ANDERSON MILL ELEMENTARY

Science Fair Packet

Important Dates	
Tuesday, March 10	All projects are due for judging
Wednesday, March 11	Science Fair Judging (outside judges come in)
Friday, March 13	AMES Science Fair Winners Announced
Friday, March 27	Elementary Exhibition: (1st-5th grades) Projects can be set up in the Hodge from 4:00-5:30 pm. The showcase and activities will be held from 5:30-7 pm.

Contents:

Dear Parents/Guardians,

Science Fair time is just around the corner! The students are busy learning the Scientific Method and how to complete a successful science fair project. Our AMES Science Fair will be held on Tuesday, March 10th and 1st – 3rd place winners in each category can submit their projects to the Regional Science Fair that is held at USC Upstate on Friday, March 27th.

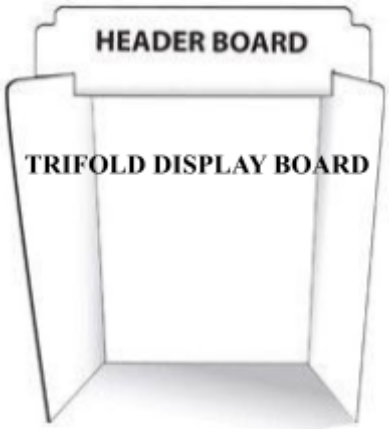
Science Fair projects must be turned in to Anderson Mill Elementary by Tuesday, March 10th to be included in the judging. Projects will be tagged, categorized, and displayed within the school. A panel of outside judges will come in and judge the projects on Wednesday.

If your child is planning to enter the Science Fair, he or she will need some type of display board. They can be made of different materials such as wood, thick poster board, etc. or they may be purchased in stores.

** ALL HORIZONS STUDENTS are expected to complete a project and submit it for judging.

Thank you,

AMES Science Committee



Websites to Assist You

- www.cdli.ca/sciencefairs
- www.all-science-fair-projects.com
- www.yoursciencefairprojects.com
- www.sciencebuddies.org
- www.sciencemadesimple.com
- www.education.com/science-fair
- www.need.org/sciencefair
- www.homesciencetools.com/a/science projects/c/science-fair-projects

On the following pages are the rules, regulations, and guidelines that are enforced by the USC Upstate Regional Science Fair. Since 1st-3rd place winners have the opportunity to submit their projects to the Regional Fair, we observe the same rules, regulations, and guidelines for our Anderson Mill Elementary School Science Fair.

The biggest rule oversight we have seen pertains to the display board.

- If you include photos in your project, **you may not show faces** in the photographs.
- Please refrain from writing or posting your name on the front of the board. **Student names should be written in the center section on the back of the board.**
- Brand names and/or product logos should not be included anywhere in the project. They should simply be listed as Brand “A”, Brand “B”, Brand “C”, etc. (Examples: Yeti, Ozark, Frosted Flakes, Raisin Bran, Bounty, Sparkle, Charmin, Quilted Northern, etc.)
- Please also refrain from sending in display projects that go with your science fair boards. It is best just to include a photo on your board so that items are not misplaced or damaged during the display time.

UPSTATE
University of South Carolina Upstate

Piedmont Region III Science Fair

Rules, Regulations and Guidelines for All Projects:

ALL PROJECTS, 1st through 12th grades, MUST CONFORM TO ISEF (INTERNATIONAL SCIENCE AND ENGINEERING FAIR) GUIDELINES.

All rules, regulations, and guidelines can be found on the SS&P-ISEF website:
http://www.societyforscience.org/isef/rulesandguidelines.

Remember, projects at any grade level involving animals or humans must have adult oversight, and if subjects are human minors under 18 years of age, permission of parents must also be obtained. Live animal projects, including behavior-of-pets projects must have adult oversight and must be carried out in a humane fashion. Proper treatment of animals should be documented. If there is any potential for harm to the researcher or participants, the science fair coordinator at the school must contact Dr. Gary Bradley to determine if the project needs to be reviewed by the Scientific Review Board.

The necessity of adult oversight (teacher, parent, practicing scientist or engineer) brings up the old problem of separating projects done by adults vs. those done by the student. An adult should review and approve the idea of the project, and serve in a support role keeping an eye on things. If the project is to build a home weather station, then the student needs to build the station by himself. If the project is recording and predicting weather, using the weather station, then parents or others can help in the building, from which the student then takes responsibility for the use of the station. The student could then record weather data, make predictions, and compare their home forecasts with those of the newspaper or TV. Parental help is okay with credit given, and the notebook should have a page plainly stating the role of the associated adults.

Notebooks are not required at the Elementary or Middle Level, but are encouraged.

Projects that involve Human subjects, Animal Subjects, or Potentially Hazardous Materials

ANY project that involves human subjects, animal subjects and potentially hazardous material must be first evaluated by the teacher/science fair school coordinator. If there is any risk involved with a project it must be approved by the Scientific Review Board (SRB) before the student starts the experiments.

Project Display:

NO PROJECT DISPLAY MAY CONTAIN ANY OF THE FOLLOWING:
(The Region III Scientific Review Committee is required by ISEF regulations to remove and discard all banned materials. Projects brought to the Regional Fair are screened at the door, and more vigorously screened during the judging.)

1. **NO** live plants, live microbes, or live animals, vertebrate or invertebrate. (Note: the ban applies to DISPLAY of living material. Projects may study any and all of the above, but USE DRAWINGS, MODELS, or PHOTOS to illustrate your project.) For example, one student effectively used paint on Petri dishes to illustrate the microbe abundances he found in his study.

2. **NO** human or animal fluids or body parts, vertebrate or invertebrate, or dried plant material. NO taxidermy mounts. (Exceptions include a well-presented insect, shell, or fossil collection. A dental exhibit or tooth paste project may include sterilized teeth.)

3. **NO FOOD**, human or animal food, open or in sealed packages. (Food projects are fine, but for display use photographs or drawings, or empty boxes, packages, or wrappers. Candy glued to a board must be removed or the project will be rejected at the door.)

4. **NO** drugs of any kind, including non-prescription items like aspirin or tooth paste.

5. **NO** fluids, including water, ink, or dish detergent.

6. **NO** chemicals of any kind (exceptions include minerals or crystals.)

7. **NO** dirt, no soil, no animal or other waste.

8. **NO** photographs or drawings of vertebrate animals in other-than-normal conditions. NO displays showing surgical techniques, dissections or necropsies. (A project investigating why local frogs are dying off is ok, a photographic presentation of your autopsy of a pet turtle is forbidden.)

9. **NO** portrait photographs, or displayed names and addresses. Items which clearly and purposefully identify the contestants are forbidden on the front of the display. However, photographs showing the contestant involved in doing the project are acceptable-faces do not need to be taped over. BUT: PLEASE DO PUT THE NAME OF STUDENT, SCHOOL, AND SCHOOL OR HOME ADDRESS ON THE BACK OF THE PROJECT. These are often important in helping friends, relatives, and others locate a project at the conclusion. Remember, no school logos on the front of the project.

10. **NO** dangerous materials, including weapons, poisons, sharp edges, needles, syringes, pipettes, loose nails or nails sticking out of boards, unshielded live electrical wires, compressed gas tanks, matches, flames, lasers, etc. Bare wire and exposed switches may be used with batteries in circuits of 12 volts or less. All belts and pulleys must be shielded.

11. **NO** Business cards, medals, or awards from previous school fairs.

12. **NO** Product LOGOS or BRAND NAMES. Brands can be differentiated by using “Brand A, B, C...”

13. **ALL LETHAL LIMITS AND CRUELTY PROJECTS ARE BANNED**. A dead cockroach in a 100% dead insect collection is legal; a project which asks what percentage of roaches will die at 20 degrees Centigrade, 30 degrees Centigrade, 40 degrees Centigrade, etc., is a Lethal Limits study, and will not be accepted. A project asking which bait catches which fish should release rather than cook the fish.

14. **NO Liability projects**. An intriguing study asks what percentage of drivers will swerve to run over a rubber snake. Unless you are willing to take legal responsibility for any and all wrecks generated, avoid such studies. Traffic projects in which the student is a passive observer are acceptable, such as “Do drivers speed up at a yellow light?"

15. **No Models of dangerous materials**. In Colorado, police raided a science fair and confiscated an inert bomb. Although technically the project was not immediately dangerous, it was judged inappropriate.

16. NOT BANNED, but a word of caution-be very careful about valuable materials as part of a display. A slide projector, computer, iPad, iPod, or other compact video display may seem like a good supplement for the project presentation. **WE CAN NOT AND DO NOT ASSUME RESPONSIBILITY FOR THE SAFETY OF SUCH ITEMS**.

Additional Specific Rules concerning the project display can be found here:
http://www.societyforscience.org/page.aspx?pid=314#notallowedbooth

Scientific Categories

Science projects will be classified according to the 6 categories listed below. First, second, and third place will be recognized in each of the 6 categories. Of those 18 winners, an Overall 1st, 2nd, and 3rd place will then be awarded. Winners' names will be submitted to USC Upstate Piedmont Region III Science Fair coordinator, and those students will receive additional information regarding that fair.

Scientific Categories:

- Behavioral and Social Sciences
- Biology
    - Environmental Sciences
    - Medicine and Health Sciences
    - Plant Sciences
    - Microbiology
    - Animal Sciences
    - Cellular and Molecular Biology
- Chemistry
    - Biochemistry
- Computer Science
    - Math
- General Science
    - Earth and Planetary Science
    - Engineering: Electrical and Mechanical
    - Engineering: Materials and Bioengineering
    - Environmental Management
    - Energy and Transportation
- Physics
    - Astronomy

A list of sample topics and project ideas by category can be found by visiting the following link:

http://www.sciencebuddies.org/science-fair-projects/science_project_ideas.php

Piedmont Region III Science Fair

Judges' Score Card for Elementary and Middle School Projects

1. Scientific Thought – The Problem **(10 Points)**
   - Is the project title in question format or imply a question to be answered?
   - Is the problem/purpose clearly and concisely stated?
   - Is there a comprehensive review of related research included?
   - Is the hypothesis based upon the review of related research and stated in "If…then" format?

2. Scientific Thought – The Design **(10 Points)**
   - Are the procedures listed, appropriate, logical, organized, and thorough?
   - Are the materials appropriate and listed in a way that the project can be replicated?
   - Do the project procedures demonstrate a long-term commitment by using multiple trials?
   - Does the project use and identify the manipulating/responding and/or dependent/independent variables correctly?
   - Does the project specify the control and experimental groups used?

3. Scientific Thought – The Results **(10 Points)**
   - Does the project show the results of multiple trials? (3 or more)
   - Are the results accurate and complete?
   - Are the data tables and graphs accurately identified and labeled?
   - If needed, are the results of individual trials and averages included?
   - Is an interpretation of the tables and graphs included?
   - Is there a discussion/summary of the results?
   - Does the project show considerable time commitment in the objective analysis of the results?

4. Scientific Thought – The Conclusions **(10 Points)**
   - Are the conclusions based upon the stated hypothesis and results?
   - Does the project show considerable time commitment in the interpretive analysis of the results?
   - Do the conclusions address the following: The status of the hypothesis after the study.
   - Practical applications. What was learned? How the present study relates to earlier studies cited in the review of related research? Sources of error and limitations. Suggestions for improvement. Suggestions for future studies.

5. Scientific Thought – The Concepts, Ideas, and Principles **(10 Points)**
   - Are the scientific concepts, ideas, and principles clearly developed, explained and used correctly?
   - Are the scientific concepts, ideas, and principles appropriate for the student's grade level?

6. Acknowledgements/References **(10 Points)**
   - Does the student clearly show use of related research and prior studies?
   - Is a bibliography of necessary references listed and available?
   - Has the student acknowledged help they received from others?
   - Are acknowledgements clearly stated?

7. Creative Ability **(10 Points)**
   - Does the project show original thinking or a unique approach?
   - Does it demonstrate ideas arrived at by the student?

8. Thoroughness & Clarity **(10 Points)**
   - Does the project tell a complete story?
   - Does it explain what the student did and learned?
   - Does the project show considerable time commitment overall?
   - Are all parts of the project presented in a logical order? (Top middle – Title; from left to right - purpose, review of related research, hypothesis, procedures, materials, results, discussion of results, conclusions, and acknowledgements/bibliography).

9. Dramatic Value **(10 Points)**
   - Are all parts of the project attractive and neatly done?
   - Is the font size and style easy to read?
   - Does it catch your attention? Do you really want to look at the project further?
   - Are illustrations and/or photographs used appropriately?
   - Is proper emphasis given to the most important ideas?

10. Technical Skill **(10 Points)**
    - Does the project show good craftsmanship by the student? (Legibility, Layout, etc.)

Is the written and presented material both organized and accurate? Has the student used correct grammar and punctuation? Have computer-generated text, graphs, tables, illustrations been used correctly?
Totals (out of 100)

Science Fair Board Sample

"Show" your experiment here. Use color.

How did you run your experiment? Tell it step by step. (First, Next, Then, After That, Finally)

Your title should capture interest in about 5 words or less, if possible.

Tell/Describe the exact outcome. Use data to support statements.

Purpose

I would like to learn more about whether a teacher is necessary to keep the noise level in a classroom down.

Question

Will the classroom noise level rise if there is no teacher?

Hypothesis

I predict the classroom will be louder without a teacher.

Materials

1. Classroom full of students
2. Teacher willing to leave
3. Paper
4. Pencil
5. Decibel meter

Title of Project

Procedure

1._____
2._____
3._____
4._____
5._____

Photos

Graphs

Charts

Tables

Results

Summarize your results, tell if the results support or challenge your hypothesis, what was the relationship between the dependent and independent variables, judge your procedure, and suggest changes you' would make next time.

Conclusion

Report Log/Journal Photographs