SCHEME** of collected items

**REFERENCES AND ACKNOWLEDGEMENTS**

#### CRITERIA FOR JUDGING

**Collection with Classification**

**Least**

**Highest**

• Title – Student states project title	I	2			
• Research Report-Student provides information (can be visual)	I	2	3	4	5
• Classification Scheme-Student classifies collected objects.	I	2	3	4	5
• Results and Conclusions-Student describes what was learned.	I	2	3	4	5
• References and Acknowledgements–Student credits all sources	I	2	3	4	5

#### Example

Suppose you collected twelve rocks from your neighborhood. You might sort them by color, size, or how much they sparkle. Or you might put the rocks into categories of hard or soft. First, soak them in water and then rub them on a hard surface. By comparing the size and color of the streak, the rocks could be classified as softest rocks, next softest rocks, and so on, until you have those which are hardest in the last category.

#### Here are some examples of items to classify:

Feathers\*      Seeds from grapes\*      Pieces of bark\*      Eggshells\*  
Lenses\*      Empty insect nests\*      Fossils\*      Leaves\*

*\*These items cannot be displayed on the project board. Take photos instead and display those.*

**Remember to check the list of prohibited/discouraged/allowed items on page 7 before building your display board.**

### Exception

Students in **1st–3rd grades** may have **properly sealed\*** specimens (dead or preserved plant or mineral materials) as part of their project display. However, **no animal or human food is permitted.**

*\* “Properly sealed” means items cannot leak odor, liquid or particles out of their container. Items must be double bagged in sturdy (freezer) bags OR they must be placed in clear, plastic containers with the lid sealed using clear book tape. All items (shells, rocks, leaves, soil, eggshells, etc.) must be dried before sealing. We suggest that bags be attached to the project board with clear book tape for safe and neat display.*

**Students should always plan on taking photographs of their project steps as a visual explanation of their effort.**

### B. EXHIBIT: Demonstration, Model, or Display

An exhibit can be a demonstration, a model or a display. A demonstration or model describes how or why something works. A display reveals details about the topic.

#### DISPLAY BOARD ELEMENTS

**TITLE** of Demonstration, Model or Display

**RESEARCH REPORT** gives background information about exhibit (may include diagrams and pictures)

**EXPLANATION** of what the exhibit shows

**CONCLUSIONS**

**REFERENCES and ACKNOWLEDGEMENTS**

#### CRITERIA FOR JUDGING

**Exhibit: Demonstration, Model, or Display**

**Least**

**Highest**

• Title-Student states project title		1	2			
• Research Report-Student provides written background	1	2	3	4	5	
• Exhibit Explanation-Student describes what the exhibit shows (Pictures of the student doing each step are encouraged)	1	2	3	4	5	
• Conclusions-Student describes what was learned.	1	2	3	4	5	
• References and Acknowledgements-Student credits all	1	2	3	4	5	

#### EXAMPLES

##### Demonstration

You might want to demonstrate how light reflects off different objects. For instance, you might arrange a set of Lucite mirrors (no glass) or even pieces of foil to show how a beam of light from a flashlight bounces from one reflective surface to another. Your report could explain that light travels in straight lines. Many demonstrations are found in books like “Mr. Wizard,” which are available from the library.

##### Model

You might like to make a model of a bridge out of wood or sticks. Diagrams could show the parts, and your report could explain how a bridge is constructed.

## Display

You might design a display about monkeys, showing pictures of different types of monkeys. Your report could explain where the monkeys live, what they eat, and describe some interesting habits.

**Remember to check the list of prohibited/discouraged/allowed items on page 7 before building your display board.**

## Exception

Students in **1st–3rd grades** may have **properly sealed\*** specimens (dead or preserved plant or mineral materials) as part of their project display. However, **no animal or human food is permitted.**

*\* “Properly sealed” means items cannot leak odor, liquid or particles out of their container. Items must be double bagged in sturdy (freezer) bags OR they must be placed in clear, plastic containers with the lid sealed using clear book tape. All items (shells, rocks, leaves, soil, eggshells, etc.) must be dried before sealing. We suggest that bags be attached to the project board with clear book tape for safe and neat display.*

**Students should always plan on taking photographs of their project steps as a visual explanation of their effort.**

## C. EXPERIMENT

An experiment is a test of a question to which you do not already know the answer. To test your question, you must follow the steps of the scientific method. The display board elements below lists these steps.

### DISPLAY BOARD ELEMENTS

**TITLE** of experiment

**PROBLEM:** What question are you trying to answer?

**DEFINITIONS:** Explains the meanings of any special words stated in the “Problem.”

**HYPOTHESIS:** This is what you think will happen before you start to test.

**BACKGROUND INFORMATION:** What do books, articles, and the Internet say about your topic?

**EXPERIMENTAL MATERIALS:** What items do you need to perform your experiment?

**EXPERIMENTAL PROCEDURE:** These are the steps you follow to test your problem.

**RESULTS:** What happened? (Use tables of data or graphs plus a description.)

**CONCLUSION:** What is the answer to the question in your “Problem?” How do you explain your results?

**REFERENCES and ACKNOWLEDGEMENTS:** Books, resource people, articles (include the title and author) or specific Web sites (include the date the site was accessed). Neither search engines, such as Google and Yahoo, nor Wikipedia are scientific sources.

## CRITERIA FOR JUDGING

Experiment

Least

Highest

• Title of Experiment-Student states project title		1	2			
• Problem-Student asks a testable question.	1	2	3	4	5	
• Definitions-Student knows the meaning of the words in the problem.	1	2	3	4	5	
• Hypothesis-Student predicts what the results will be.	1	2	3	4	5	
• Background Information-Student provides written research	1	2	3	4	5	
• Experimental Procedure-Student describes steps of test.	1	2	3	4	5	
• Experimental Materials-Student lists items needed for test.						
• Results-Student describes what happened. Tables and graphs display data.	1	2	3	4	5	
• Conclusion-Student answered the question posed in the problem.	1	2	3	4	5	
• References and Acknowledgements-Student credits all sources	1	2	3	4	5	

## EXAMPLES

Do ants like diet soda?

Do batteries of the same brand last the same amount of time?

Does warm water freeze faster than cold water?

**Remember to check the list of prohibited/discouraged/allowed items on page 7 before building your display board.**

### Exception

Students in **1st–3rd grades** may have **properly sealed\*** specimens (dead or preserved plant or mineral materials) as part of their project display. However, **no animal or human food is permitted.**

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**Students should always plan on taking photographs of their project steps as a visual explanation of their effort.**

# Steps to Prepare a Science Fair Project

## 1. Select a Topic

See the [Ideas List](#) and [What Makes a Good Project?](#). Remember a Science Fair Project is a test you do to find an answer to a question, not just showing what you know about something.

## 2. Gather Background Information

Gather information about your topic from books, magazines, the Internet, people and companies. Keep notes about where you got your information.

## 3. Scientific Method

State the Purpose of your experiment - What are you trying to find out?

Select a variable (something you will change/vary) that will help you find your answer.

State your Hypothesis - your guess about what the answer will be.

Decide on and describe how you will change the thing you selected.

Decide on and describe how you will measure your results.

## 4. Run Controlled Experiment and Record Data

Do the experiment as described above.

Keep notes in one place. Write down everything you can think of, you might need it later.

## 5. Graphs and Charts

What happened? Answer that question, then put the results in graphs and charts. These may be neatly handwritten using a ruler or computer generated.

## 6. Construct an Exhibit or Display

It has to be neat, but it does NOT have to be typed.

Make it fun, but be sure people can understand what you did.

Show that you used the Scientific Method. Follow the FORMATS given in pages 5-7.

## 7. Write a short Report

Tell the story of your project - tell what you did and exactly how you did it. Also include a page that shows where you gathered background information. It can be 2 pages or even more.

## 8. Practice Presentation to Judges

Practice explaining your project to someone (parent, friend, grandparent, etc.) This will help you be calm on Science Fair Day. The judges are very nice and will be interested in what you did and what you learned.

## 9. Come to the Fair and have fun! See you there!

# Ideas List

1. Look at list of **science categories** (Pg. 9) and pick one that you are interested in, then narrow that down to a project. (example, say you pick Consumer Science, then narrow it down to the differences between Tide and Era detergents, then to a topic like "Does Tide clean stains better than Era?"
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 science section of the school **library**. 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. Perhaps go to the downtown Library.
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.
4. Watch **commercials** on TV. Test their claims. Does that anti-perspirant really stop wetness better than other ones? What are the real differences between Barbie and imitation Barbie dolls? Can kids tell the difference between Coke and Pepsi if they don't know which they are drinking?

## Add to Others Ideas:

Look at sample projects, look at this list, look at projects in books or projects from last years science fair - then add your own question, your own idea to them.

## Don't just use these ideas.

### Take these ideas and add something of your own.

For example, change Are dogs colorblind? to Are cats colorblind? Or look at another of the 5 senses of dogs and test their sense of taste...

- What material is the best insulator?
- Are dogs colorblind?
- Do soap bubbles last longer on warm or cold days?
- Are hot air balloons different from blimps?
- What is the best method, other than heat, to melt ice?
- What effect does oil have on water plants?
- What would happen to the weather if the Earth was a cube?
- Do goldfish chemicals they sell you really help the fish adapt to the new aquarium?
- How can a tomato plant be grafted to a potato plant?
- How is sound obtained from a compact disk?
- How does a nuclear reactor work, how does it look?
- How is 2-yr old talk different from ours?
- How does burning gasoline make a car move?
- How do we tell how far away a star is from Earth?
- On which type of soils would it be best to build a house?
- How do plants react to different kinds of music, different light, colors, and different neighbor plants?
- What is the best way to dispose of paper?
- Do plants move ?

## 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 the \_\_\_\_\_ affect \_\_\_\_\_?  
   humidity                                      growth of fungi  
   color of a material                                      its absorption of heat

Which/what \_\_\_\_\_ (verb) \_\_\_\_\_?  
   foods                                      do                                      gerbils prefer  
   detergent                                      makes                                      the most bubbles

## Internet Resources

These are just a few of the many websites available to help get you started.

<http://www.scienceproject.com>

The Science Project website welcomes you to "the world's largest web site for Science Project ideas, information and support." Students can search for ideas by level: primary, elementary, etc.

<http://scifair.org>

This site includes project steps and hints, report writing aid, display boards, and idea bank. For children, parents, and teachers

<http://www.all-science-fair-projects.com/>

Over 500 Free Science Fair Projects with Complete Instructions.

<http://www.cyberbee.com/science/prep.html>

Discover the wonderful world of science with these tips and materials from the professionals

<http://www.cdli.ca/sciencefairs/>

This site is designed to aid students in the most difficult aspect of their science fair experience: getting ideas.

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

This site presents the steps involved in creating a science fair project in a clear and easy-to-read manner. It was created with students in mind as the audience. The author is a science teacher, former science fair organizer and judge.

<http://members.ozemail.com.au/~macinnis/scifun/projects.htm>

A collection of **1850** ideas for science projects and ideas, the site offers advice on undertaking a project, the types of projects, and advice on completing projects.

English site: <http://lmnet.wikispaces.com/SCIENCE+FAIR+RESOURCES>

Spanish site: <http://lmnet.wikispaces.com/SCIENCE+FAIR+PROJECT+RESOURCES--SPANISH>

## What Makes a Good Project?

As kids and parents think about Science Fair projects, they sometimes wonder how to pick a topic - not how to find an idea, but how to decide if the idea is a good one.



Review the Sample Judging Forms above for some ideas...here are some more thoughts:

1. **You are interested in the topic** - it's something you like to think about.
2. **You can do a test to find an answer to a question.**

**A good Science Fair project is an experiment** - that means it's a test to find an answer to a question you have. For example, if you are interested in bugs and you saw some ants moving real slowly once on a cold day, you might test to see what effect temperature has on the rate at which bugs move. You'd get some bugs, find a way to make their container a little colder than normal and measure how fast they moved somehow. Then you'd make their container a little warmer than normal and measure what happened then.

Don't do demonstrations or simple reports - those don't use the scientific method. They are just showing what you know about something. For example, a diagram or model of something with no test/experiment.

3. **You can do it with only a little help from parents, teachers and friends.**

The reason to do a project is because it's fun and you will learn something you didn't know before. Having someone else help too much takes away some of your fun and you don't learn as much. Your project doesn't have to be perfect, just neat and following the scientific method. Don't be afraid to ask for help if you really need it.

4. **It doesn't hurt or scare people or animals, including you.**

It's not only a bad idea, it is also against the rules of our science fair and of the regional science fair to hurt or badly scare people or animals as part of an experiment. You also may not use dangerous materials in your project except in very special situations when you get permission from the coordinators. Ask advice about this from your parents and teacher.

5. **It's a project that, even when you are done with it, makes you think of new things you want to know.**

One way to tell if you have a good project is to see if the results make you wonder about other things. Did doing the project, or reading or seeing what happened make you think of other questions you are curious about? That's a great project!

## Science Fair Criteria - Collection with Classification

ID: \_\_\_\_\_

Objectives	Low Performance	Below Average	Average	Above Average	Exemplary Performance	Earned Points
TITLE	<b>1 point</b> No title is given.	<b>2 points</b> Student states project title				
RESEARCH REPORT (Information about the type of items collected)	<b>1 point</b> No information on topic can be understood from presentation.	<b>2 points</b> The information is difficult to follow and has numerous grammatical and spelling errors.	<b>3 points</b> The information is somewhat easy to follow, but has 3-4 grammatical and/or spelling errors.	<b>4 points</b> The information is easy to follow, but has 1-2 grammatical and/or spelling errors.	<b>5 points</b> The information is interesting and is easy to follow. It is free of grammatical and spelling errors.	
CLASSIFICATION SCHEME	<b>1 point</b> There is no apparent ordering or classification of items.	<b>2 points</b> Project items have been grouped, however, all groups are incorrectly sorted.	<b>3 points</b> Project items have been grouped, however, some groups are incorrectly sorted or information is hard to discern from groupings.	<b>4 points</b> Project items have been grouped appropriately into categories.	<b>5 points</b> Project items have been grouped appropriately into categories which are easily understood and relate to the topic of project.	
RESULTS AND CONCLUSIONS	<b>1 point</b> No conclusion was apparent.	<b>2 points</b> Student provided a conclusion but it was not relevant to the data presented or was unclear.	<b>3 points</b> Student provided a conclusion with some reference to the data provided.	<b>4 points</b> Student provided a somewhat detailed conclusion clearly based on the data which reflects their learning in a clear and precise manner.	<b>5 points</b> Student provided a detailed conclusion clearly based on the data which reflects their learning in a clear and precise manner.	
REFERENCES AND ACKNOWLEDGEMENTS	<b>1 point</b> No sources are given	<b>2 points</b> Some sources are not accurately documented.	<b>3 points</b> All sources (information and graphics) are accurately documented, but many are not easily understood.	<b>4 points</b> All sources (information and graphics) are accurately documented, but a few are not easily understood.	<b>5 points</b> All sources (information and graphics) are accurately documented and easily understood.	
					Collection Score:	

# Science Fair Criteria- Exhibit: Demonstration, Model, or Display

ID: \_\_\_\_\_

Objectives	Low Performance	Below Average	Average	Above Average	Exemplary Performance	Earned Points
TITLE	<b>1 point</b> No title is given.	<b>2 points</b> Student states project title				
RESEARCH REPORT (background information about exhibit, may include diagrams and pictures)	<b>1 point</b> No information on topic can be understood from presentation.	<b>2 points</b> The information is difficult to follow and has numerous grammatical and spelling errors.	<b>3 points</b> The information is somewhat easy to follow, but has 3-4 grammatical and/or spelling errors.	<b>4 points</b> The information is easy to follow, but has 1-2 grammatical and/or spelling errors.	<b>5 points</b> The information is interesting and is easy to follow. It is free of grammatical and spelling errors.	
EXHIBIT EXPLANATION	<b>1 point</b> Explanation of project is unacceptable. Student has no apparent understanding of the topic.	<b>2 points</b> Explanation of project is acceptable. Student has little understanding of the topic. Photographs/pictures are not included.	<b>3 points</b> Explanation of project is acceptable. Student has some understanding of the topic. Photographs/pictures are mostly appropriate to topic.	<b>4 points</b> Explanation of project is understandable. Student has a good understanding of the topic. Photographs/pictures enhance presentation.	<b>5 points</b> Explanation of project is clear and precise. Student obviously has a clear understanding of topic. Photographs/pictures enhance presentation.	
RESULTS AND CONCLUSIONS	<b>1 point</b> No conclusion was apparent.	<b>2 points</b> Student provided a conclusion but it was not relevant to the data presented or was unclear.	<b>3 points</b> Student provided a conclusion with some reference to the data provided.	<b>4 points</b> Student provided a somewhat detailed conclusion clearly based on the data which reflects their learning in a clear and precise manner.	<b>5 points</b> Student provided a detailed conclusion clearly based on the data which reflects their learning in a clear and precise manner.	
REFERENCES AND ACKNOWLEDGEMENTS	<b>1 point</b> No sources are given.	<b>2 points</b> Some sources are not accurately documented.	<b>3 points</b> All sources (information and graphics) are accurately documented, but many are not easily understood.	<b>4 points</b> All sources (information and graphics) are accurately documented, but a few not easily understood.	<b>5 points</b> All sources (information and graphics) are accurately documented and easily understood.	
					Exhibit Score:	

## Science Fair Criteria – Experiment

ID: \_\_\_\_\_

Objectives	Low Performance	Below Average	Average	Above Average	Exemplary Performance	Earned Points
TITLE	<b>1 point</b> No title is given.	<b>2 points</b> Student states project title.				
PROBLEM	<b>1 point</b> No question was identified.	<b>2 points</b> Identified a question that could not be tested/investigated or one that did not merit investigation.	<b>3 points</b> Identified a question which could be tested or investigated.	<b>4 points</b> Identified a question which was interesting and understandable. It could also be tested or investigated.	<b>5 points</b> Identified a question which was original, interesting and understandable. It could also be tested or investigated.	
DEFINITIONS	<b>1 point</b> No definitions given.	<b>2 points</b> Definitions are given but not relevant to the experiment.	<b>3 points</b> Definitions are relevant but not complete.	<b>4 points</b> Definitions are relevant and complete but hard to understand.	<b>5 points</b> Definitions are relevant, complete, and easily understood.	
HYPOTHESIS	<b>1 point</b> No hypothesis is given.	<b>2 points</b> A hypothesis is stated, however, it is illogical and/or with substantiation.	<b>3 points</b> A logical hypothesis is stated, however, it is not substantiated by a literature review or observation of similar phenomena.	<b>4 points</b> Hypothesis somewhat substantiated by a literature review and/or observation of similar phenomena.	<b>5 points</b> Hypothesis developed which is well-substantiated by a literature review and/or observation of similar phenomena.	
BACKGROUND INFORMATION	<b>1 point</b> No background information is given.	<b>2 points</b> Student provides information, however it is not relative to experimentation.	<b>3 points</b> Student provides some information from books, articles and/or the Internet in regards to the topic.	<b>4 points</b> Student provides much information from books, articles and/or the Internet in relation to the topic.	<b>5 points</b> Student provides ample and relevant information from books, articles and/or the Internet in regards to the topic. These details are interesting and easy to follow.	
EXPERIMENTAL PROCEDURE	<b>1 point</b> No procedures were given.	<b>2 points</b> Procedures that were outlined were seriously incomplete or not sequential.	<b>3 points</b> Procedures were outlined in a step-by-step fashion, but had 1 or 2 gaps that require explanation.	<b>4 points</b> Procedures were outlined in a step-by-step fashion that could be followed with little additional explanation.	<b>5 points</b> Procedures were outlined in a step-by-step fashion that could be followed by anyone without additional explanations.	
EXPERIMENTAL MATERIALS	<b>1 point</b> No experimental materials listed.	<b>2 points</b> Materials are listed, but not relevant to this experiment.	<b>3 points</b> Materials are listed and somewhat relevant but not complete.	<b>4 points</b> All materials are listed and somewhat relevant to this experiment.	<b>5 points</b> All materials are listed and relevant to this experiment.	
RESULTS	<b>1 point</b> No results are given.	<b>2 points</b> Results are given but not accurate or relevant to this experiment.	<b>3 points</b> Results are given and relevant, but not accurate or easy to read.	<b>4 points</b> Results are relevant and complete but not clearly displayed.	<b>5 points</b> Results are relevant, complete, and clearly displayed.	
CONCLUSION	<b>1 point</b> No conclusion is given.	<b>2 points</b> The conclusion was not apparent OR important details were overlooked.	<b>3 points</b> Student provided a conclusion with some reference to the data and the hypothesis statement(s).	<b>4 points</b> Student provided a somewhat detailed conclusion clearly based on the data and related to the hypothesis statement(s).	<b>5 points</b> Student provided a detailed conclusion clearly based on the data and related to previous research findings and the hypothesis statement(s).	
REFERENCES AND ACKNOWLEDGEMENTS	<b>1 point</b> No sources are given	<b>2 points</b> Some sources are not accurately documented.	<b>3 points</b> All sources (information and graphics) are accurately documented, but many are not easily understood	<b>4 points</b> All sources (information and graphics) are accurately documented, but a few not easily understood.	<b>5 points</b> All sources (information and graphics) are accurately documented and easily understood.	
					Experiment Score:	

## SAMPLE LAYOUTS:

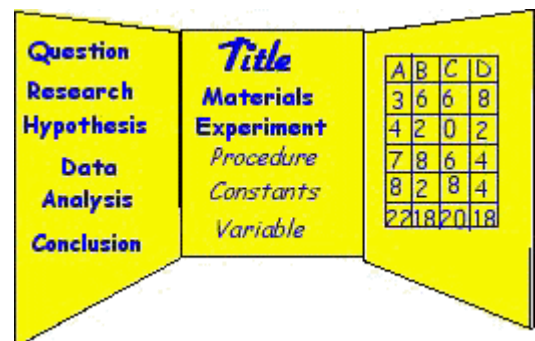
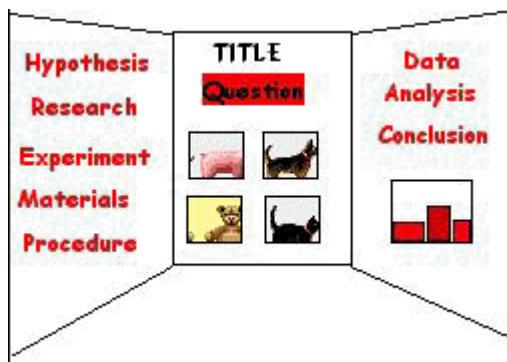
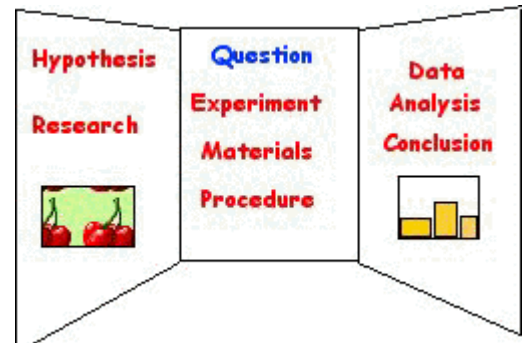
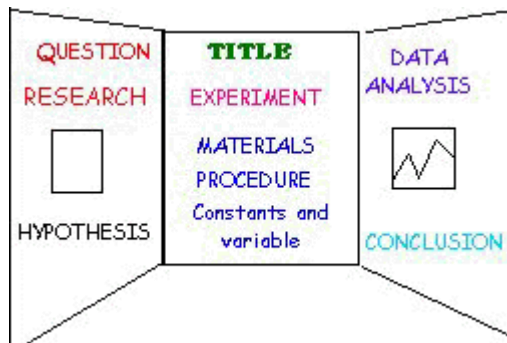
There is no one correct way to set up your board. It must, however, make sense and follow the steps of the scientific method. Remember:

- If you use a title, you still need the question (or problem).
- We read from left to right and from top to bottom. Groups topics that go together like question, research, and hypothesis; materials and procedures; analysis and conclusion.
- Put pictures and graphs where they fit best and make the most sense.
- Make sure you proofread any written work.



Below are different ways to organize your board. Try your own - just make sure it makes sense.

Try backing your words with a contrasting color.



# GATTIS ELEMENTARY SCIENCE FAIR REGISTRATION FORM

ID # \_\_\_\_\_

(To be assigned)

*Please Print*

Name(s): \_\_\_\_\_ Teacher: \_\_\_\_\_ Grade: \_\_\_\_\_  
Last name, First name (list all group members)

Project Title \_\_\_\_\_

Category (check one)

\_\_\_\_\_ Biological Science

\_\_\_\_\_ Physical Science

\_\_\_\_\_ Earth/Space Science

\_\_\_\_\_ Consumer Science

\_\_\_\_\_ Mathematics

Special Needs (explain) \_\_\_\_\_

Participants: This project is the work of a(n)

\_\_\_\_\_ Individual (PreK-5)

\_\_\_\_\_ Team (PreK-5; 2 or 3 students)

Type of Project (check one):

\_\_\_\_\_ Collection with Classification

Suggested grade level: PreK-2

\_\_\_\_\_ Exhibit: Model, Demonstration, or Display with Report

Suggested grade level: PreK-2

\_\_\_\_\_ Experiment

Suggested grade level: PreK-3

Required grade level: 4-5

## Elementary Project Research Form for GATTIS

*Required for Elementary Projects Grade 4 and 5 (if you wish to be considered for the Regional Fair)*

Student's Name \_\_\_\_\_

Student's Grade \_\_\_\_\_

School \_\_\_\_\_

Adult Sponsor's Name \_\_\_\_\_

Sponsor's Telephone \_\_\_\_\_

Adult Sponsor's Address \_\_\_\_\_

Adult Sponsor's Email \_\_\_\_\_

**Title of Project:** \_\_\_\_\_

1. Describe your experiment (what were you trying to do, show, or find out)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. Describe how you did it (procedure and materials)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. What were your results (what did you find out)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4. Bibliography (must include at least one real scientific source. Google, Wikipedia, Encyclopedia, etc. do not count)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

5. Where did you do your project? \_\_\_\_\_

6. Who supervised you? \_\_\_\_\_

7. What risks were involved?

\_\_\_\_\_  
\_\_\_\_\_

8. What safety measures did you take?

\_\_\_\_\_  
\_\_\_\_\_

Adult Sponsor's Signature \_\_\_\_\_ Date \_\_\_\_\_

*Attach an additional sheet if necessary.*