

2006 Central PA Science Fair

for students in *Grades 1 thru 8*

Saturday, April 29, 2006

2:00 PM until 5:00 PM

(Awards Ceremony 4:00 PM - 5:00 PM)

Forest Hills High School

489 Locust Street

Sidman, PA 15955

**\$100, \$75, & \$50 Savings Bonds
Trophies & Special Merit Awards**

The Central PA Science Fair is free to everyone. Any student in grades 1 thru 8 can enter a project. Registration forms are available from your teacher, school office, the IU8 website (www.iu08.org, then click on the Curriculum, Training...) or call Joan Conway at 814-940-0223 ext. 393. All projects must be brought to the High School Cafeteria on Friday. On Saturday afternoon, the exhibits will be open to the general public.

Hosted by: Appalachia IU 8 and Forest Hills School District

To: Administrators and Teachers of Science in Grades 1 - 8
From: Joan Conway, Special Projects Coordinator
Date: January 20, 2006
Re: **2006 Central PA Science Fair**

The 2006 Central PA Science Fair is scheduled to be held on **Saturday, April 29**. Students and/or teachers can set up their exhibits on **Friday, April 28** between the hours of **1:45 P.M. until 2:30 P.M.** or **3:15 PM until 7:00 P.M.** DO NOT bring projects during the H.S. Dismissal time (2:40 P.M. – 3:10 P.M.) Projects need to be brought into the building via the cafeteria entrance located on the back side of the building. The judging will take place on Saturday morning and the exhibits and awards ceremony will take place Saturday afternoon. The Science Fair exhibits will be displayed in the Cafeteria and the Awards Ceremony will take place in the Auditorium.

At this time we are earnestly seeking contributions from businesses, industries, or professional societies to help cover the cost of this event. If anyone knows a source that might be interested in contributing please contact Joan Conway at 940-0223. **This event may be cancelled in the future due to a lack of participation and funding.**

As in past years, we are seeking volunteers to man the registration / information desk on Friday and Saturday. Included with this entry form is a section for volunteers to complete. I want to encourage parents and/or teachers to take an active role in the Fair. **Please Note: Students from grades 2-8, who are applying for participation in the 2006 ATOMS Scholars Program are given extra points on the application for placing and exhibit in the Science Fair.**

All projects are to be investigative. They must be done by the individual whose name appears on the exhibit and should not be a group effort. All projects must be free standing and fit in a table space no larger than 3 feet wide by 18 inches deep. All students registering a project will receive written verification and additional information approximately one week prior to the fair.

To keep mailing costs down, I'm delivering through the IU8 Delivery Service as well as the U.S. mail. I'm sending a limited number of copies to each school. If you need more, please have additional copies made at your school or tell students to download them from the IU8 website. I would appreciate it if you would share this information with other teachers or pass it along if you cannot use it. **PLEASE GIVE ALL STUDENTS WHO WANT TO ENTER AN EXHIBIT THE COMPLETE PACKET OF INFORMATION.**

Please contact me if you have concerns or questions. My phone number is: (814) 940-0223 ext. 393 or my e-mail address is: jconway@iu08.org. I look forward to seeing you and your students' projects at the Science Fair.

2006 Central PA Science Fair

What Is the Science Fair?

The Central PA Science Fair is a free annual competition of science investigative projects done by students in grades **one through eight**. Any student from the central PA region may enter a project in the fair.

Forest Hills High School, Sidman, PA 15955

Saturday, April 29, 2006
2:00 PM to 5:00 PM

Prizes and Awards

Savings bonds of \$100, \$75, and \$50 are awarded to the top three projects in each division:

Division I	grades 1 & 2 & 3
Division II	grades 4 & 5 & 6* (*The 6th grade entries will be placed in the division with the smaller
Division III	grades 6* & 7 & 8 number of entries from other grades.)

Trophies are awarded to the top four place winners in each division. All exhibitors receive recognition.

Project Rules

1. Projects must be of an investigative nature.
2. Projects must be done by individuals. No group or team projects will be accepted.
3. All work must be done by the exhibitors themselves. Teachers and parents may help with planning but must not help in the actual performance of the research, design, or construction of the final exhibit. The use of power tools by young children to construct a display is discouraged.
4. Contents of exhibit must **not** contain live vertebrate animals, preserved vertebrate animals or parts, embryos of vertebrates, aquariums, controlled substances, open flame, dangerous chemicals, live disease causing organisms, poisons, explosives, or any other items that may pose a danger to exhibitors or visitors.
5. Exhibits must be freestanding; there is no wall space available. The display **must fit in a table space that is 3 feet wide and 18 inches deep**. There is no height restriction but be aware that the exhibit should not be top heavy or tip over easily.
6. No electrical outlets may be used. Batteries are acceptable. An exception will be made for exhibits using a computer when the computer is an essential part of the research-presentation and prior arrangements are made.
7. Photographs to show process or equipment are permitted; but the student's face can not show.
8. The Central PA Science Fair takes reasonable precautions in protecting exhibits; however, the fair **IS NOT RESPONSIBLE FOR BROKEN OR MISSING EXHIBITS OR PARTS**.
9. Exhibit title must be on the front of your exhibit in letters at least one inch high. Exhibit number, which will be forwarded to the exhibitor after receipt of the entry blank, must be placed in the upper right corner of the exhibit front. **NO EXHIBITS WILL SHOW THE NAME OF THE EXHIBITOR OR SCHOOL PRIOR TO JUDGING**. Your name, title of your exhibit, school, and exhibit number should be on the bottom center back of your exhibit. *Post-it notes are placed over your name and school during the judging. (Note: Avoid writing your name in large letters on the back of your exhibit.)*
10. All entrants must submit to IU 8, an entry blank that is filled out entirely. Late entries are discouraged.
11. Exhibits should be brought to the Forest Hills High School Cafeteria between the hours of **1:45 P.M. until 2:30 P.M. or 3:15 PM until 7:00 P.M.** DO NOT bring projects during the H.S. Dismissal time (2:40 P.M. – 3:10 P.M.). Further details will be sent when we mail your exhibit number.
12. The rules and regulations stated above must be strictly adhered to or your exhibit will be disqualified or penalized.

Hints for Developing a Successful Project

These are suggestions for a good project and are not rules.

Do a science project, not a book report or an experiment from your textbook. Projects that merely relate information copied from a book are not science projects. Originality, a well-researched question, and a neat, thorough, organized exhibit are keys to a successful project.

Choose a problem that you can investigate thoroughly. Make sure it challenges your imagination and ability. **Make sure it answers a question.**

Think of an original hypothesis or guess at the solution to your problem. Your topic should be one that really interests you and you find exciting.

Do experiments that you are able to do and keep very careful, well organized notes on each phase. The notes do not have to be erasure or error free; but, they should show that you have been following the scientific method, observed carefully, and thought about the data you collected.

Think about what happened in your experiments. Try to compile your information or data into a table or graphs or make photographs of the changes.

Make sure your conclusion matches the information you have collected. A conclusion is the final step and the reason you did the project. Make sure you tell why you think the information leads to a particular conclusion.

Make sure your project answers a very specific question. You'll learn more by doing a lot of work on one topic rather than lots of topics.

Write a report! It should contain the problem (question), hypothesis (guess), procedures (experiment), analysis (information saying why), and conclusion (answer). You should also include any special problems or unusual things that occurred, special help you received, or where you found information. The report, also called an abstract, should not be long. If you have about 100 words in it, that is plenty long enough.

Display your information in a way that makes sense and is easy to understand. Your exhibit is the display part of your report. Keep it neat and make sure it will fit in the 3ft x 18inch space that you will be given at the fair.

Do the work yourself. You may get **advice and directions** from teachers, other kids, a scientist, a parent, or anyone who is interested in your project.

Use the judging sheet to evaluate your project. It tells what is important and can help you be sure you have done everything that is needed.

Start Early! It always takes longer than you think to do a **GOOD** science fair project.

Judging Projects

How to use this Checklist

Students can use this checklist as a self-evaluative tool prior to entering a project. These guidelines ensure that all students are evaluated according to an established set of criteria and that teachers, parents, and students are aware of the elements that constitute a well-planned display. **Not every item in each list will apply to every project.** Check off the applicable ones that you believe have been fulfilled successfully. This should enable you to assess how complete your project is and how it will be viewed by the judges.

The major parts of any science fair project are the ***display and display materials***, and the ***written report***. Make sure that you do a thorough job on these portions of your project.

Projects are judged by a team of at least three judges. The grand totals are then arranged from highest to lowest. The three highest scores in each division will receive savings bonds and trophies. The fourth highest scoring student in each division receives a trophy and a special prize.

Central Pennsylvania Science Fair Judging Checklist

Creativity - 30 points possible

- Are the materials presented imaginatively?
- Is there a distinctive or unusual approach to problem solving?
- Is the project or display original?
- Is there a variety of equipment or items?
- Is new and interesting information included in the display?
- Are the data or results interpreted appropriately?

Scientific Thought - 30 points possible

- Is the topic or problem stated clearly and completely?
- Is a question being investigated and the experiment designed to answer the question?
- Are the procedures appropriate to the area of investigation?
- Have scientists or other experts and scientific literature been consulted?
- Has scientific literature been cited?
- Has a systematic or logical plan of action been stated?
- Is there enough data to answer the question?
- Is the factual information correct?
- Is there a need for further research or investigation?
- Is a project notebook provided with the display?
- Does the report show an understanding of the variables involved as well as the facts or theories?
- Is the project notebook sufficiently detailed in relation to the scope of the project?
- Have any problems or limitations that occurred been noted?

Thoroughness - 15 points possible

- Is the project complete?
- Does the project represent a sufficient amount of time and effort?
- Is a problem adequately investigated or answered?
- Are the notes complete?
- Does the project include a display, written report, and 3-D items?

Skill - 15 points possible

- Is scientific skill demonstrated in the handling, preparation, mounting, equipment, measurement, etc.?
- Does the project represent the student's own work?
- Does the project represent quality workmanship for the age and grade level of the student?
- Is the exhibit well organized, titled, and labeled?
- Is the hypothesis and conclusion clearly displayed?

Clarity - 10 points possible

- Could a casual observer understand what is being displayed?
- Are titles, written descriptions, and labels neat, legible, and large enough to read?
- Is the presentation logical and sequential?
- Are the data clearly presented?
- Is every piece of material important to the display?
- Is the display colorful, neat and attractive (drawings, graphs, diagrams, etc.?)

Written Report**Title Page - 2 points possible**

- Is it present?
- Are the title of the project and the student's name included? (*Names will be covered during judging.*)

Table of Contents - 5 points possible

- Are all the parts listed?
- Are all the sections listed in order?
- Are page numbers listed and correct?

Statement of Purpose - 10 points possible

- Does it pose a question that can be investigated or measured?
- Does it relate to the experiment or project?
- Is it logical, defensible and understandable?
- Is it within the student's age and grade level?

Hypothesis - 8 points possible

- Does it answer the purpose?
- Does it tell what the students is trying to prove with the project?
- Is it scientifically sound?

Research - 15 points possible

- Does the research relate to the topic?
- Is it complete and thorough?
- Does it represent a diversity of sources?
- Is it appropriate with student's age and grade level?

Materials - 10 points possible

- Are all materials listed?
- Are specific amounts given?
- Are there sufficient materials?

Procedures - 10 points possible

- Are procedures listed in chronological order?
- Could the project/experiment be replicated?
- Are the procedures easy to follow and in a logical order?

Observations - 15 points possible

- Are the observations in a logical order and indicate what was done in the project?
- Did the student choose the best form for recording the observations?
- Are the observations clearly labeled?

Conclusion - 15 points possible

- Does it adequately answer the purpose and explain the results?
- Does it tie the entire paper together?
- Is it sufficient in form and length?

Bibliography - 5 points possible

- Is it in alphabetical order and follows a form?
- Is it sufficient in terms of the scope of the project?
- Have primary, scientific sources been consulted?
- Is the range and scope of the bibliography reflected in the report itself?

2006 Central PA Science Fair at Forest Hills High School

Exhibitor Entry Form

All students must complete and return an entry form, if entering an exhibit. One entry form per student.

Title of Project: _____

Student Name: _____ Grade: _____

Student Address: _____

City, State, Zip Code: _____

Home Phone #: _____ Check one: Boy Girl

School District: (if applicable) _____

School Building: _____ Phone #: _____

Sponsoring Teacher: _____

(A student may enter a project without a teacher sponsor.)

Use of electricity is limited to computer exhibits only. If a computer is an essential part of your project, please indicate check here. Bringing a computer as part of exhibit.

Volunteer Section:

Parents and Teachers: Please complete the following if you are willing to volunteer to help with the Science Fair at Saint Francis.

Exhibitor Parent / Teacher's Name: _____
(Circle which applies)

Daytime Phone Number: _____ Home Number: _____

I am willing to help with: (Circle all that apply.) *The time usually involved follows the duty.*

Exhibit Tables Preparation (12:45 pm – 1:45 pm on Friday)

Registration (1 1/2 hour slots on Fri. from 3:00 pm - 7:00 pm)

Information Desk (1 hour slots on Saturday afternoon)

Clean-up (1/2 hour on Saturday)

Volunteers will be contacted prior to the Fair concerning their availability and the day, time period, and duties they will be involved in. Thank-you for your willingness to help.

*This entry form should be typed or neatly printed and in our office by: **Tuesday, April 18, 2006.***

Return Official Entry to:

Appalachia IU 8, Attn: Joan Conway
Central PA Science Fair
4500 Sixth Avenue
Altoona, PA 16602
Fax: 814-949-0984

Questions: Call Joan Conway at 1-814-940-0223 ext. 393 or e-mail jconway@iu08.org