



Rilke Schule Science Fair Guidelines

All students in fourth through eighth grade are required to do an experiment for the science fair. These students will receive grades for their projects and will have time to work on their write-ups in class. These students must submit a proposal to their teacher for their experiments. Individual teachers will guide students through the process with deadlines and class-time for work.

Students in third grade are encouraged, but not required, to enter a project in the science fair. Third grade students may do an experiment or submit a demonstration project.

Kindergarten through second grade students are also invited to participate in the science fair with an experiment, demonstration, or collection project.

All students will be recognized for their participation. All projects will be judged, and grade level first through third places, as well as one school grand prize, will be awarded.

All projects will be held to the rules for the Alaska Science and Engineering Fair.

Displays may NOT contain the following:

- Live animals
- Food materials
- Soil, solutions, chemicals, household products or water, dry ice or other sublimating solids. Display of clean, empty containers is acceptable
- Drugs or drug look-alikes
- Microorganisms, algae, mold, bacteria or protozoans
- Preserved animal parts (Teeth, fingernails, feathers, hair and bones may be okay if preserved and sealed in plastic)
- Exposed electrical apparatus or open batteries; wiring must be insulated
- Flammable gases or open flames
- Unshielded fans, lightbulbs, belts, pulleys, chains or moving parts with tension or pinch points
- Photos of animals in surgical or lab procedures
- Sharp items such as needles, scissors, or glass tubing, syringes, pipettes
- Awards, medals, flags, or business cards
- Operation of class III or IV lasers

Other display criteria:

- Project must be freestanding
- Project size under 30"x48"x108" (depth, width, height)
- Displays producing high temperatures must be insulated from surroundings
- High voltage equipment must have grounded metal shield or cage, high voltage wiring, switches, etc must have insulation and overload safety
- 110 volt AC circuits must have UL approved cord (9' minimum) and grounded plug
- Bare wire and knife switches used only on circuits of 12 volts or less
- Large vacuum tubes and ray generating devices must be shielded

Science Fair Resources

Alaska State Science Fair, March 21 - 23.

Rules and Regulations

<http://alaskasciencefair.org/>

Overall science fair reference guide

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

The Scientific Method

http://www.sciencebuddies.org/mentoring/project_scientific_method.shtml

Great overall science project resource

http://www.sciencebuddies.org/science-fair-projects/project_guide_index.shtml

Set of Worksheets to lead a student step by step through a science project

http://www.pnm.com/sciencefair/doc/project_worksheets.pdf

General Science Fair Guidelines

<http://sciencefairproject.virtualave.net/>

Great tips on finding the "right" question. Deciding on a question that is interesting and testable is one of the most difficult steps in doing a science fair project.

<http://faculty.washington.edu/chudler/fair.html>

Examples of Questions that can be tested and measured.

<http://mps.k12.vt.us/msms/sfair/sfquestions.htm>

Science Fair Survival page and related websites

http://www.ri.net/schools/East_Greenwich/Cole/sciencefair.html

Guide to writing an abstract

<http://www.williamsclass.com/ScienceFair/ScienceFairAbstract.htm>

THE 5 STEP SCIENTIFIC METHOD

1. STATE THE PROBLEM CLEARLY
 - A. Form a question
 - B. Make observations
 - C. Make inferences
 - D. Conduct background research
2. FORM A HYPOTHESIS
 - A. Make an educated guess
 - B. Propose your solution
 - C. Use reasoning and logic to back-up your opinion
3. EXPERIMENTATION
 - A. List your materials
 - B. List your procedures
 - C. Make sure you identify and label your control
 - D. Identify and label your variables
 - E. Repetition: Repeat your experiment many, many times for accuracy
 - F. State your results
4. COLLECTING AND INTERPRETING DATA
 - A. All data must be collected and interpreted based on facts from the experiment
 - B. Construct a data table
 - C. Construct a data graph } from information gathered during the experiment and based on results
5. FORM A CONCLUSION BASED ON THE COLLECTED DATA
 - A. Determine if your experiment proves the hypothesis true or false
 - B. Write a brief paragraph stating what you have learned
 - C. If your data does not agree with the hypothesis, then form a new hypothesis and re-test if time allows
 - D. In general, when you get to this point, you should write a summary describing all you have learned



I PROPOSE

the following investigation for my

SCIENCE FAIR PROJECT



Project Title: _____

QUESTION (What I want to find out.)

HYPOTHESIS (What I think will be the answer to my question.)

PROCEDURE (How I will test my hypothesis.)

Materials Needed: _____

Step-By-Step Directions: (Number each step.)
