

AKRON
FOSSILS & SCIENCE CENTER'S °

4th Annual



Proceedings Booklet

May 5, 8-12th, 2012

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Akron Fossils & Science Center
2080 S. Cleveland-Massillon Rd.
Copley, Ohio 44321

Notification of Participation (deadline March 31, 2012)

In order to facilitate planning for personnel, judges and space for project entries, we insist that you submit the following by March 31st by using the web form or by mailing the printable PDF form also available on our website at akronfossils.com/sciencefair.

- Project Title
- Brief Project Description
- Contact Information - Name/address/phone/email.
- Project Category
- Description of how project will meet the Objective of the Science Fair.
- Number of participants (single or group entry).
- Age Category - Kindergarten-elementary (K-5 grade), middle school (6-8 grade), high school (9-12 grade), adult-graduate (or over 18 years of age).
- Homeschool Senior? - Please notify us if you are entering the essay contest (please download and fill out the Alicia Cooper Memorial Cash Prize application on our website). You will have to place 1st, 2nd, or 3rd in your category for your essay to be considered.

Science Fair Schedule Overview

1. **3/31/2012** - Deadline for Notification of Participation form
2. **4/21/2012** - Deadline to submit papers (if required by your category), make payment, and submit essay (homeschool seniors only).
3. **5/5/2011** - Entry set up from 10 am to 11:30 am at the Science Center
 - **Noon** - Presentation of projects to judges. Participant should be able to summarize their project and answer judge's questions. **Adults** will be presenting to judges in Sanderson Lecture Hall. Adult presentations will be open to the general public. **Specific time slots** will be assigned to adults prior to May 5th. The overall adult winner will be expected to repeat their presentation at the awards ceremony.
 - **7 pm** - The overall adult winner will be the guest lecturer. Awarding of prizes and certificates to follow.
4. **5/12/2011** - Select projects will remain at the museum until May 12th.

ALL PROJECTS MUST MEET THE OBJECTIVE

Objective

The objective of this science fair is to honor the Creator by acknowledging and giving witness to the presence of design in the created world, by seeking to continually discover and appreciate the fundamental laws of the universe which He set in place, and by bringing to light data consistent with a history of both man and the earth as is revealed in the Scriptures. This science fair is for the purpose of encouraging and showcasing clearly presented and accurately explored scientific inquiries that have met this objective.

Project Categories - Overview

Each project must fall into one of the categories below and exemplify one of the science fair's **Objective**. **Projects not exemplifying the objective will be eliminated from consideration.** Each project will be judged on its ability to excel in criteria applicable to its category. First, second and third place prizes will be presented, as well as certificates of participation. Depending upon the number of registrants, categorical prizes will also be awarded. The current expectation is to have elementary (K-5), middle school (6-8), high school (9-12), and adult (high school graduate or over 18 years of age) categories for single and group entries. **High school homeschool seniors entering the science fair are additionally eligible to compete for a \$500 cash prize from the Alicia Cooper Memorial Fund if they place 1st, 2nd, or 3rd in their category.**

Experiments - Operational Science

Projects in this category must address a unique hypothesis through the use of multiple experiments performed by the participant(s). Some of the experiments must have been performed within the last year (2011/2012). Simple demonstrations of an idea or scientific principle do not belong in this category.

Data Assessment - Historical Research

Projects in the data assessment category involve making use of information that has been gleaned from other researchers to address a unique hypothesis belonging to the participant. All data used must be well referenced and must include the most current data on the topic.

Data Collections

In the world of science, collection of data is often a precursor to experimentation and developing a hypothesis. Careful observation and proper documentation is a vital component of this process. Data collections may be measurements of transient events or examples of objects that have been collected by the participant. Collections must include, but are not limited to, measurements (if transient data) or items (if physical objects) with a portion collected within the past year (2011/2012) by the presenter. Purchased items are not to be the sole source of specimens in a collection for presentation at this fair. Proper documentation includes name of the collector, dates of collecting, and location collected.

Collections must be legally obtained and exemplify good stewardship of the earth's resources. The project must include questions that the participant would like to explore utilizing the collected data.

Data Representation - Communicating Science

Projects in this category may include illustrations, photographs, models, demonstrations, and short films. Entries must present factual information in a unique manner (models made from kits or directions from the internet are not acceptable). Fanciful conjectures are not appropriate for this science fair though creativity may be used in presentation. Models and illustrations must give an indication of scale. The illustration, photograph, model, demonstration, or film will be judged on its accuracy and ability to communicate. Participants must be able to answer questions that illustrate their knowledge about the item. It is also important for the participant to know for which age their project was meant. Judges will look at how well suited the project is for the expected audience.

Age considerations - Participation in this science fair is not limited by age, but age of the entrants will be taken into consideration during judging.

Project Categories - Details

Read the information below for the category you have chosen. Be sure your project meets all the criteria listed in the proceedings booklet for your category and the OBJECTIVE of this science fair.

Experiments - Operational Science

Size: Entry projects must not be any larger than 2 ½ feet (deep) by 3 feet wide unless arrangements are made with the museum.

Should include:

- A trifold presentation board with title, pictures, tables, or other summary information
- The notebook in which raw data was kept
- A typed copy of the presentation (a copy must be emailed or otherwise sent to the museum by Saturday April 21, 2012)
- Samples of data

Raw Data Notebook

While considering the ages of the participants, judges will be examining the raw data notebook for good laboratory practices such as recording of units with proper representation of instrument precision, no erasures or obliterations of mistakes (except single line strikeouts), and recording of dates that experiments were performed.

Typed Copy of Presentation

Unlike the raw data notebook, the typed copy of the presentation should be without errors. It should have:

- Title
- Abstract
- Names of presenters
- Purpose
- Hypothesis
- Materials and Methods used
- Summary of Data
- Discussion of Data
- Conclusion
- Bibliography

Judging

Experiments will be judged on good record keeping, clear presentation of data, clarity of the hypothesis, appropriateness of the experiment for exploring the hypothesis, sufficient quantity of repetitive trials, and honest assessment of the experiment in the conclusion statement. Assessments will also include the participant's ability to demonstrate his or her knowledge of the subject matter to the judges as he or she is questioned. Uniqueness of the hypothesis and creativity in experimental design will help judges decide between entries which are similar in nature. Application to the science fair objective is also very important.

Data Assessment - Historical Research

Size

Entry projects must not be any larger than 2 ½ feet (deep) by 3 feet wide unless arrangements have been made with the museum.

Should include

- A trifold presentation board with title, pictures, tables, or other summary information
- Sample journals or computer printouts in which raw data was collected, indicating all citations
- A typed copy of the presentation (a copy must be emailed or otherwise sent to the museum by Saturday April 21, 2012)

Typed Copy of Presentation should include the following:

- Title
- Abstract
- Names of presenters
- Purpose

- Hypothesis
- Data sources used acknowledging all collectors of original information.
- Summary of Data
- Discussion of Data
- Conclusion
- Bibliography of source materials

Judging

Data Assessment - Historical Research entries will be judged by the completeness of their paper trail of acknowledgments, the logic of their argument in supporting their hypothesis, the variety and dependability of the sources utilized, and the honesty by which they assess their ability to draw a conclusion at this time. Uniqueness of the hypothesis and thoroughness in finding sources will help judges decide between technically competitive entries. Application to the science fair objective is also very important.

Data Collections

Size

Entry projects must not be any larger than 2 ½ feet (deep) by 3 feet wide unless arrangements have been made with the museum.

Please Note: Only lawfully obtained items may be presented in collections. Please be aware that there are many items that are unlawful to collect or restricted as to where you can collect. Many times letters of permission from landowners are a necessary part of record keeping. Please check with the Ohio Department of Natural Resources (ODNR) for details.

Should include

- A trifold presentation board with title, pictures, tables, or other summary information
- Original record keeping book or book.
- Representative collection samples - well marked
- A typed copy of record summary for presentation (a copy must be emailed or otherwise sent to the museum by Saturday April 21, 2012)

Raw Data Notebook

While considering the ages of the participants, judges will examine the original record keeping notebooks for good laboratory practices such as recording of units with proper representation of instrument precision, no erasures or obliterations of mistakes (except single line strikeouts), and recording of dates that items are collected or data is taken.

Typed copy - Summary

A typed summary would include a list of objects collected with any identifications that were able to be made as well as dates, locations, and collectors' names.

A list of observations about the collection and or questions that were precipitated during the collecting process should be listed. Possible future assessments of the data should be listed.

Judging

Collections will be judged based on the size of their collections, the completeness and accuracy of their records, ability to compare and contrast given samples, and reasonableness and creativity of their precipitated questions and possible hypothesis to explore. Transient data collections such as weather observations or traffic counts, etc., will be additionally assessed on how much and how often such data was taken. Application to the science fair objective is also very important.

Data Representation - Communicating Science

Size

Entry projects must not be any larger than 3 feet wide without special arrangements made with the museum. Films must be less than 15 minutes in length. It is also important for the participant to know for which age their project was meant. Judges will look at how well suited the project is for the expected audience.

Should include

- A title placard with name of the creator
- The model, illustration or film for viewing
 - For models - a typed presentation of how the model was made, what it is exemplifying, and how it supports the **Objectives** of this fair. A bibliography of sources and source photographs must be made available (a copy must be emailed or otherwise sent to the museum by Saturday April 21, 2012).
 - For illustrations - any supportive information of where the illustrated item was from and how it exemplifies the **Objectives** of this fair. Illustrations must be original work.
 - For films - detailed information on the item being filmed, the date filmed, and how it exemplifies the **Objectives** of this fair.
 - For demonstrations - detailed information on the principle being communicated must be presented in both written and verbal form (a copy must be emailed or otherwise sent to the museum by Saturday April 21, 2012).

Judging

Models, illustrations, photographs, demonstrations, and films will be judged according to their ability to communicate the **Objectives** of the fair and the topic clearly and accurately. Participants will also be judged on their knowledge of their subject. Errors and lack of detail will subtract from the assessment. Using kits is prohibited. Models must be obviously made with raw materials by the presenter though small electrical parts may be purchased.

Illustrations and photographs must be original work. Films must be original film footage by the presenter. Demonstrations must show originality of the presenter.

Limitations for All Projects

Electrical outlets are *not* guaranteed, but please tell us if you would like one so that we can do our best to accommodate your project.

Presentation displays and demonstrations may not include any harmful chemicals, electrical hazards, or explosives. All animals are to be humanely treated. Only lawfully obtained items may be presented in collections. Please note that there are many items that are unlawful to collect, or restricted as to where you can collect. Please check with the Ohio Department of Natural Resources (ODNR) for details.

Entry Fees*

Group project (1 entry): \$35

Individual participant entry: \$20

Maximum cost per family: \$50

*Entry fees can be paid securely online by PayPal at akronfossils.com, or over the phone with Visa, MasterCard, or Discover credit cards. Please make checks payable to: Akron Fossils & Science Center.

Akron Fossils & Science Center
Attn: Cindy Julius
2080 S. Cleveland-Massillon Rd.
Copley, Ohio 44321

Tel. (330) 665-DINO (3466)

Fax: 330-665-4281

E-mail: cindyjulius@akronfossils.com

Website: www.akronfossils.com/sciencefair