

About the YES Fair

The Youth Engineering and Science Fair is an organized exhibit of student projects in the areas of science, research, technology, mathematics, and engineering. The YES Fair is affiliated with the International Science and Engineering Fair (ISEF) and follows its rules and guidelines.

In 1984, Sulphur springs Valley Electric Cooperative (SSVEC) Foundation produced and sponsored the first YES Fair with 17 participants. Since then, involvement has grown to approximately 200 students, who compete for prizes, scholarships, trips, and awards.

Statement of Purpose

To stimulate student interest and create awareness in science, technology, and the environment.

To motivate, encourage, and inspire the desire for scientific applications, experimentation, and discovery.

To offer the opportunity for the display of youthful ingenuity and fresh ideas or approaches to current scientific and engineering problems or challenges.

To encourage talented youth to explore careers in science and engineering fields, thereby contributing to the welfare of our nation and world.

The SSVEC Foundation

The SSVEC Foundation is the primary producer and sponsor of the YES Fair. The Foundation is funded through moneys (deposits, membership fees, capital credits) which the cooperative is unable to return to members because they cannot be located. Prior to the establishment to the Foundation, these funds were surrendered to the State of Arizona. The Foundation also accepts donations.

Getting the Project Done

1. Decide on a project that involves something you are interested in.
2. Select an adult sponsor.
3. In the 9-12 division, if your planned project involves humans or animals (a survey, exam, trial, psychological questionnaire, etc., counts as human participation), you

must have prior approval from your school's Institutional Review Board (IRB) or the YES Fair Scientific Review Committee (SRC) before starting your project. Please refer to the current ISEF rules for complete requirements. Complete an SSVEC YES Fair entry form and all ISEF forms that apply to your human or animal project.

4. Turn in your animal or human project entry forms prior to October 1st for review, as you must have prior consent before starting any testing. For Projects in the 5-6 or 7-8 division, YES Fair Safety Assessment Form 1 is all that is required.
5. For projects *not* involving humans or animals, YES Fair Entry Forms must be received at any SSVEC office by the first Monday in February. All 9-12 grade division applicants, not doing a project involving animals or humans, must also complete ISEF entry forms and follow the ISEF rules. ISEF rules and forms are available at their Web site (<https://student.societyforscience.org/international-rules-pre-college-science-research>) following the document library link.
6. Do your research, collect the information and write an abstract (sample on page 11). Remember to make a copy of the abstract to place on your project when it is set up. Have someone proofread your abstract for spelling and grammatical errors.
7. Assemble the information in an attractive, colorful, and attention-getting way. Ask an art teacher or other adult to look over your project for visual appeal.
8. Redact your name(s) from your workbooks, notes, abstract, and any other place. Your name must not be anywhere on the project.
9. When you arrive at the YES Fair, you will be directed to set up your project.
10. After judging is over, the SSVEC volunteers will ensure that your name appears on your project with a 3x5 index card.

Grade Level Divisions and Categories

Students will be divided into three grade level divisions:

Grades 5 & 6

Grades 7 & 8

Grades 9 through 12

Grades 5-6 and 7-8 Divisions will compete in five basic categories as an individual or team project:

- **Energy & Engineering** - The study of renewable energy sources, energy efficiency, and alternative fuels. Includes: Aerospace and Aeronautical Engineering, Aerodynamics, Alternative Fuels, Fossil Fuel Energy, Renewable Energies. Engineering studies the design, manufacture, and operation of machines, structures, processes, and systems. Includes

Robotics, Material Science, Electrical, Mechanical, Computer, Civil, Construction, Industrial, Processing, and Solar Engineering.

- Technology – subjects including electricity, electronics, mathematics, and computers.
- Physical Science– subjects including chemistry, and physics.
- Earth & Space Science - The study of sciences related to the planet Earth and anything in the universe beyond it. Includes: astronomy, weather and meteorology, solar and planetary systems, geology, mineralogy, oceanography, climatology, speleology, seismology, paleontology, geography, and atmospheric sciences.
- Biological Science – subjects including animal husbandry, agriculture, biochemistry, biology, botany, environmental sciences, home economics, medicine and health, microbiology and zoology

Grades 9-12

Categories for grades 9 through 12 are the same as those by the International Science and Engineering Fair and individual and team projects compete for awards and the Grand Prize Award for trip to the ISEF.

TEAMS CAN HAVE NO MORE THAN 3 STUDENTS.

Rules & Guidelines

Eligibility: Students in grades 5-12 who attended during this school year a public, private, home, or parochial school within SSVEC's service area in Cochise, Graham, Pima, or Santa Cruz Counties are eligible to compete. Students attending Bisbee, Douglas, Nogales, and Tombstone Public Schools are eligible, as are students whose homes are served by SSVEC but are attending schools not otherwise eligible, i.e. Salpointe or St. Gregory's. Students must not reach the age of 20 before May 1 of the year of the Fair. Exhibit space requires the YES Fair to limit project entries in the 5-6 and 7-8 grades Division.

We provide grants to schools for local Science and Engineering Fairs with your winners advancing to the YES Fair.

Exhibit space and limited volunteers for judging requires the YES Fair to limit entries in grades 5-6 & 7-8 Divisions

5-6 Grade Division	
Total Student Population in 5 & 6 Grades Combined	Projects allowed per 5/6 Division
Less than 30 students	6
31-50 students	8
51-75 students	10
76 students or more	14

7-8 Grade Division	
Total Student Population in 7 & 8th Grades Combined	Projects allowed per 7/8 Division
Less than 30 students	6
31-50 students	8
51-75 students	10
76 students or more	14

High School Division	
Total Student Population grades 9-12	Projects allowed per High School Division
No limit on project entries	No Limit on project entries

Each grade division project allocation functions independently.

For example: If your school has 55 students in the 5/6 Grade Division and 49 students in the 7/8 Grade Division, your school can enter 10 projects in the 5/6 Division AND can enter 8 projects in the 7/8 Division, for a total of 18 projects.

Team projects may have *up to 3* team members. Teams of 4 or more will not be able to enter their project in YES Fair.

1. All entries will be by individual students or a team consisting of up to three students per team. A student may enter only one time and in one category. A student may not enter an individual project and a team project in the same fair. Team membership cannot be changed during a given research year including converting from an individual project or vice versa, but may be altered in subsequent years. Entries to the Fair will be completed on-line at the YES Fair website, (yesfair.com).
INCOMPLETE ENTRY FORMS WILL DISQUALIFY THE PROJECT.

2. The only identification permitted on an entry will be a 3 by 5 card (provided by the YES Fair) with the student's name, address, grade level, and school which will be included in the registration packet. The card should be taped so that it may be flipped to the front of the exhibit after judging is complete. The card must be placed at the back upper right corner of the exhibit as you view the exhibit from the front. Names should not appear on any research records or abstracts. It is a good idea to make a personal copy of these materials.
3. One copy of an abstract of the research, using less than 250 words, and including the purpose, procedure, results, data, conclusions, reflections or applications will be displayed with the project. The student's name and/or school must not appear on the abstract. Abstracts for students in the 9-12 division must be typed or word processor generated. You are encouraged to use the on-line abstract on the ISEF website.
4. The adult sponsor's role is to guide and advise, encouraging creative thinking on the part of the student. The adult sponsor may be an educator from the school in which the student is enrolled or an adult mentor. The student is not restricted in seeking additional guidance from other individuals, but the adult sponsor is to be the primary and official counselor. Should a question or problem concerning a project arise which the adult sponsor cannot resolve, the student may seek assistance from SSVEC's YES Fair Coordinator. In that event, SSVEC may refer the student to local science professionals for additional advice.
5. A project must not be an identical repetition of one shown by the same individual or team at a previous YES Fair. However, a project may be a continuation of research from a project from a previous YES Fair. Previous Grand Prize winners are eligible for International Science and Engineering Fair (ISEF) competition.
6. All safety precautions and rules must be observed. Projects in the 5-6 and 7-8 levels must fill out the YES Fair Form 1 Safety Assessment and include it with your project documents.
7. All experiments involving animal and humans must conform to the International Science and Engineering Fair's rules and regulations. See current applicable rules and regulations are on the ISEF website. These projects require pre-approval by your schools Institutional Review Board (IRB) or the YES Fair's Scientific Review Committee (SRC).
8. Projects must be registered the day of the fair before they are set up in the exhibit hall. Projects must be left in place until the designated pick-up time after the awards presentation the last day of the Fair. Participants in the 9-12 division must be available at the designated time for their interview with the judges. See the YES Fair Schedule posted on the website (yesfair.com) for dates and times. The rules and

guidelines for the Youth Engineering and Science Fair are consistent with the rules of the International Science and Engineering Fair with which SSVEC is affiliated. Please contact SSVEC's YES Fair Director if you have any questions.

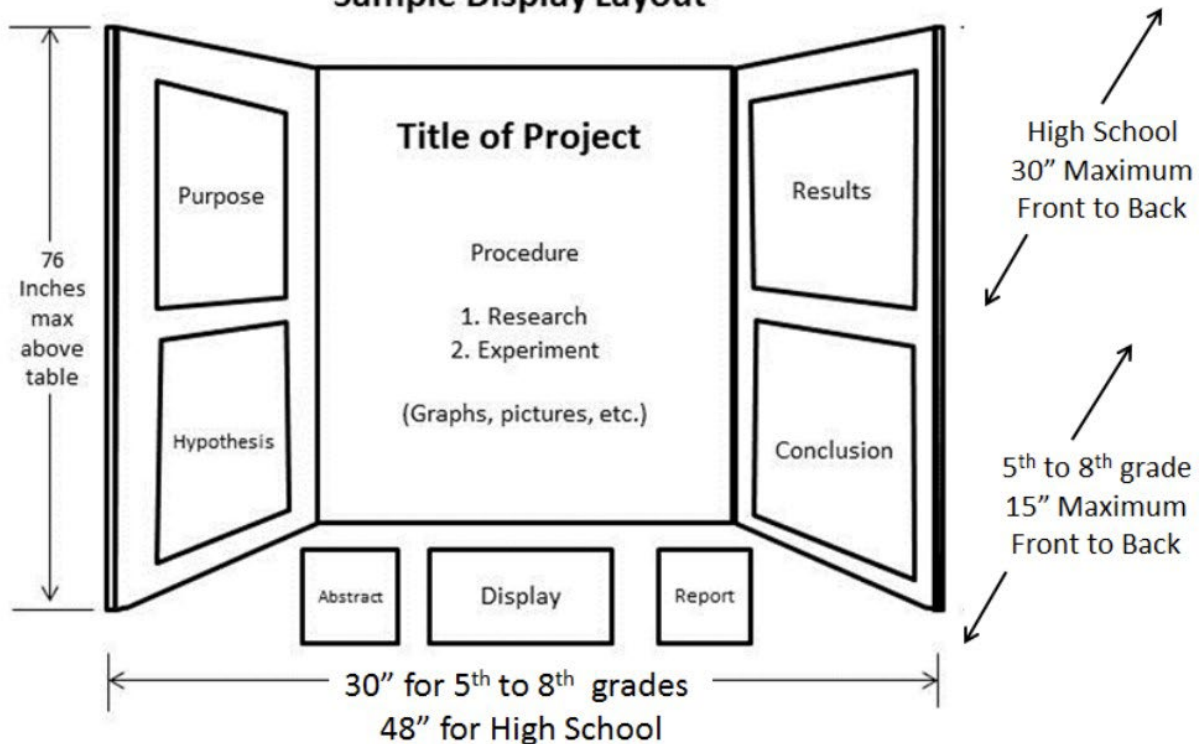
Display and Safety 5/6 and 7/8 Division

Project Size Limits Students in the 5-6 and 7-8 divisions will be allowed a space 15" deep, 30" wide, and 76" high. This will allow more students to participate in the YES Fair.

Display and Safety 9-12 Division

For Students in the 9-12 division, exhibit size is limited to 76 cm (30 in.) deep, front to back; 122 cm (48 in.) wide, side to side; and 274 cm (108 in.) high, floor to top. Tables are 76 cm high. If a display utilizes the table, the table height is included in the height of the project display. Any exhibit exceeding these dimensions will be disqualified at the YES Fair and at the ISEF. It is the responsibility of the exhibitor to care for his or her exhibit during the time it is on display. Projects should be durable enough to stand up well without repair, but normal wear and tear on exhibits is to be expected during the time of judging and when the fair is open to the public. For this reason, each contestant is advised to protect his or her exhibit. SSVEC will assume no liability for damages done to the exhibit during set-up, display, or removal. However, SSVEC will make reasonable efforts to secure and protect exhibits during the Fair. In the 9-12 Division, displays may be a flat pop up banner, foam core, or any other material approved by ISEF, however the display must stand on its own without the assistance of a back wall. Consult the ISEF rules and regulations for further information.

Exhibit Size Limits & Sample Display Layout



Animal Displays*

- No live animals, preserved vertebrate/invertebrate animals, taxidermy specimens or parts including embryos, may be exhibited. Research involving the use of animals may display drawings, charts, or graphs to illustrate the conditions, developments, and results of the investigations. Sealed insect collections will be permitted on display.
- Photographs and other visual presentations of surgical techniques, dissection, necropsies and/or other laboratory techniques depicting vertebrate animals in other than normal conditions may not be displayed on the student's project, but may be contained in an accompanying notebook to be shown only during the judging. Photographs of special needs human subjects require signed consent, as per federal regulations.

Human Tissue*

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

*All International Science and Engineering Fair rules pertaining to vertebrate/invertebrate animals and human tissue or subjects must be followed. The Scientific Review Committee

of the YES Fair or an Institutional Review Board (following ISEF rules) must approve all projects involving humans or animals before the project is started.

Electricity

Normally, 110-volt AC, single-phase service with 500 watts per project will be available. Any electric devices on display must be Underwriters Laboratory (UL) approved. Electricity will not be available for the 5-6 or the 7-8 divisions.

Assembly

Each student is responsible for the assembly of his or her own project. YES Fair personnel are not responsible for any assembly of any project.

Lasers

Only Class I and Class II lasers may be displayed and operated at the YES Fair and the ISEF. If a Class II laser is operated, the individual must observe the following restrictions:

1. The student must be present at all times the Class II laser is operating.
2. A sign must be displayed reading as follows:
3. "LASER RADIATION-DO NOT STARE INTO BEAM"
4. The Class II laser must have a protective housing or barricade which, when in place, prevents human access to the beam during operation. The Class III and Class IV lasers may be displayed, but are not be operated at any time and must have no means of electrical connection.

For more information about laser standards and research, write to the Food and Drug Administration, Office of Compliance and Surveillance, 7519 Standish Place, Rockville, MD 20855-2773 (telephone 240-402-7001).

General Rules for Display and Safety

The Display and Safety Committee will review the need for the student to have any of the items listed below that are required to demonstrate the experimental concepts of the student's project during the judging interview only. The decisions of the Display and Safety Committee are final. Anything which could be hazardous to the public is prohibited from display. The intent of this rule is to protect the public and other students and not to hinder the students' ability to present their project to the judges. The prohibited items include:

1. All live materials including plant and microbes
2. All soil and waste sample and materials

3. All chemicals including containers filled with water for display (Empty chemical containers and nonfunctional apparatus are also discouraged.)
4. Food, either human or animal
5. Syringes, pipettes and similar devices
6. Any flames, open or concealed
7. Highly flammable display materials
8. Tanks which have contained combustible gases, including butane and propane, unless they have been purged with carbon dioxide
9. Operation of a Class III or IV laser

NOTE: Students are encouraged to use photographs, drawings, and diagrams to illustrate the research and results of their science project. All photos must include appropriate photo credits on the display. Proper attention to safety is expected of all Fair participants, including compliance with the following requirements for all operating exhibits:

1. Any exhibit producing temperatures exceeding 100 C (212 F) must be adequately insulated for its surroundings.
2. Batteries with open top cells are not permitted. Other types of batteries may be used for electric power provided they are enclosed in a battery case, such as a flashlight case, to prevent contact by observers.
3. High voltage wiring, switches, and metal parts must be located out of reach of observers and designed with an adequate overload safety factor.
4. Electric circuits for 110-volt AC must have an Underwriters Laboratories (UL) approved cord of proper load-carrying capability, which is at least nine feet long.
5. All wiring must be properly insulated. Nails, tacks, or un-insulated staples must not be used to fasten wiring.
6. Electrical connections in 110-volt circuits must be soldered or fixed under approved connectors and connecting wires properly insulated.

Safety precautions for substances are presented in the American Chemical Society booklet, *Safety in the High School*. For a copy, write to the American Chemical Society, Career Publications, 1155 16th Street N.W., Washington, DC 20036 (telephone 1-800-333-9511)

What We Judge

Projects are judged on the quality of work done by the students. The projects will be compared to other projects in the same category at this fair. The quality of the investigations and how well the student understands the project he/she has completed are of the greatest importance. The Judges concentrate on the information contained in the workbook/journal to determine score for the project.