

SCIENCE FAIR

DISPLAY AND SAFETY RULES

1. CATEGORIES:

Categories established for grouping and judging science research projects at MINERAL AREA COLLEGE are:

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| (1) Behavioral & Social Sciences | (4) Computer Science | (7) Mathematics |
| (2) Biology | (5) Earth Sciences | (8) Physics |
| (3) Chemistry | (6) Engineering | (9) Product Testing |

2. RESEARCH PROJECTS:

1. A finalist may enter only one research project and it must be the student's own work. Group research is accepted at the MINERAL AREA COLLEGE SCIENCE FAIR, however a **maximum of two students per research project** is allowed.
2. The identical repetition of a previous year's work is not permitted. However, a finalist may again exhibit research on a continuing problem provided the research shows significant progress when compared with the previous year.

3. SIZE:

Exhibit size is limited to 76 cm deep, front to back, 122 cm wide, side by side and 274 cm high, floor to top. (Tables are 76 cm high). Any exhibit exceeding these dimensions will be disqualified at the MINERAL AREA COLLEGE SCIENCE FAIR.

4. WRITTEN MATERIAL:

A paper describing the research, notebooks, computer programs, or other relevant written materials are encouraged and may be displayed.

5. ANIMAL DISPLAYS (Vertebrate or Invertebrate):

No live animals or microbes, preserved vertebrate animals or parts including embryos, may be exhibited at the MACSF. Research involving use of animals or microbes may display drawings, photographs, charts, or graphs to illustrate the conditions, developments, and results of the investigations. **Absolutely no experiments may involve exposure of vertebrate embryos to teratogenic or toxic chemicals.** Sealed insect collections will be permitted on display. Photographs and other visual presentations of surgical techniques, dissection, autopsies and/or other laboratory techniques depicting vertebrate animals in other than normal conditions, may not be displayed on the student's exhibit, but may be contained in an accompanying notebook or shown during judging.

6. HUMAN TISSUE:

The exhibition of human parts is prohibited except: teeth, hair, nails, histological sections and liquid tissue slides properly acquired.

7. POWER:

Normally, 110-volt AC, single phase service with 500 watts per exhibit will be available. Overhead lighting of the exhibit hall is excellent, and except for any highlighting that a finalist may desire, general illumination is unnecessary.

8. Exhibitors will furnish their own grounded electrical extension cords as necessary to reach power connections.

9. ASSEMBLY:

Each finalist must assemble their exhibit without major outside help, except for transportation and unpacking.

10. SAFETY:

A. Anything which could be hazardous to public display is **PROHIBITED**.

- Live disease-causing organisms which are pathogenic to man or other vertebrates.
- Microbial cultures and fungi, live or dead.
- Any flames, open or concealed.
- Highly flammable display materials.
- Dangerous chemicals including caustics and acids.
- Highly combustible solids, fluids, or gases. Inert substitutes must be used if such materials are required for the display.
- Tanks which have contained combustible gases, including butane and propane, unless they've been purged with carbon dioxide.
- Any drug listed under the Comprehensive Drug Abuse Prevention and Control Act of 1970, Public Law 91-513, 91st Congress, H.R. 18533, Oct. 27, 1970, as amended.
- Operation of a Class III or IV Laser.
- Experiments involving use of explosive materials. For example, experiments involving potato guns will not be allowed.**

B. Proper attention to safety is expected of all Science Fair participants, including compliance with the following requirements for all operating exhibits:

- Any exhibit producing temperatures exceeding 100EC (212EF) must be adequately insulated from its surroundings.
- Batteries with open top cells are not permitted. Other types of batteries may be used for electric power.
- High voltage equipment must be shielded with a grounded metal box or cage to prevent accidental contact.
- Large vacuum tubes or dangerous ray-generating devices must be properly shielded.
- High voltage wiring, switches and metal parts must be located out of reach of observers and designed with an adequate overload safety factor.
- Electric circuits for 110-volt AC must have an Underwriters laboratories approved cord of proper load-carrying capacity, which is at least six feet long and equipped with a standard grounded plug.
- All wiring must be properly insulated. Nails, tacks or uninsulated staples must not be used to fasten wiring.
- Bare wire and exposed knife switches may be used only on circuits of 12 volts or less; otherwise standard enclosed switches are required.
- Electrical connections in 110-volt circuits must be soldered or fixed under approved connectors and connecting wires properly insulated.
- Safety precautions for substances in the American Chemical Society (1155 - 16th St. N.W., Washington, DC 20036), booklet "**A Safety in Academic Chemistry Laboratories**".

11. Each research exhibit will be examined to ensure that it conforms to the MACSF Rules for display size, quarantine, safety, animal research, human subjects, and recombinant DNA. Exhibitors not conforming will be disqualified, and the exhibit must be removed. No changes, modifications or additions to exhibits may be made after approval by the Display and Safety committee and the Scientific Review Committee.