

AKRON  
FOSSILS & SCIENCE CENTER'S °

# Science Fair Proceedings Booklet

This document was last  
updated on 1/6/2017.

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

## Notification of Participation

In order to facilitate planning for personnel, judges, and space for project entries, we ask that you submit a registration form available on our website at [akronfossils.com/sciencefair](http://akronfossils.com/sciencefair). Notifications are accepted January through April each year.

- Project Title
- Brief Project Description
- Contact Information - Name/address/phone/email.
- Project Category
- Number of participants (single or group entry).
- Age Category - Elementary (K-5 grade), Middle School (6-8 grade), High School (9-12 grade), Adult-Graduate (or over 18 years of age).

## Science Fair Schedule Overview

1. January through April - Notification of Participation
2. The Day of Science Fair
  - Sign-In and Set-up from 10 to 11:30a.m.
  - 11:30a.m. -12:30p.m. Presentations and Judging of those participating in the Elementary category. Participants should be able to summarize their project and answer judge's questions.
  - 12:30p.m. -1:30p.m. Presentations and Judging of those participating in the Elementary category.
  - 1:30p.m. -2:30p.m. Presentations and Judging of those participating in the Jr High, High School, and Adult categories.
  - 2:30p.m. -3:30p.m. Judges Tallying
  - 3:30p.m. - 4:30p.m. Judges Tallying
  - 4:30p.m - 5:00p.m. Awards and Prizes

## What is a Science Fair?

A science fair is an opportunity for students to apply the scientific method to conduct independent research. The results of each student's research is showcased in a visual presentation, along with an interview by judges to determine scientific merit. Students who have been found to have used the scientific method properly and who have demonstrated thoroughness in their studies and effort are awarded prizes.

## Project Categories - Overview

Each project must fall into one of the four categories.

### 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. 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 - Research Compilation

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 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 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.

## Project Categories - Details

### Experiments - Operational Science

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
- 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.

### Data Assessment - Historical Research

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

**Typed Copy of Presentation should include the following:**

- Title
- Abstract
- Names of presenter(s)
- Purpose
- Hypothesis
- Data sources used to acknowledge 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.

**Data Collections - Research Compilation****Should include**

- A trifold presentation board with title, pictures, tables, or other summary information
- Original record keeping book or books.
- Representative collection samples - well marked
- A typed copy of record summary for presentation

**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.

***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.*

**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.

## **Data Representation - Communicating Science**

### **Should include**

- A trifold presentation board with title, pictures, and other studied information
- Original record keeping notebook.
- A typed copy of record summary
- A model, illustration, or film for viewing
  - For models - a typed presentation of how the model was made and what it is exemplifying along with a bibliography of sources.
  - For illustrations - any supportive information of where the illustrated item was from.
  - For films - detailed information on the item being filmed, the date filmed, and how it applies to the topic.
  - For demonstrations - detailed information on the principle being communicated must be presented in both written and verbal form.

### **Judging**

Models, illustrations, photographs, demonstrations, and films will be judged according to their ability to communicate the science. Participants will also be judged on their knowledge of their subject. Errors and lack of detail will subtract from the assessment. Models must be obviously made with raw materials by the presenter though small electrical parts may be purchased.

## **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.