CONCEPT
SCIENCE & ENGINEERING FAIR

Policy & Procedure Manual

2009 - 2010

Official Website

www.consef.org

AIMS AND OBJECTIVES OF THE POLICY AND PROCEDURE MANUAL

The primary aim of this manual is to communicate the information needed by the student and sponsor so that a safe and humane experimental project or paper is presented at the fair. Please read this book carefully and resolve any questions before you start your project.

Projects that are sent to the CONSEF that do not meet the rules, regulations, and guidelines of will be disqualified.

Safety rules are not meant to be barriers to progress that have been arbitrarily imposed to make it difficult for students to present a project. The objective of the *Policy and Procedure Manual* is to provide policies and procedures that are designed for the safety of the experimenter, as well as the safety of those that will judge and/or view the project.

Join CONSEF!

Membership in CONSEF is open to all charter & public schools.

www.consef.org

A copy of this manual should be given to all Science Project Sponsors and Student Participants

This manual may be downloaded from the CONSEF website and duplicated as needed.

www.consef.org.

MISSION STATEMENT

The mission of the Concept Science & Engineering Fair is to increase public awareness in science, math and engineering. We believe that every school has the potential to shine in science, math, and engineering, and therefore, we encourage every school to share their experiences, talents, and abilities with other schools through this unique platform.

WHY SHOULD ATTEND?

There are numerous **reasons** why you want your students to be involved in the Concept Science & Engineering Fair. It

- builds students' self-confidence through independently-created projects
- allows for individualized attention and the expression of individual differences
- offers opportunities for struggling students to shine outside of the classroom
- naturally develops students' reading, writing and communication skills
- allows students to apply important math concepts to real-world situations using the following skills:
    - estimating
    - measuring
    - using algebraic and analytical methods
    - solving problems
    - predicting results
    - collecting, organizing, and analyzing data using statistical methods.
- improves students' understanding of scientific inquiry and technological design through the following processes:
    - investigating questions
    - conducting experiments
    - solving problems
    - examining the interconnections between life sciences, physical sciences, and earth sciences
    - exploring the relationship between science, technology and society
- provides a great opportunity for parents' involvement in their student's work.
- brings a large number of family and community members together
- shows the greater community tangible and real products created by students and related to science, math, and technology
- supports the burgeoning charter school movement in the Midwest.

CATEGORIES

Students must design an experiment to investigate a question or problem. A project based solely on library research is NOT an acceptable project. Note that a model or demonstration is not an acceptable project.

- **BEHAVIORAL SCIENCE (BEH)**
  Human and animal behavior, social and community relationships— psychology, sociology, anthropology, archaeology, ethology, ethnology, linguistics, learning, perception, urban problems, reading problems, public opinion surveys, educational testing, etc.
- **BIOCHEMISTRY (BIO)**
  Chemistry of life processes—molecular biology, molecular genetics, enzymes, photosynthesis, blood chemistry, protein chemistry, food chemistry, hormones, etc.
- **BOTANY (BOT)**
  Study of plant life—agriculture, agronomy, horticulture, forestry, plant taxonomy, plant physiology, plant pathology, plant genetics, hydroponics, algae, etc.
- **CHEMISTRY (CHEM)**
  Study of nature and composition of matter and laws governing it—physical chemistry, organic chemistry (other than biochemistry), inorganic chemistry, materials, plastics, fuels, pesticides, metallurgy, soil chemistry, etc.
- **COMPUTER SCIENCE (COMP)**
  Study and development of computer hardware, software engineering, internet networking and communications, graphics (including human interface), simulations / virtual reality or computational science(including data structures, encryption, coding and information theory).
- **EARTH & SPACE SCIENCE (EARTH)**
  Geology, mineralogy, physiography, oceanography, meteorology, climatology, astronomy, speleology, seismology, geography, etc.
- **ELECTRONICS/ENGINEERING(ENG)**
  Technology; projects that directly apply scientific principles to manufacturing and practical uses—civil, mechanical, aeronautical, chemical, electrical, electronic, photographic, sound, automotive, marine, heating and refrigerating, transportation, environmental engineering, etc.
- **ENVIRONMENTAL SCIENCE (ENV)**
  Study of pollution (air, water, and land) sources and their control; ecology.
- **HEALTH SCIENCE (HEALTH)**
  Study of diseases and health of humans and animals—dentistry, pharmacology, pathology, ophthalmology, nutrition, sanitation, dermatology, allergies, speech and hearing, etc.
- **MATERIALS SCIENCE(MAT)**
  The study of materials and how they can be adapted and fabricated to meet the needs of modern technology.
- **MATHEMATICS (MATH)**
  Development of formal logical systems or various numerical and algebraic computations, and the application of these principles—calculus, geometry, abstract algebra, number theory, statistics, complex analysis, probability.
- **MICROBIOLOGY (MICRO)**
  Biology of microorganisms—bacteriology, virology, protozoology, fungi, bacterial genetics, yeast, etc.
- **PHYSICS (PHY)**
  Theories, principles, and laws governing energy and the effect of energy on matter—solid state, optics, acoustics, particle, nuclear, atomic, plasma, superconductivity, fluid and gas dynamics, thermodynamics, semiconductors, magnetism, quantum mechanics, biophysics, etc.
- **ZOOLOGY (ZOO)**
  Study of animals—animal genetics, ornithology, ichthyology, herpetology, entomology, animal ecology, paleontology, cellular physiology, circadian rhythms, animal husbandry, cytology, histology, animal physiology, invertebrate neurophysiology, studies of invertebrates, etc.

SCIENCE RESEARCH

Research is the process by which people create new knowledge about themselves or the world in which they live in order to answer a question or solve a problem. When choosing your topic, give careful thought to how your research might enhance the world and its inhabitants. Questioning is probably the most important part of scientific creativity and is often followed by an "if...then" statement. Questioning usually leads to experiments or observations. Good scientists, both young and old, use a process to study what they see in the world. The following six stages listed below will help you produce a good scientific experiment:

- Be curious, choose a limited subject, ask a question; identify or originate/define a problem.*
- Review published materials related to your problem or question.
- Evaluate possible solutions and guess why you think it will happen (hypothesis).
- Challenge and test your hypothesis through experimentation (data collection) and analysis.
- Evaluate the results of your experiment and reach conclusions based on your data.
- Prepare your report and exhibit.

Students should learn to be skeptical of all research results, especially their own. A good experiment may or may not answer the questions asked, but usually leads to fresh questions requiring new experiments or observations. The experimental hypothesis is often developed after one has run a number of preliminary experiments, analyzed a body of results, and reached a tentative conclusion for your experiment.

- **All projects need sponsor approval; some projects need SRC/IRB approval prior to experimentation. Please refer to the CONSEF Rules. If not attached, the CONSEF Rules and regulations along with the needed forms are available at our website www.consef.org.**

- **All projects require at a minimum the completion of the Application Form, Consent Release Form, Checklist for Adult Sponsor Form, Abstract (1A), and Approval Form (1B).**

THE PROCESS OF A SCIENCE PROJECT

1. CHOOSE YOUR TOPIC

- Get an idea of what you want to study. Ideas might come from hobbies or problems you see that need solutions. Due to limited time and resources, you may want to study only one or two specific events.

- Be creative! Plan a project that is original in plan or execution. The project should express scientific ideas in new or better ways.

- Be scientific: investigate and explore an interest - a fascination - something that gives you a question you would like to be able to answer. The library is an excellent place to start.

- The student should consider the research problem in relation to his or her scientific background, financial situation, desire to contribute to science, the time required for the study, and the availability of resources and materials.

- The experimentation behind a science project is what is significant. It is not the choice of the topic that is most important, but the way the project is handled. Sometimes the simplest topic offers the greatest challenge to the imaginative and intelligent student.

2. RESEARCH YOUR TOPIC

- Before you begin your project, you must become as knowledgeable as you can about your topic and about other research that has been done on that topic.

- You may use books, scientific literature, the Internet, or interviews with scientists or other knowledgeable people.

3. DEFINE YOUR PROBLEM

- Organize everything you have learned about your topic. At this point you should narrow your thinking by focusing on a particular idea. Your background research should help you.

- You need to define and word your problem as a statement.

4. FORMULATE A HYPOTHESIS

- Based on the background research and your defined problem, write a statement that predicts the outcome of the experiment.

- Many hypotheses are stated in an "if . . . then" statement where the "if" statement pertains to the independent variable, and the "then" statement pertains to the dependent variable. For example, if plants are grown with different types of fertilizers, then the plants grown with Fertilizer A will show the greatest increase in biomass.

5. MAKE A TIMETABLE

- Choose a topic that not only interests you, but can be done in the amount of time you have.
- Use a calendar to identify important dates.
- Leave time to fill out the forms and to review the Research Plan with your Sponsor.
- Certain projects require more time because they need prior Scientific Review Committee (SRC) or Institutional Review Board (IRB) approval.
- Allow plenty of time to experiment and collect data - even simple experiments do not always go as you might expect the first time or even the second time.
- Also leave time to write a paper and put together an exhibit.

6. PLAN YOUR EXPERIMENT

- Give careful thought to experimental design. Once you have a feasible project idea, write a research plan. This plan should explain how you will do your experiments and exactly what it will involve.
- Decide what data you need to meet in your research objective and how you will collect it.
- Be sure to consider possible hazards in your experimental approach and decide how you can conduct your research safely.
- In order to obtain valid experimental results, consider the following items when designing the experiment:
    - Make sure the quantity and quality of data you collect provides a reasonable assurance that your research objectives will be met.
    - Identify all significant variables that could affect your results.
    - Include a control or comparison group in your experimental design.
    - Also, remember to use metric measurements whenever possible.

7. CONSULT YOUR ADULT SPONSOR AND GET APPROVALS

- All students participating in the CONSEF are required to complete the Checklist for Adult Sponsor, Abstract (1A) and Approval Form (1B).
- In addition, CONSEF has special rules concerning the use of human and non-human vertebrates in your research. Be sure to consult these rules before finalizing your experimental design.
- You are required to discuss your research plan with an Adult Sponsor and obtain a signature of approval. In reviewing Abstract (1A), your Sponsor and you should determine if additional forms and/or IRB/SRC prior approvals are needed.

8. CONDUCT YOUR EXPERIMENTS

- Follow your experimental design to collect data and make observations.
- Be sure to keep a log as you conduct the experiment to record your data, any problems you encounter, how you addressed them, and how these problems might have affected your data. Do not rely on your memory. This log will be used when you write your report.
- Remember to change only one variable at a time when experimenting, and make sure to include control experiments in which none of the variables is changed.
- Make sure you do sufficient trials in both control and experimental groups to be statistically valid.

9. EXAMINE YOUR RESULTS

- When you complete your experiments, examine and organize your findings.
    - Did your experiments give you the expected results? Why or why not?
    - Was your experiment performed with the exact same steps each time?
    - Are there other explanations that you had not considered or observed?
    - Were there errors in your observations?
- If you get results that seem wrong or inconsistent, do not just throw them out. Try to figure out what happened. Maybe the data is correct and your hypothesis is flawed. Try to explain these "outliers" in your report.
- Don't get discouraged when you encounter problems. Scientists often have to repeat experiments to get good, reproducible results. Sometimes you can learn more from a failure than you can from a success.

10. DRAW CONCLUSIONS

- Your conclusion should provide all the information necessary for someone who is unfamiliar with your project to understand what you were trying to accomplish, how you did it, and whether you succeeded.
- Which variables are important? Did you collect enough data? Do you need to conduct more experimentation? Keep an open mind - never alter results to fit a theory. If your results do not support your hypothesis, you still have accomplished successful scientific research.

11. WRITE A REPORT

- Your report should be detailed enough to allow someone else to duplicate your experiment exactly.
- Be sure to include charts and graphs to summarize your data.
- The report should not only talk about your successful experimental attempts, but also the problems you encountered and how you solved them.
- In preparing the paper, the author should be concerned with the following mechanics:
  - The paper must be typed, doubled spaced and have at least one-inch margins.
  - Use only one side of the page.
  - The font style and size (ex: 12 pt, Times New Roman) must be appropriate for a scientific paper.
  - The paper must be neat and legible.
  - There is no limit on the number of pages permitted in the project session portion of the exposition.
  - Type the last name of the student listed on the first line of the abstract at the top of each page.
  - Tabular information should be kept to a minimum. Each table, chart, or drawing should not be more than one page in length and tabular data should not be duplicated in the text. Headings for tables and columns should be brief.
  - Graphs should be suitably titled and have both axes correctly labeled. Do not forget to include the correct units of measurement for any numbers.
  - Photographs should be of good quality and contrast, and should have captions typed under them.
  - The use of the first person "I" or "We" should be avoided whenever possible. Terms such as "The research experiment" or "The exhibitor" are examples of third person usage.
- The following section establishes the basic written report requirements. The main point to keep in mind is to think before you write, then rethink, revise, rewrite, and reread again and again. Make it clear and concise. **The paper must include (in this order):**
  - **Abstarct** - is a concise summary of your work. It should be typed single-spaced with maximum 250 words. Use the form in the **Appendix** (only the front side of the form should be used).
  - **Checklist for Adult Sponsor/Safety Assessment Form** – This form is required to be completed for all projects prior to experimentation. Use the form found in the **Appendix.**
  - **Endorsements** - when human or non-human vertebrates or microorganisms are used, endorsement sheets are required. Forms are found in the **Appendix. Approval letters should follow endorsements, if required.**
  - **Title Page** - your title should be concise and clear.
  - **Table of Contents** - include page numbers.
  - **Acknowledgments -** should give credit to those who have helped you in your investigations for guidance, materials, and/or use of facilities.
  - **Purpose and Hypothesis** - should state precisely the question you are attempting to investigate. Include your hypothesis or the expected outcome of your test.

- **Review of Literature -** is to report to the reader background information and/or work done in the past that pertains to your project. These references should be properly documented and listed in the section "Reference List".
- **Materials and Methods of Procedure -** should be a simple chronological account of what was done. The explanation of what was done must be clear and detailed enough so that the reader can duplicate the work. The apparatus and materials used should be listed - explain the workings of any apparatus you constructed or used. Drawings, diagrams that are clearly labeled, and photographs are appropriate if they enhance and clarify your explanation - do not use them as filler.
- **Results** - should be organized in tables and/or charts with graphic presentations, when applicable. Choosing the appropriate graph is important. The graphs should be presented so that they are easily read by someone not familiar with the work. If quantitative data are not involved, a day-by-day log may be used in place of the tables and charts. In either case, care should be taken to insure accuracy and clarity. A discussion section should follow the data section to include your evaluation and interpretation of the data and/or results of your investigation.
- **Conclusion -** should be a concise evaluation and interpretation of the data and/or results. The conclusion should be limited to the results of the investigation and should refer to the stated purpose and hypothesis**.** Experimental error should be estimated and considered when drawing the conclusion.
- **Reference List -** is a list of published articles, books, and other communications actually cited in the paper. Sources should be current.

12. PREPARE A DISPLAY BOARD

- For CONSEF judging, you must prepare a display board to accompany the written report.
- The title should be brief, captivating, and sufficiently descriptive to identify the project.
- Displays should be neat and presentable.
- Lettering should be neat, easily visible, and uncluttered. Check correctness of spelling.
- Do not display any previous awards on your project.
- Wall space for posters is not available. Construct displays so that wall space is not required.
- Exhibitors should bring their own tape, thumbtacks, and other supplies.
- Before judging, all of the displays will be carefully inspected by the safety committee.
  - A copy of the Abstract, Safety Sheet(s), Endorsement(s)/required document (if applicable), must be displayed with the report.
  - Your display must not exceed the dimensions of 76 cm front to back, 122 cm from side to side, and 152 cm from table to top. This applies to ALL parts of your project. No apparatus may exceed this space. No apparatus may be under, behind, in front of, alongside, or hanging off of the display table. No apparatus that posses a safety risk to viewers may be displayed and may be removed at the discretion of the Safety Chair.
  - Your display must be designed to sit on a table and be self-supporting.
  - Spotlights, floodlights, or decorative lighting must not be used to illuminate your display.
- Any violation of these safety regulations will result in a letter to the sponsor with the reason for disqualification or potential disqualification. No project will be disqualified if the safety violation can be corrected on the spot with a minimum of effort.
- The fair day is neither the time nor place to demonstrate your experiment. **You should leave all lab equipment at home or at school. Pictures, drawings, and diagrams should replace equipment.**

13. PREPARE AN ORAL REPORT

- For CONSEF judging, you must also prepare an oral report to accompany the written report.
  - Introduce yourself. State your name, age, and school.
  - Give credit to those whom you have contacted and to those who have helped you.
  - Discuss any work done in the past pertaining to your project.
  - State exactly what you were attempting to discover.
  - Make a prediction about the outcome.
  - How did you get interested in this project? Give the reason for choosing it.
  - Background explanation for your project (to familiarize the judges), scope of your study, etc. This should include a summary of the Review of Literature.
  - Proceed in a logical manner, telling what you did step by step.
  - Be complete. Do not leave out necessary details.
  - Use visual aids: charts, pictures, graphs. Point to your display, but stand aside when you do this.
  - Explain how your apparatus was used. If you constructed it yourself, tell the judges you did it, if not, give credit to those who helped you. Judges are more interested in your results and conclusions than in the apparatus.
  - Discuss ways you avoided experimental error such as use of appropriate instrumentation and measurements, large enough sample size, and/or having controls when possible.
  - Discuss statistical aspects of experimental errors such as averages, ranges, and statistical analogies.
  - Explain both your controls and your experimental variables.
  - Remember to use proper units of measure with your data.
  - Point to graphs, charts, etc., when you refer to them.
  - State in a concise and logical order the conclusions you can validly draw from the experimentation you have done and the data and/or observation obtained.
  - Discuss how you plan to continue your project, if applicable.
  - When you have finished, ask the judges if there are any questions they would like to ask.
  - When they ask you questions, think before you answer them. Answer slowly! If you don't know the answer say, "I'm not sure but I think..."
  - If they ask you a question that is not related to your project and you do not know the answer, then say, "I really haven't been concerned with this in my project, but it might be interesting to look into it."
  - Thank the judges for any suggestions they may have for bettering your research.
  - Speak slowly!
  - Be forward but polite, dynamic, and above all interested in what you are doing.
  - Remember that you are a salesperson and therefore your job is to sell your product to the judges. The judges are interested in your work - which is why they are judging you.
  - Your presentation should not exceed 10 minutes.

RULES AND REGULATIONS

The student and the sponsor have ultimate responsibility for the safety of the student and test subjects.

- Your school must currently be a member of the Concept Science & Engineering Fair.
- Grades 5-8 make up the Junior Division, while grades 9 - 12 are the Senior Division.
- No projects presented in previous years will be allowed at the fair unless they have been improved and expanded upon and are the result of further research and experimentation.
- A typed research paper must be displayed with your project. The Abstract is the first page of the research paper and serves as the cover sheet.
- A typed Checklist for Adult Sponsor / Safety Assessment Form should be displayed. If your project involves human or non-human vertebrates, vertebrate tissues, microorganisms, the appropriate Approval forms must follow the Safety Sheet in your research paper. Lack of this Endorsement may result in disqualification.
- Students are to remain with their projects during the official period of judging.
- A student may enter only one project.
- **No team project is allowed.**
- Normal wear and tear on the exhibit is to be expected during the time that the exhibit is open to the public. If valuable equipment is on display, it is your responsibility for its supervision.
- Science Fairs are the times for communication. You are being judged on your ability to present your research to a scientist. This is neither the time nor place to demonstrate your experiment. **You should leave all lab equipment at home or at school. Pictures, drawings, and diagrams should replace equipment.**

DESIGN CONTEST

RULES OF PROCEDURE

- Any student in grades 5 through 12 whose school is a member of CONSEF is eligible to take part in the cover design contest.
- All entries must be postmarked no later than **December 17, 2009.**
- Use an 8.5"x11" sheet of white paper for each entry. The design MUST be oriented PORTRAIT, NOT LANDSCAPE.
- Include the words "Concept Science & Engineering Fair" in your design. This should be large enough to be seen on your **original** design.
- The design must be original and **may be computerized.**
- **The design must be in black and white.**
- Please include the following on the **back of student's entry**:

  Student's Information
  Student's Name
  Home mailing address
  Home telephone number
  E- mail

  Sponsor's Information
  School name
  Name
  E-mail
  Phone number

- The design committee will judge all entries. The entries of the top ten finalists will be displayed at the Fair in March. The winning design will be printed on the t-shirts and the program booklet cover. The designer of the winning entry will receive $250.

JUDGING CRITERIA - SCORING RUBRIC

The following is the criteria for the Concept Science & Engineering Fair judging procedure. **THE DECISION OF THE JUDGES IS FINAL.** There are four parts (Overall Impression of the Project, Display, Oral Presentation, Written Report) being examined during the judging procedure. Participants are expected to get the maximum available points from each criterion.

CONSEF SCORING RUBRIC

		10	9	8	7	6	5	4	3	2	1	Total Points
OVERALL IMPRESSION OF THE PROJECT	**Scientific Approach :(max-8 pts)** Well defined problem was solved using scientific principles.											
	Knowledge Gained :(max-10 pts) Student has understood the topic, mastered the scientific skills, and answered all questions correctly.											
	Experimenal Approach: (max-10 pts) Dependent and indepenedent variables were defined and control group was in evidence.											
	Reliability of Data :(max-8 pts) Data is numerical and metric. Data is reliable with repeated trials.											
	Validity of Conclusion :(max-5 pts) Conclusion is consistent with the data provided.											
	Originality :(max-10 pts) Topic is original and method is highly creative.											
DISPLAY	**Information :(max-7 pts)** Display gives complete explanation with graphs, charts and pictures.											
	Technical Requirements :(max-4 pts) Safety and endorsement sheets are displayed.											
	Artistic Qualities :(max-5 pts) Backboard is neat, organized, and appealing. No spelling errors.											
ORAL PRESENTATION	**Presentation Quality :(max-10 pts)** Clear presentation which is easy to follow. Information is relevant.											
	Dynamics :(max-10 pts) Speaks fluently with good eye contact, polite, dynamic, and interested in his/her subject. Not relied heavily on note cards or the board.											
WRITTEN REPORT	**Order :(max-5 pts)** Report is neat and in logical order (Title, content, acknowledgements, problem, hypothesis, review of literature, materials, procedure, results, conclusion, reference list).											
	Spelling/Grammar :(max-3 pts) No spelling or grammatical error is present.											
	Review of Literature/Reference List :(max-5 pts) Quality, quantity, and variety of sources is adequate for topic.											

GOLD: 91-100 **SILVER: 81-90** **BRONZE: 71-80** **PARTICIPATION: 70 OR LESS**

INFORMATION FOR THE JUDGES

Judging is, without a doubt, one of the most important phases of any science fair. Because of its extreme importance, all judges should carefully review the following:

- **Each student is to be judged based on the rating criteria and not in comparison to another student**.

- Be aware that most students have spent many months preparing for a judging period, which normally lasts fifteen minutes. The opportunity to discuss their project with the judges is important. Students deeply appreciate all questions and comments.

- Allow yourself enough time to park your car, and to allow for traffic interference so that you will report on time. And, please report to judging control room as soon as possible.

- At the judges meeting, you will be informed of any last minute changes and/or special requests concerning judging assignments.

- Each judge is to be assigned about six projects or more. Each student will be judged by three individuals.

- You may be asked to judge projects in both divisions, Junior - grades 5-8, and Senior - grades 9-12. If so, please keep the maturity of the participant in mind.

- It is essential that each judge finishes his/her judging responsibilities and have judging results turned into the Judging control room on time. There will be some staff members who will assigned for collecting the scoring sheets.

- Students must be with their project at the time of judging. If the student cannot be located within a reasonable period of time, then the project is considered a No Show, and no rating is to be given.

- Be pleasant and interested.

- Please remember that you are working with tomorrow's scientists; their "decision for science" may rest on the impression you leave on them.

- Each project judged must have a final score so that the certificate of award can be made. <u>Do not show the student the score.</u>

- Be sure every project for which you are responsible has been judged. <u>Return the scoring rubric immediately following the judging of each project. DO NOT hold all scoring rubrics until you are finished judging all projects.</u>

INFORMATION FOR PARENTS, SPONSORS AND TEACHERS

PARENTS (Sponsors and Teachers)

We know that you are proud of the accomplishments of your son or daughter and that you are anxious to see them succeed in this introductory phase of a possible career or a lifelong interest in science. The parent's role is to support their son or daughter's independent efforts, not to take over the project. Your challenge is to provide just enough assistance to allow your son or daughter's own efforts to take center stage, while offering ideas and resources that might help your child raise their efforts to a higher level.

Keep in mind the following suggestions:

- Review the *Policy and Procedure Manual* and any other materials your son or daughter's science teacher (sponsor) sends home about the requirements of the project.
- Encourage your child as he or she brainstorms ideas for the project. Make sure you understand what is required before approving a science project topic.
- Support your child in researching their topic and conducting the experiment.
- Make sure you are familiar with the safety guidelines and see that they are followed.
- Assist your child in getting needed experimental materials.
- Your child might need assistance in preparing their display board and presentation.
- Celebrate the successes and spend a moment looking at what went wrong.
- Special award judges may use other criteria for selecting their special awards.
- If in doubt, contact your son or daughter's science teacher or sponsor for assistance or encourage your child to do so.
- **IN ALL STAGES OF COMPETITION, THE JUDGE'S DECISION IS FINAL.**

SPONSORS AND TEACHERS

The ways in which sponsors can assist the students are:

- Register with the CONSEF. Registration deadline is **February 12, 2009.**
- Provide materials and policy manual that will help the student select the project. Discuss how to develop a project, and show results of past projects.
- Review the rules governing the use of humans and non-human vertebrate animals. If students intend to carry out human or other vertebrate animal experimentation make certain that they are aware of the procedures to follow and that they complete the proper endorsement forms.
- Offer encouragement and guidance. Establish a deadline calendar. Use a checklist.
- Help students with the technicalities involved in preparing the project and paper**. Make sure they are aware of the safety regulations and formats to be followed.**
- **Furnish judges** for the fair day. Judges must be aware of their responsibilities. If they cannot attend, they must provide a suitable replacement in the same judging area.