

## AISA SCIENCE FAIR

### A. GENERAL INFORMATION

1. Grade Divisions for competition
  - A. Elementary (3-6)
  - B. Junior High (7-8)
  - C. Senior High (9-12)

**NOTE: FOR THE DISTRICT SCIENCE FAIR, DISTRICTS 1 & 2 WILL BE COMBINED AND DISTRICTS 5 & 7 WILL BE COMBINED AS ONE DISTRICT CONTEST.**

2. AISA Science Fair Objectives:

AISA suggested objectives for each school and science student.

The purpose of the science fair is:

- a. To help students develop an appreciation for scientific discovery.
- b. To help students achieve the joy of discovery through the use of scientific methods.
- c. To give students the maximum latitude to exercise their own natural creativity and originality.
- d. To help students experience the discipline of tackling a worthwhile project and carrying it to a valid conclusion.
- e. To ensure that the students learn the scientific principles involved in their projects.
- f. To allow students to communicate their research in written form, and their valid conclusions in display and/or oral form.
- g. To better prepare the student to meet our technical environment as a college student and as an adult.
- h. To elevate our science curriculum to a higher learner level.
- i. To provide increased opportunities for community awareness of the school's academic standards and achievement.

AISA policy and procedures will be followed in organizing and operating all science fairs at the local, district, and state levels. This should

eliminate problems at district and state and above all, assist students in doing their research, performing their experiments, and preparing their projects. There is a local and district option concerning the requirement of research papers at the local and district levels.

3. Member schools should conduct their own local fair as close to the scheduled date of their district fair as possible. Districts should hold their competition no later than one week prior to the State Fair. The specific date is given on the AISA State Calendar. Students should be encouraged to improve their projects between levels of competition.
4. Each district coordinator is required to complete the attached State entry form and FAX it to the AISA office on the day of the district fair. Entries by phone will not be accepted. It is recommended that districts follow the same policy with their schools.
5. Each project must be the work of the individual student. A student can enter only one project each year in AISA competition. Group projects are not authorized at any level.
6. Each student must plan and prepare his/her own project. A student is encouraged to seek advice, but not actual "hands on" assistance from teachers or professionally and/or technically trained individuals.
7. A research paper and a one page abstract must accompany each project entered in the state AISA Science Fair in grades 7-12. These documents are optional in grades 3-6 in local, district, and state competition. The research paper is optional in grades 7-12 at the local and district levels.
  - (A) The research paper should include the following:
    - (1) Title.
    - (2) Explanation of research procedures.
    - (3) A discussion of the problem and hypothesis investigated.
    - (4) A summary of related research (with documentation) and background information.
    - (5) A summary of the experimental research (experimentation) of the project.
    - (6) Bibliography.
    - (7) All typed paper will be double spaced.

- (B) The abstract is a one page summary (typewritten) of the project. The title, hypothesis, findings, and conclusion are summarized.
  - (C) The teacher is expected to ensure that the student has followed AISA rules in doing the project, writing the paper, and writing the abstract. However, the paper and abstract may be typed by someone else.
8. Projects must be confined to floor or table space not to exceed four feet from side to side and 36 inches front to back. Projects over 9 feet high, floor to top, will be disqualified, as well as those exceeding width and depth requirements. Students must provide their own tables.
  9. Projects must be self-supporting and durably constructed. Use of wall space for posters, charts, etc., is prohibited. Each participant is expected to supply the table for his/her project at the State Fair.
  10. All projects shall remain anonymous until after judging is completed. No names (student, teacher, or school) or other personal identification may appear on project or papers that are displayed. The required Science Fair Form statement must be placed on the back of the project.
  11. All wiring, switches, and metal parts that carry large electrical current or high voltage must be located out of reach of observers. Open knife switches or doorbell push buttons may not be used in 120 volt circuits. Electrical apparatus must be constructed according to standard electrical safety laws. If in doubt, consult a competent electrician.
  12. Specific guidelines related to display and safety regulations follow. These guidelines are followed at the International Science Fair, and they are essential for the protection of students, teachers, AISA schools, and the AISA organization. Students are encouraged to make pictures, do charts, construct graphs, and engage in many other scientific procedures as they collect and present data (without displaying bacteria, plants, water, dirt, chemicals, and/or other potentially dangerous components of exhibits).
  13. **DISPLAY AND SAFETY REGULATIONS**
    - (A) **UNACCEPTABLE FOR DISPLAY**
      - (1) living organisms (e.g., plants, animals, microbes)
      - (2) dried plant materials
      - (3) taxidermy specimens or parts
      - (4) preserved vertebrate or invertebrate animals (includes embryos)

- (5) human or animal food
- (6) human/animal parts (Exceptions: teeth, hair, nails, dried animal bones, histological dry mount sections, and wet mount tissue slide)
- (7) soil or waste samples
- (8) chemicals, including water
- (9) poisons, drugs, controlled substances, hazardous substances or devices (i.e., firearms, weapons, ammunition, reloading devices)
- (10) dry ice or other sublimating solids (i.e., solids which vaporize to a gas without passing through a liquid phase)
- (11) sharp items (i.e., syringes, needles, pipettes)
- (12) flames or highly flammable display materials
- (13) empty tanks that previously contained combustible liquids or gases, UNLESS purged with carbon dioxide
- (14) batteries with open top cells
- (15) awards, medals, business cards, flags, etc.
- (16) hand-outs to judges must be limited to one page narratives related to the essentials of this year's project. Personal photographs, accomplishments, acknowledgments, addresses, and phone and fax numbers are not permitted.
- (17) photographs or other visual presentations depicting vertebrate animals in other-than-normal conditions (i.e., surgical techniques, dissection, necropsies, or other lab techniques)
- (18) If photographs are used to present data, NO faces of people can be shown. (If a person is in the photograph, the face must be covered in the exhibit.)

(B) **ACCEPTABLE FOR DISPLAY ONLY** (cannot be operated)

- (1) projects with unshielded belts, pulleys, chains, and moving parts with tension or pinch points
- (2) class III and IV lasers

(3) any device requiring voltage over 120 volts

(C) **ACCEPTABLE FOR DISPLAY AND OPERATION** (with restrictions)

(1) Class II lasers

(a) must be student-operated

(b) posted sign must read "Laser Radiation: Do Not Stare Into Beam"

(c) must have protective housing that prevents access to beam

(d) must be disconnected when not operating

(2) Large vacuum tubes or dangerous ray-generating devices must be properly shielded.

(3) Pressurized tanks that contained noncombustible may be allowed if properly secured.

(4) Any apparatus producing temperatures that will cause physical burns must be insulated adequately.

(5) High-voltage equipment must be shielded with a grounded metal box or cage to prevent accidental contact.

(6) High-voltage wiring, switches, and metal parts must have adequate insulation and overload safety factors, and must be inaccessible to others.

(7) Electric circuits for 120-volt AC must have a nine-foot (minimum) cord. The cord must have sufficient load-carrying capacity and be approved by Underwriters Laboratories.

(8) Electric connections in 120-volt circuits must be soldered or made with approved connectors. Connecting wires must be insulated. Voltage greater than 120 volts is not permitted.

(9) Bare wire and exposed knife switches may be used only in circuits of 12 volts or less; otherwise, standard enclosed switches are required.

(D) **SIZE OF DISPLAY**

(1) 91 cm (36 in) deep

(2) 122 cm (48 in) wide

(3) 274 cm (108 in) high including table

## B. CATEGORIES

1. There will be two basic categories for all three grade division.
  - (A) Biological Sciences: To include Botany, Zoology, Health and medicine, Microbiology and Protists, Behavioral and Social Sciences, Taxonomy and Bio-chemistry.
  - (B) Physical Sciences: To include Physics, Engineering, Chemistry, Mathematics, Earth and Space Sciences, Computer Science, and Bio-chemistry.
2. For local and district level competition, a degree of flexibility may be exercised in the senior high division, but no other divisions. In the senior high division, the coordinator may desire to categorize entries in the specific areas of Math, Physics, and Chemistry. If those entries are then selected at district level for the State Fair, they must be properly relabeled either Biological science project or Physical science project, in accordance with AISA policy, regardless of how they are categorized at the local and district fairs.
3. All elementary and junior high projects must also be correctly categorized and labeled either biological science project or physical science project at the local level and not changed as they advance to District and state competition. Again, senior high projects need only to be properly categorized if they advance to the State Fair.
4. Each teacher who has students who enter the district science fair, and/or the state competition must work carefully with the students in determining the category/classification of projects. The district coordinator must follow the same procedure, because the following statement is to be attached to the back of each science project in state competition. If this statement is attached, **projects will be judged in the state competition in the classification that the teacher and the district coordinator have approved.**

The following statement is to be completed and attached to the back of all projects in the State Science Fair.

**AISA SCIENCE FAIR FORM**

**NAME:** \_\_\_\_\_

**SCHOOL:** \_\_\_\_\_

**PROJECT TITLE:** \_\_\_\_\_

**Nothing in the conduct of this display was unsafe or hazardous, nor is the display hazardous to others.**

**All AISA Display and Safety Regulations have been met.**

**The classification of this project as to level and category has been established by the student and approved by the teacher and the district science fair coordinator.**

**The basis for this classification is**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Teacher's Signature:** \_\_\_\_\_

**Student's Signature:** \_\_\_\_\_

**Parent or Guardian's Signature:** \_\_\_\_\_

**C. STATE SCIENCE FAIR POLICY**

1. AISA recommends that the district host schools follow state policy in conducting their fairs.
2. Each district will select the six (6) best projects (no more) from each grade division to go the State Fair. Each of the State Fair entries in elementary, junior high, and senior high should be labeled biological or physical science. (See Items A-4 and B-3.)
3. All projects must be set up and ready for judging by 10:00 a.m.
4. Students must be accompanied by a faculty member of their school. Parents are also encouraged to attend.

5. No one will be allowed in the exhibit area while judging is taking place except those students whose projects are being judged.
6. Each student with a project in the State Fair must be present and remain with the project if so requested by the judges.
7. Each participant must bring his/her own table, electrical cords, and all other equipment needed.
8. Each participant is responsible for removal of his/her project after the fair. No project may be removed from the fair until 30 minutes after the winners are announced. This will allow all the students, faculty members, and parents the opportunity to view all the projects, especially those of the winners.
9. The faculty member from each school must ensure that all projects from the school are removed at the end of the State Fair.

**D. JUDGING CRITERIA**

1. There should be a minimum of two judges at each level of competition, qualified in the field of either biological and/or physical sciences. Judges must not be associated with either the students or participating schools.
2. For judging purposes, it is helpful for the coordinator to brief the judges on the AISA policies and procedures for the science fair. The coordinator should also allow the judges time to become familiar with the projects prior to beginning the judging process.
3. Local schools and district host schools are reminded that quality professional judging is essential if the best and most qualified projects are to advance to the State Fair.
4. Projects in elementary, junior high, and senior high will be grouped in the following order for judging for each grade division:

**Biological Science Projects**

**Physical Science Projects**

5. Projects will be evaluated in the following manner:
  - a. Scientific Thought: 50% - Includes completeness; theory; analysis; synthesis; cause and effect; reasoning; reporting; conclusion
  - b. Creative Ability: 30% - Includes originality; ingenuity; individuality; communication; expression



- c. Technical Skill: 20%- Includes sturdiness; craftsmanship; neatness
6. A sample judging worksheet and a diagram for setting up a science fair are included at the end of this section. Judges' worksheets are for the judges' use only.

#### E. AWARDS

1. At local and district fairs there is no limit as to the number of awards that may be presented to contestants in each category and grade division.
2. The AISA recommends that each school give special recognition to the six best projects selected by the judges in each grade division. These six projects will advance to district competition. Subsequently, the district host school should follow the same procedure for their six entries in each grade division nominated for the State Fair.
3. Judges at local and district levels should be advised that their primary task is to select the six best projects in each grade division for advancement to the next level of competition. Judges' worksheets are for the judges' use only.
4. Districts are reminded that it is standard procedure for appropriate awards to be given to winners in each grade division. Plaques are presented at state.
5. At the State Fair, plaques will be awarded to the first, second, and third place projects in biological and physical sciences in the elementary, junior high, and senior high divisions.

#### SPECIAL NOTES:

1. **PROJECTS NOT IN TOTAL COMPLIANCE WITH AISA RULES AS STATED IN THIS ACADEMIC HANDBOOK WILL BE DISQUALIFIED.**
2. **All projects entering local, District, and State Science Fairs must include the AISA Science Fair Form. Teachers are to use the ISEF Handbook as a resource.**

**AISA STATE SCIENCE FAIR ENTRY FORM**  
**(PLEASE TYPE OR PRINT CLEARLY)**

\_\_\_\_\_  
**DISTRICT**

\_\_\_\_\_  
**ADMINISTRATOR**

\_\_\_\_\_  
**DISTRICT HOST SCHOOL**

\_\_\_\_\_  
**HOST INSTRUCTOR**

**Elementary Division (Grades 3-6)**

**Check One**

Student's Name	School	Science Teacher	Bio	Phy
1.				
2.				
3.				
4.				
5.				
6.				

**Junior High Division (Grades 7-8)**

**Check One**

Student's Name	School	Science Teacher	Bio	Phy
1.				
2.				
3.				
4.				
5.				
6.				

**Senior High Division (Grades 9-12)**

**Check One**

Student's Name	School	Science Teacher	Bio	Phy
1.				
2.				
3.				
4.				
5.				
6.				



## SUGGESTED SCIENCE FAIR LAYOUT

(Note: Each square should be numbered and each project should be assigned to a number. This information should be recorded for reference purposes.)

MAXIMUM DIMENSIONS: 4' from left to right; 36" from front to back; and 9' floor to top.

