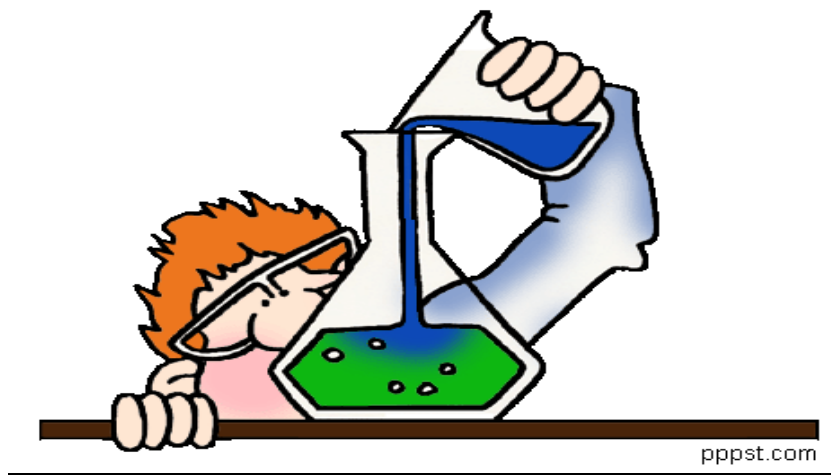


2016 - 2017

# Beaver Creek Science Fair



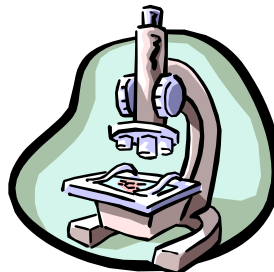
## Beaver Creek Elementary Science Fair Information

Projects for the Beaver Creek Science Fair are due on **Tuesday, February 7th, 2017** with the judging taking place that day. Students can present their projects during the day to classmates on Wednesday. The awards ceremony will be held on the evening of **Wednesday, February 8th**.

- At the Beaver Creek Fair, students will be interviewed by judges. The judges will be looking at the following categories: visual presentation, thoroughness, difficulty, originality, purpose, scientific thought, and interview skills.
- You may locate the steps for the scientific method in the Science Fair PowerPoint on the Beaver Creek Website on the Science Fair link.
- **Students in 4<sup>th</sup> and 5<sup>th</sup> grades are required to have** a research plan (prior to any experimentation), a log book (kept before, during and after experimentation), and an abstract (written after experimentation and to be placed on the top left hand corner of the display board). Definitions for these items, how-to's and examples of each, can be found in the Science Fair PowerPoint on the Beaver Creek Website.
- Names should be on the **back** of the project. Photographs should only be used to show the science involved in the project. Anyone other than the student in a photograph must have their face covered.
- Displays, such as a rock collection or a volcano, CANNOT be considered for advancement to the County level.
- NO Food items may be present on your board, including wrappers. If necessary, take photographs. NO plants will be allowed.
- The best types of projects can be folded up and carried under a student's arm. If necessary, you may include a photo book of your experimentation process.
- The Chester County Science Research Competition on Tuesday, March 7th is for the top projects from 4<sup>th</sup> & 5<sup>th</sup> grades.

**\*\*PLEASE CONTINUE TO REFERENCE THE SCIENCE FAIR POWERPOINT ON THE BEAVER CREEK WEBSITE AS IT HAS ALL INFORMATION AND RESOURCES TO SUCCESSFULLY COMPLETE A SCIENCE FAIR PROJECT.**

If you have any further questions, please contact Miss Wetzel (awetzel@dasd.org), the Beaver Creek Elementary School Coordinator for the fair.



## REQUIREMENTS FOR EVERYONE

**For your child's safety, everyone must have approval by turning in the following forms to Miss Wetzel to review, PRIOR TO ANY EXPERIMENTATION. These forms MUST be typed, no handwritten forms will be accepted. All of the forms can be accessed from the Beaver Creek Website located at the bottom of the Science Fair link from our homepage. The PDF document is entitled "Science Fair Form". Most projects only require Forms 1, 1A and 1B and the signature form, which are the first pages of the PDF. These forms can be directly typed on and then printed.**

1. Checklist for Adult Sponsor (1)
2. Student Checklist (1A)
3. Research Plan. This should be typed and attached to Student Checklist (1A). Instructions can be found on the second page of Form (1A).
4. Approval Form (1B)

\*\*After all of the above materials are turned in and reviewed, your child will receive a notice that he/she may proceed with the project.

### **If your proposed project involves:**

HUMAN SUBJECTS (in any matter at all, including survey, test or observation):

- The project must be approved by the IRB (Institutional Review Board).
- In addition to required forms 1, 1A and 1B you will need to fill out the Human Subjects Form 4, *which must be handed in and approved before you start the project.*
- All human subjects in project will need to fill out a Human Informed Consent form.

### **Your project MAY NOT include:**

- CONTROLLED SUBSTANCES
- PATHOGENIC AGENTS
- RECOMBINANT DNA
- HUMAN OR ANIMAL TISSUE
- EXPERIMENTS INVOLVING MOLD

4<sup>th</sup> and 5<sup>th</sup> graders having top projects will be invited to participate in the Chester County Science Research Competition on March 7, 2017. Students wishing to participate must adhere closely to the regulations to avoid having to remove portions from their exhibits and/or disqualification.

**Attention 4<sup>th</sup> and 5<sup>th</sup> Grade**  
**Don't forget to include the following:**

1. **Research plan** (written **before** experimentation begins and approved by Miss Wetzel)
  - Fill out form 1A and attach a typed plan to page 30 with the following
    - Problem or question being addressed
    - Hypothesis
    - Description in detail of method or procedure
    - Bibliography
  
2. **Log Book or Data Book** (used before, during and after experimentation-should be hand written)
  
3. **Abstract** (250 typed words or less, written **after** experimentation)
  - Include the following and mount in the upper left hand corner of the display board
    - Purpose of experiment
    - Procedures used
    - Data
    - Conclusions
  
  - **A separate copy of the abstract must be included for submission to the Chester County Research and Science Competition.**

## Science Fair Website Resources

Accessing Science Fair **Forms** and **Rules**:

1. Go to [www.societyforscience.org](http://www.societyforscience.org)
2. Select "Intel ISEF" from the menu
3. On Related Links section click on "Intel ISEF Affiliated Fairs"
4. On the left, select "Rules, Forms and Resources"
5. Select "Forms" from drop down menu
6. Under "Forms" you can open the individual forms needed for the various types of student projects
7. For a full list of the science Fair rules follow steps 1 – 4, then select "Rules"

Science Fair Project Resource Guide

[www.ipl.org/youth/projectguide/](http://www.ipl.org/youth/projectguide/)

Discovery Education

<http://school.discoveryeducation.com/sciencefaircentral/>

All Science Fair Projects

[www.all-science-fair-projects.com](http://www.all-science-fair-projects.com)

Science Project

[www.scienceproject.com](http://www.scienceproject.com)

Science Buddies

[www.sciencebuddies.com](http://www.sciencebuddies.com)

Science Fair Ideas

<http://education.com/science-fair/>

Science Fair Adventure

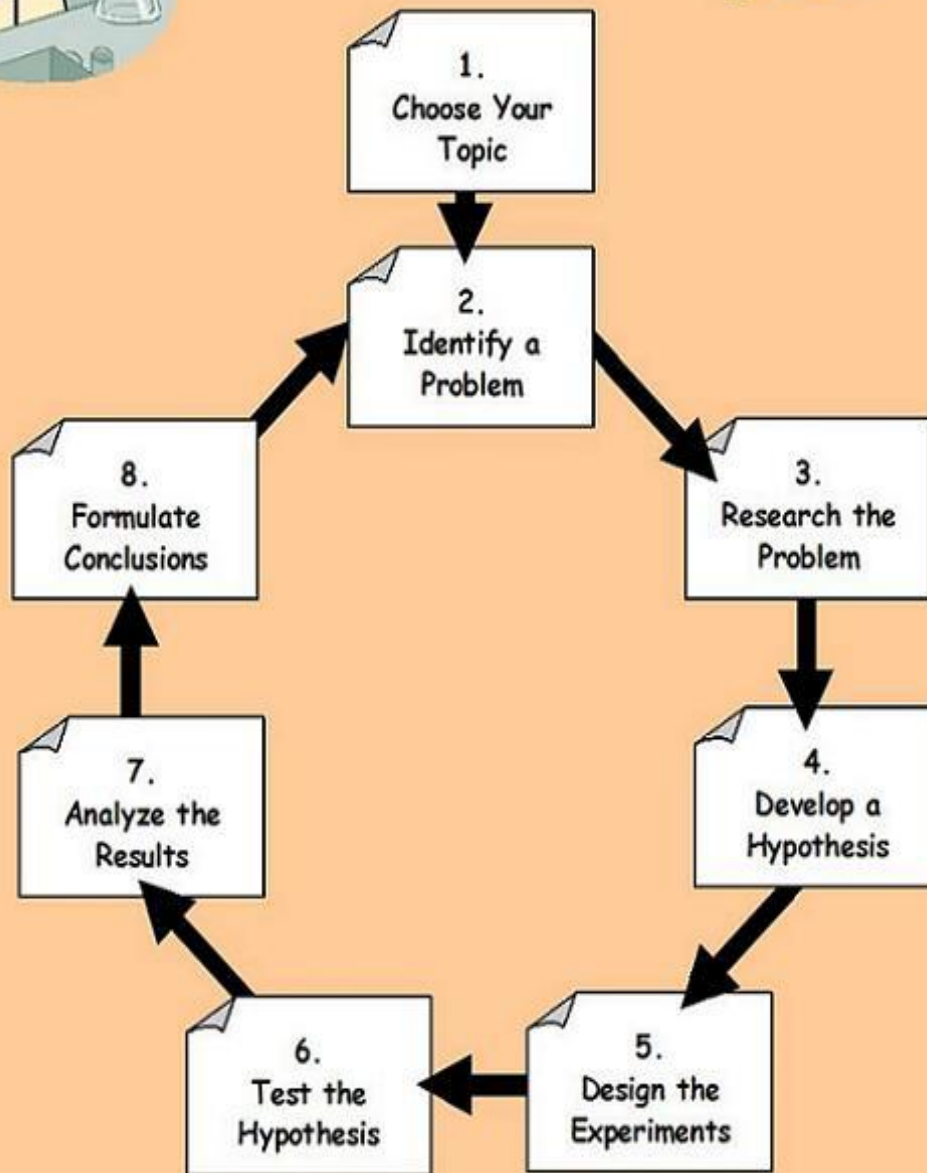
<http://www.sciencefairadventure.com/Default.aspx>



\*These sites were accessible when checked in October 2016.



# The Scientific Project Flow Chart



**Beaver Creek Elementary School**  
**Science Fair Judging Sheet**

Project Number \_\_\_\_\_

**Creativity:** Does the project demonstrate curiosity, originality and ingenuity in the design and development of the project and the display?

1    2    3    4    5    6    7    8    9    10

**Scientific Thought:** Is the topic or problem an appropriate subject for scientific investigation? Is the problem stated clearly? Is it sufficiently narrow? Is the method of investigation appropriate to the problem? Have variables been eliminated, controls been made and results checked? Does the data collected justify the conclusion made?

1    2    3    4    5    6    7    8    9    10

**Thoroughness:** Is the project the result of careful planning? Does the project indicate a thorough understanding of the chosen topic? Is all the information accurate? Does the notebook (4<sup>th</sup> & 5<sup>th</sup> grade) sufficiently document the student's work? Has sufficient data been collected? Does the display represent the complete story?

1    2    3    4    5    6    7    8    9    10

**Skill:** Does the project reflect the student's own work? Is the project sturdy and well-constructed? Is all equipment used within the student's level of understanding or expertise? Does the project meet safety requirements?

1    2    3    4    5    6    7    8    9    10

**Clarity:** Is the project self-explanatory? Can the average person understand it? Are all lettering, signs, and diagrams neat, accurate, and appropriately used? Are the visual aids an asset to understanding the project or do they clutter or confuse?

1    2    3    4    5    6    7    8    9    10

**Interview:** Is the student able to clearly explain the procedure and results? Is he/she able to answer questions about the project in depth?

1    2    3    4    5    6    7    8    9    10

**Additional Comments:**

## Category Descriptions

### **Behavioral and Social Sciences:**

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:**

Chemistry of life processes—cell biology, molecular genetics, enzymes, photosynthesis, blood chemistry, protein chemistry, food chemistry, hormones, etc.

### **Botany:**

Study of plant life—agriculture, agronomy, horticulture, forestry, plant taxonomy, plant physiology, plant pathology, plant genetics, hydroponics, algae, etc.

### **Chemistry:**

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:**

Study and development of computer software, software engineering, Internet networking and communications, graphics (including human interface), simulations/virtual reality or computational science (including data structures, encryption, coding and information theory)

### **Consumer Science:**

The science of the normal use of consumer products including product testing and comparison. Only applies to students in grades 4-8 for CCSRC and grades 6-8 for DVSF.

### **Earth and Space Sciences:**

Geology, mineralogy, physiography, oceanography, meteorology, climatology, speleology, seismology, geography, astronomy, planetary science, etc.

### **Engineering:**

Technology; projects that directly apply scientific principles to manufacturing and practical uses—civil, mechanical, aeronautical, chemical, electrical, photographic, sound, automotive, marine, heating and refrigerating, transportation, environmental engineering, etc.

### **Environmental Sciences:**

Study of pollution (air, water, and land) sources and their control; ecology.

### **Mathematics:**

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, and probability.



**Medicine and Health:**

Study of diseases and health of humans —dentistry, pharmacology, pathology, ophthalmology, nutrition, sanitation, dermatology, allergies, speech and hearing, etc.

**Microbiology:**

Biology of microorganisms—bacteriology, virology, protozoology, fungi, bacterial genetics, yeast, etc.

**Physics:**

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.

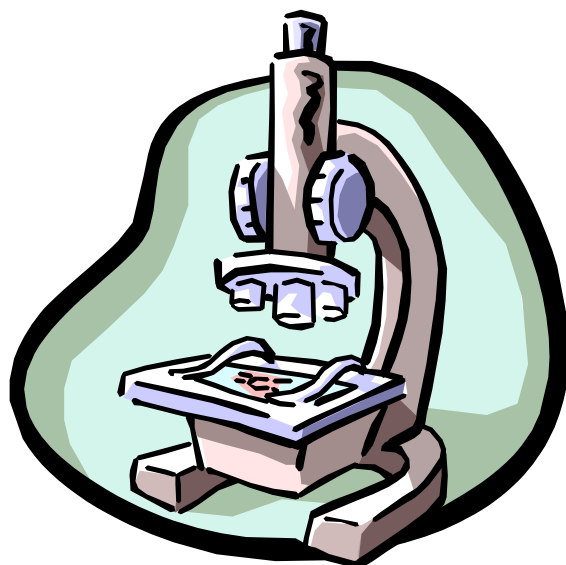
**Zoology:**

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.

**Team Projects:**

Projects can be in any of the scientific areas list above. Team projects are judged with all other Team projects. They do not compete with individual projects in the categories listed above.

## Attention Science Fair PARTICIPANTS!



We have purchased tri-fold project boards in bulk. If you would like one, just send in \$1.00 (a real bargain) and tell us which color you would like. Only a limited number are available! Just stop by the office to buy one. If you are attending the Science Family Fun Night, you will be able to take one home at no cost!!

Please list in order of preference with one being your first choice and four being your last choice:

Red \_\_\_\_

Yellow \_\_\_\_

Blue \_\_\_\_

Green \_\_\_\_

Your Name: \_\_\_\_\_

Your Teacher's Name: \_\_\_\_\_

Good luck,  
Miss Wetzel