# AZSEF

ARIZONA SCIENCE & ENGINEERING FAIR

# HANDBOOK

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# 1. ABOUT AZSEF

## 1.1 WHAT IS AZSEF?

The Arizona Science and Engineering Fair (AzSEF) is an annual state-level science fair competition that showcases authentic student research projects for students in grades 5–12. Participants develop original projects in categories such as biology, engineering, physics, environmental science, etc., applying real-world scientific methods to solve complex problems. During AzSEF, students compete for thousands of dollars in scholarships and prizes, and have the chance to advance to national or international fairs. Senior Division students may move on to the Regeneron International Science and Engineering Fair (ISEF), where they compete on a global stage. Junior Division students may be nominated to apply to compete in the Thermo Fisher Scientific Junior Innovators Challenge, the premier middle school competition in the United States. AzSEF fosters innovation, critical thinking, and communication skills, preparing young scientists and engineers for future careers in STEM.

## 1.2 HISTORY OF AZSEF

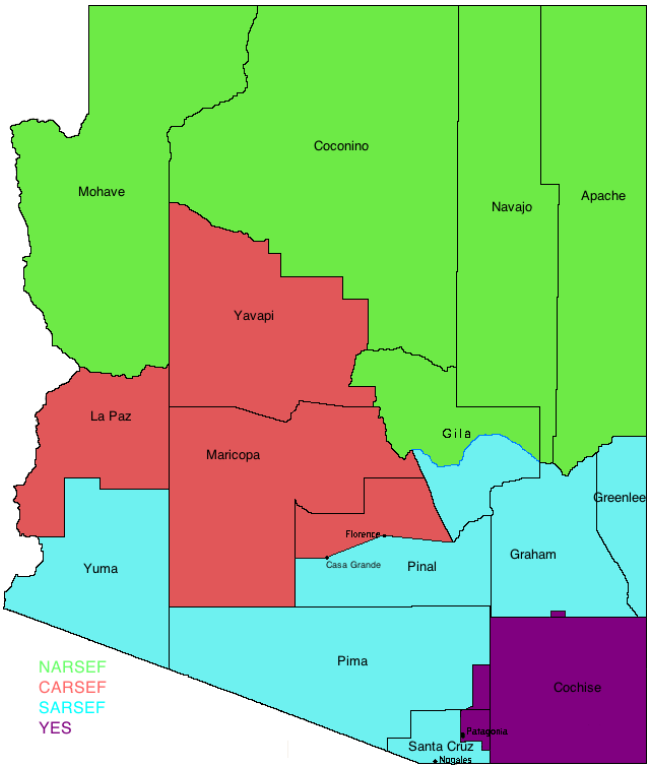
The Arizona Science and Engineering Fair (AzSEF) officially launched in March 2008 under the leadership of the Arizona Technology Council Foundation as a statewide event bringing together winners from all five Arizona regional fairs, including the American Indian Science and Engineering Fair (AISEF), Central Arizona Regional Science and Engineering Fair (CARSEF), Northern Arizona Science and Engineering Fair (NARSEF). Southern Arizona Science and Engineering Fair (SARSEF), and the Southeast Arizona Youth Engineering and Science Fair (YES).

Arizona Science Center officially took over management of AzSEF in 2013, firmly establishing the fair as part of its mission to inspire youth through science. Since its inception, AzSEF has provided a competitive platform for 5th–12th grade students, showcasing their research projects and offering a gateway to the Thermo Fisher Scientific Junior Innovators Challenge for students in grades 6-8 and the Regeneron (formerly Intel) International Science and Engineering Fair (ISEF) for students in grades 9-12.

## 1.3 AZSEF MISSION AND GOALS

The mission of the Arizona Science and Engineering Fair (AzSEF) is to support and provide guidance to students and educators throughout Arizona to ensure the continued availability and vitality of this statewide celebration of scientific inquiry for the citizens of Arizona.

AzSEF builds upon the educational outreach of Arizona Science Center to nurture students' interest and pursuit of STEM learning and provides opportunities to train educators and school leaders in building cultures of research and inquiry, focusing on the science and engineering practices that are designed to get students "doing science" and found within the Arizona science standards.



# 2. AZSEF RULES

## 2.1 2026 AZSEF UPDATES

The following are new changes to rules and regulations for 2026 per the Society for Science:

- Each photo, diagram, and graph included in the project must be properly cited, including those created by the student; blanket statements asserting that all images are the student's property are no longer acceptable.
- The max height of the project board is 240 centimeters / 94 inches from the floor to the top of the board.
- Cephalopods are now to be treated as vertebrate animals.
- If AI is used in any way, it must be cited.
- Students are prohibited from disclosing results or data from their study to the human participants.
- When working with a facility where participants live or attend programming (e.g. retirement home, daycare, prison, etc.) written approval from the facility must be obtained as well as informed consent for the individual participants.
- A project is not considered a vertebrate animal study if tissue is obtained from an animal that was euthanized for a purpose **other than** the student's project. (See ISEF's Tissue & Body Fluid Rules)
- All studies involving the use of prions or prion-like proteins are prohibited. This includes studies working with amyloid-b (Ab), tau, a-synuclein, transactive response DNA-binding protein of 43 kDa, and amyloid fibrils.
- Research determined to be a Biosafety Level 2 (BSL-2) must be conducted in a laboratory rated BSL-2 or above and follow BSL-2 safety conditions throughout the study. (Commonly limited to a RRI).
- Projects involving water samples collected from active Harmful Algal Blooms are considered BSL-2 studies.
- Insect and arthropod vector-borne pathogens such as Malaria, Lyme, etc. are considered BSL-2 studies.
- The student researcher must minimize the impact of an experiment on the environment.
- Projects using chemicals with a Globally Harmonized System of Classification and Labelling of Chemicals (GHS) safety rating of 1, 2 or 3 or National Fire Protection Association (NFPA) safety rating of 3 or 4 must be conducted in a school or laboratory setting. Projects conducted with chemicals outside these ratings may be conducted in a home setting under the following conditions:
    a. Projects in a home setting must follow standard lab practices for chemical handling, safety, ventilation, and specific disposal procedures used as outlined in the Safety Data Sheets (SDS).
    b. Any cookware, utensils, and/or equipment used during the experimentation **cannot be reused** for food preparation.
    c. Be conducted with a Direct Supervisor with proper training and knowledge of the chemicals being used.
- Disposal procedures shall be described in sufficient detail to ensure compliance with EPA guidelines as outlined in the appropriate Safety Data Sheets. Examples include minimal quantities of chemicals that will require subsequent disposal; ensuring that all disposal is done in an environmentally safe manner. Proper chemical, sharps and other hazardous materials disposal must follow local, state, and federal guidelines.
- Continuation projects must include the Continuation/Research Progression Form (7) and include forms for all previous years.

## 2.2 AZSEF ELIGIBILITY AND PARTICIPATION

**To be eligible to compete in AzSEF:**

- The student(s) must reside in Arizona or attend an Arizona school; and
- The student(s) must be in grades 5-12; and
- The student(s) must earn **first** place at a qualifying fair (school, homeschool, district, county, or regional).

Each student may submit only one project per year, which can be completed individually or in a team of up to **three members**.

The research used in the project must have been conducted within 12 continuous months preceding AzSEF.

In addition, projects must adhere to the guidelines set by the Society for Science, including rules on safety, ethics, and research involving human subjects, animals, or hazardous materials. All projects must follow AzSEF and ISEF (Senior division only) rules and guidelines, including proper documentation and safety procedures.

### Division-Specific Eligibility Guidelines

Elementary & Junior Divisions (Grades 5–8)

- A maximum of 3 first-place projects per division will be accepted from each school fair in the Elementary and Junior Divisions.
- A maximum of 12 first-place projects per division will be accepted from each district fair in the Elementary and Junior Divisions.
- A maximum of 15 first-place projects per division will be accepted from each regional fair in the Elementary and Junior Divisions.

Senior Division (Grades 9–12)

- There is no fixed limit on the number of first-place projects that may advance from a qualifying fair.

If a qualifying fair does not award places, the fair director may select the project that best represents a category to advance.

## 2.3 PROJECT REQUIREMENTS

- Projects must be original, student-driven, and based on authentic scientific inquiry or engineering design.
- All data must be properly recorded, analyzed, and presented using ethical research practices.
- All materials presented must be in the researcher's own words.
- Each photo, diagram, chart, graph, and image included in the project must be properly cited, including those created by the student; blanket statements asserting that all images are the student's property will not be accepted.
- Plagiarism, fabrication, or falsification of data will result in disqualification.
- Any use of AI that does not comply with AzSEF's official AI statement will result in disqualification.

There are additional project requirements specific to each division of AzSEF:

- Senior Division project requirements
- In the Senior Division, projects compete in one of the 22 Categories, as designated by ISEF, which represent all science and engineering disciplines.
- Elementary/Junior Division project requirements
- In the Elementary/Junior Division, projects compete in one of the 12 Categories.

For questions regarding eligibility or project approvals, contact the AzSEF Scientific Review Committee at AzSEFsrc@azscience.org.

## 2.4 RESEARCH CONDUCT AND SAFETY

- All research submitted must have been conducted within the 12 months prior to the fair's date.
- All required forms and approvals must be completed before experimentation begins.
- All projects must comply with AzSEF deadlines for registration, form submission, and compliance.
- All research must follow ethical standards and adhere to ISEF Rules & Guidelines, including policies on human participants, vertebrate animals, and hazardous materials.
- Any project involving human participants requires approval from an Institutional Review Board (IRB) before experimentation begins. (see chapter 7)
- Research involving vertebrate animals must be conducted under the supervision of a qualified scientist and approved by a Scientific Review Committee (SRC).(see chapter 6)
- Projects using potentially hazardous biological agents (PHBAs), chemicals, or devices require additional safety measures and approvals. (see chapter 5)

Projects requiring approval from a Scientific Review Committee (SRC) or Institutional Review Board (IRB) must be reviewed and approved **before** research begins. Please refer to the SRC and IRB sections of this handbook to determine if your project requires approval before beginning any research. It is the responsibility of the student to evaluate the project to determine which forms are required and whether approval by a committee must be obtained prior to experimentation.

Scientific fraud and misconduct are not condoned at any level of research or competition. This includes plagiarism, forgery, use or presentation of other researcher's work as one's own and fabrication of data. Such violations will be investigated and if true, will result in disqualification from AzSEF, rescission of a nomination to ISEF, and forfeiture of any awards, prizes, and acknowledgment received.

## 2.5 TEAM PROJECTS

AzSEF encourages collaboration and supports students who choose to work together on a science or engineering research project. Team projects follow the same rules and are evaluated using the same judging criteria as individual projects, but with a few additional guidelines.

Team Composition

- A team may include no more than **three** students.
- Team members must be from the same division (Elementary, Junior, or Senior).
- Once a team is formed and officially registered, no changes may be made to team membership (i.e., students may not be added or removed).
- Each team member must meet all eligibility requirements to participate.

Team Dynamics

- Teams should divide responsibilities and work collaboratively.
- Judges expect all members to have a strong understanding of the full project, even if responsibilities were divided.
- Team members should be able to explain their individual contributions as well as the overall process and results.

Team Project Interviews

- Judges will evaluate the project as a whole, not individual students.
- During interviews, judges will look for:
    - ❍ Clear communication and shared knowledge across the team
    - ❍ Equal participation in the presentation and discussion
    - ❍ Each member's ownership of their contributions
    - ❍ Evidence of collaboration and teamwork

Best Practices for Team Projects

- Keep a shared research notebook or log to track who did what and when.
- Discuss findings and decisions together to ensure shared understanding.
- Practice your interview together so all members feel confident speaking.

## 2.6 CONTINUATION PROJECTS

AzSEF follows the guidance set forth by the Regeneron International Science and Engineering Fair (ISEF) regarding continuation projects.

Students who wish to submit a project that builds on research conducted in a previous year must clearly identify their project as a continuation during the registration process. A continuation project must demonstrate significant new work or discoveries beyond the original investigation—simply repeating or slightly modifying a previous project is not sufficient.

To be eligible, students must:

- Include a Continuation/Research Progression Form (7) during registration.
- Clearly distinguish new research from prior work in their research plan, abstract, presentation, and project display.
- Label all previous years' data, results, and materials accordingly.
- The project display and abstract must reflect the current year's work only.

Judges will evaluate only the current year's work, though they may consider the progression and depth of the research. Projects lacking clear differentiation from previous work may be disqualified or scored lower. Students are encouraged to discuss how their project has evolved and what new questions they explored.

For more detailed rules and expectations, please refer to the ISEF Continuation Project guidelines.

## 2.7 MENTORS AND RESEARCH CONDUCTED OUTSIDE OF HOME OR SCHOOL

A research project may be a part of a larger study performed by professional scientists, but the project presented by the student must be only their own portion of the complete study.

If a mentor was involved in the project, the research plan should delineate what parts of the project were done by the student and which parts of the project were done by the mentor.

If work was conducted or mentored either virtually or on site at a regulated research institution (RRI), industrial setting, or any work site other than home, school or field at any time during the current ISEF project year, the Regulated Research Institutional/Industrial Setting Form (1C) must be completed and displayed at the project booth.

If the Regulated Research Institution laboratories and facilities are closed to student researchers, the ISEF SRC has suggested that a Form 1C be used when support from mentors and those in a laboratory setting has been provided, even when the student received this support remotely. This can also include situations in which a high school educator is supporting laboratory activities on behalf of a remote student to help clarify the student's involvement in each step of the project.

# 3. JUDGING OF PROJECTS AND AWARDS

## 3.1 JUDGING PROCESS

Projects at AzSEF are evaluated based on both the quality of the work and the clarity with which it is presented. Judges use a structured rubric to ensure fairness and consistency across all student entries. Judging at AzSEF is a structured and collaborative process designed to ensure fairness, consistency, and respect for student work. Judges are expected to uphold the highest standards of professionalism and confidentiality throughout the process.

For the Senior Division, judges will receive access to virtual materials (including project abstracts and digital boards) prior to the in-person fair. Judges are expected to review these materials in advance to familiarize themselves with the projects in their assigned category. This preparation ensures more meaningful interviews and efficient use of time during the fair. Elementary and Junior Division judges will have time to preview the projects on the day of judging.

Judges are to practice confidentiality before, during, and after judging at AzSEF. Judges are not to talk with participants, parents, or individuals who are not involved in the judging of a project about the process and/or deliberations. Discussion of results or anything other than constructive feedback with an individual student about their project is prohibited.

## 3.2 PROFESSIONALISM AND ETIQUETTE

Judges are representatives of the STEM community and should model:

- Respect for student voices, time, and effort
- Confidentiality regarding all project content and interview responses
- Consistent, fair evaluation across all assigned projects
- Punctuality and preparedness throughout the day
- Gauge project complexity relative to grade level, and always with respect for student effort.

If you have a concern about a Judge's conduct, behavior, or appropriateness, please discreetly bring it to the attention of the Judging Chair.

## 3.3 STUDENT INTERVIEWS

On the day of the fair, judges will conduct in-person interviews with each student or team in their category. During interviews, the Judges will:

- Ask open-ended questions that allow students to explain their process, findings, and understanding of their project.
- Avoid giving students advice, suggestions, or feedback on how to improve their project—judging is not a coaching session.
- Maintain a neutral and encouraging tone, regardless of project quality.
- Ensure all students are treated equitably, and all questions asked are appropriate and relevant to the project.
- Respect that questions that are personal in nature **may not** be asked of the student.

***Note: The number of interviews each student or team participates in may vary depending on the number of qualified judges available on the day of judging.***

## 3.4 SCORING AND RUBRICS

Each project will be scored using a standard AzSEF rubric specific to the student's project type. The rubric includes categories such as research question, design and methodology, data analysis, creativity, and presentation quality. Judges will record individual scores and notes, which are used to support final deliberations.

Depending on whether a project is a science investigation or an engineering design, judges will look for different elements aligned to each process. Judges are not looking for perfection. They are looking for genuine student work, understanding, and curiosity. Students are encouraged to speak confidently and honestly about their process, decisions, and ideas for improvement.

## 3.5 RUBRIC FOR SCIENTIFIC PROJECTS AND ENGINEERING PROJECTS

| Criteria | Points | Scientific | Engineering |
|---|---|---|---|
| | | | |
| Research Question/ Problem | 10 | Clear and focused purpose; testable | Description of practical need or problem to be solved; proposed solutions, explanation of constraints |
| | | | |
| Design and Methodology | 15 | Well designed plan; data collection; variables identified | Exploration of alternatives; identifies a solution; develop a prototype |
| | | | |
| Execution | 20 | Systematic data collection; reproducable; sufficient data collected to support the conclusion | Prototype demonstrates intended design; prototype tested multiple times/ conditions; prototype demonstrates engineering skills |
| | | | |
| Creativity | 20 | Demonstrates imagination and inventiveness; new possibilities or alternatives | Demonstrates imagination and inventiveness; new possibilities or alternatives |
| | | | |
| Presentation Poster | 10 | Logically organized; easy to read; clear graphs, charts, etc. | Logically organized; easy to read; clear graphs, charts, etc. |
| | | | |
| Presentation Interview | 25 | Concise and thoughtful responses; demonstrates an understanding of the science related to the project; degree of independence, recognition of potential impacts in science/ society, ideas for further research | Concise and thoughtful responses; demonstrates an understanding of the science related to the project; degree of independence, recognition of potential impacts in science/ society, ideas for further research |
| | | | |

## 3.6 JUDGE'S QUALIFICATIONS AND COMMITMENTS

Judges play a vital role in the success of the Arizona Science and Engineering Fair (AzSEF). This section outlines the qualifications, expectations, and responsibilities for those serving as judges at the fair.

Who Can Judge Each Division

- Judging eligibility is determined by educational and professional background:
- Senior Division (grades 9-12)
  Senior division judges should be a professional in their assigned Category, preferably with at least five years of experience, and/or hold an advanced degree (masters or doctorate).

- Junior Division (grades 7-8)
  Junior division judges should hold a bachelor's degree, have some experience in their assigned Category, or teach in the selected area.
- Elementary Division (grades 5-6)
  Elementary division judges must have some post-high school education, with some experience in the age level selected, and/or interest in the assigned Category. College-level Juniors and Seniors majoring in a science or engineering field are eligible to judge in this division.

Judge Training
All Judges must complete AzSEF's official Judge Training prior to the fair. Training includes:

- Project evaluation criteria and scoring rubrics
- Interview guidelines
- Ethical expectations and bias awareness
- Logistics and day-of expectations

Training is offered virtually and is required for both new and returning Judges.

Time Commitment
- In addition to completing the Judge Training, Judges must commit to a minimum of one full day of judging. This includes:
  - ❍ Reviewing student projects (both written and display-based)
  - ❍ Conducting interviews with students
  - ❍ Participating in judge caucuses
  - ❍ Submitting final scores

Conflict of Interest Policy
- A Conflict of Interest exists when a Judge has a personal, financial, or professional relationship with a student, school, or project that may compromise impartiality.
- Examples include:
  - ❍ Being an educator, a coach, or a mentor to a student
  - ❍ Having a family or professional relationship with a participant
  - ❍ Working for a school or district represented in the judge's assigned category
- Expectation: Judges must disclose all potential conflicts of interest during registration or upon assignment. If a conflict exists, the judge will be reassigned to a different category or division.

## 3.7 DETERMINATION OF AWARDS

Each Category has a designated Lead Judge who facilitates coordination within the judging team. The Lead Judge's responsibilities include:
- Ensuring each project is evaluated by the full judging panel.
- Leading the caucus discussion, where judges meet to compare evaluations, share insights, and reach consensus on project rankings. The Lead Judge should ensure all voices are heard.
- Coordinating the submission of final scores and award recommendations.

During the caucus, the judging teams for each category must come to a consensus on project rankings and adhere to AzSEF award allocation guidelines.

The awarding of category and special awards is the decision of the judging **team** assigned to that Category. The judging team will caucus, taking into consideration all judge's input. One individual will not determine category or special award winners.

**All decisions for the Awards are final.**

## 3.8 ISEF INVITATIONS

Senior Division Lead Judges will stay after the main caucus to identify projects that meet the criteria for nomination to the International Science and Engineering Fair (ISEF).

The determination of Senior Division Best in Fair awards will be made by a Selection Committee consisting of the Lead Judge from each Category and will be facilitated by the Judge Chair. The Selection Committee will view and review all top projects and each Category Lead Judge is responsible for defending why that project should be named as one of the Best in Fair projects. AzSEF is allowed to send 15 projects to ISEF. Since AzSEF has 22 Categories in the Senior Division, not all first place winners will be selected for ISEF.

For the Best in Fair projects, ISEF requires AzSEF to conduct a rigorous check for plagiarism, proper citations, and image searching. Accordingly, alternate selections for Best in Fair will be determined in case of disqualification.

## 3.9 GRIEVANCE PROCESS

AzSEF provides a formal grievance process to ensure that any concerns are heard, documented, and reviewed by the appropriate members of our team. If an issue arises, individuals may submit a grievance using the AzSEF Grievance Form.

All submissions will be carefully reviewed by the AzSEF leadership team. While outcomes of the competition will not be changed, the feedback received through this process helps us improve future events.

Please note that only respectful, constructive communication will be considered.

# 4. CODES OF CONDUCT AND AFFIDAVITS

## 4.1 STUDENT CODE OF CONDUCT

The Student Code of Conduct outlines the expectations for behavior, fairness, and sportsmanship among students engaged in research activities and participating in AzSEF. Adherence to these principles will ensure a productive, ethical, and respectful research environment and also provide the opportunity for everyone to shine to their maximum capacity without consequences.

**Respect and Integrity:** Treat all peers, judges, volunteers, and AzSEF staff with respect and courtesy while upholding the highest standards of integrity and honesty in all research activities.

**Accountability and Responsibility:** Take responsibility for your work and its impact, and be accountable for your actions and decisions in the research process.

**Ethical Research:** Follow all relevant ethical guidelines as outlined by the Society for Science (linked HERE) and obtain necessary approvals for research involving human or animal subjects or potentially hazardous biological agents prior to the start of the project.

**Transparency and Honesty:** Accurately report research findings without fabrication, falsification, or misrepresentation.
Fair Credit: Ensure that all contributors to the research are appropriately credited. Avoid plagiarism by properly citing sources.

**Professionalism:** Conduct yourself in a professional manner at all times, especially during presentations and interactions with peers. Be respectful of other students' projects and help your friends if they need it.

**Support and Encouragement:** Encourage and support your fellow competitors, fostering a positive and inclusive research community. Celebrate the achievements of others and contribute to a culture of mutual respect and recognition.

**Respect that decisions are final:** Judges follow a predetermined process when determining category and special award winners. Judges are assigned based on expertise and experience. Category judges are composed of several individuals and a lead judge. No one individual determines award winners.

Scientific fraud and misconduct are not condoned at any level of research or competition. This includes plagiarism, forgery, use or presentation of other researchers' work as one's own, and fabrication of data. Fraudulent projects will fail to qualify for competition. Arizona Science Center and Arizona Science and Engineering Fair reserve the right to revoke recognition of a project subsequently found to have been fraudulent.

## 4.2 STUDENT ETHICS STATEMENT

Arizona Science and Engineering Fair (AzSEF) Ethics Statement
The Arizona Science and Engineering Fair (AzSEF) upholds the highest standards of ethics in scientific research and competition. All participants, including students, educators, mentors, fair administrators, and judges, are expected to conduct themselves with honesty, integrity, and respect for others and the scientific process.

**Integrity and Honesty**
Scientific integrity is fundamental to AzSEF. Participants must ensure that their research is conducted and presented with honesty and transparency. Plagiarism, fabrication, or falsification of data or research findings is strictly prohibited. All work should accurately reflect the student's independent efforts, with proper credit given to sources of assistance.

**Respect for Research Subjects and the Environment**
Projects involving human participants, vertebrate animals, or potentially hazardous materials must be conducted with the highest regard for health, well-being, and safety. Participants must obtain all required approvals and follow all applicable regulations and ethical guidelines. Research should be conducted responsibly, minimizing harm and environmental impact.

**Legality**
All research conducted as part of AzSEF must comply with local, state, and federal laws, as well as institutional policies where applicable. This includes regulations related to the use of human and animal subjects, hazardous materials, biological agents, and intellectual property. Any project found to be in violation of legal requirements may be disqualified and reported to the appropriate authorities if necessary. See section 8.1 for more information.

**Responsible Mentorship**
Teachers, mentors, and other advisors play a crucial role in guiding students while ensuring that research remains the work of the student. Mentors should provide guidance in ethical research practices and safety while fostering independence in student work.

**Fair and Objective Judging**
Judges must evaluate projects fairly, objectively, and without bias. Conflicts of interest should be disclosed and managed appropriately to maintain the integrity of the competition. Feedback to students should be constructive and educational.

**Safety and Compliance**
All research must be conducted safely and in compliance with local, state, and federal regulations. Participants must follow all AzSEF, ISEF, and affiliated fair rules, as well as institutional and regulatory guidelines, to ensure responsible scientific conduct.

**Ethical Responsibility**
By participating in AzSEF, all individuals affirm their commitment to ethical behavior. Any violation of ethical standards, including dishonesty, misconduct, or failure to comply with AzSEF regulations, may result in penalties, including disqualification and forfeiture of any awards, prizes, and acknowledgment received.

AzSEF is dedicated to fostering a culture of ethical scientific inquiry, ensuring that all participants contribute to a fair and inspiring competition that upholds the principles of integrity, respect, and responsibility.

## 4.3 STUDENT AI STATEMENT

**Use of Artificial Intelligence (AI) in Research Projects**
As the use of AI tools becomes more common in science, education, and everyday life, AzSEF recognizes their potential to support student learning and research. However, it is essential that students understand the ethical use of AI and clearly communicate what work is their own.

This section provides guidance on the appropriate use of AI tools (such as ChatGPT, Claude, Copilot, Grammarly, etc.) in science and engineering fair projects.

**Acceptable Use of AI**

Students may use AI tools to support their work, as long as:

- The student's original thinking and decision-making remain central to the project.
- Any text, code, or images generated by AI are clearly identified and appropriately cited.
- The student can explain and defend all aspects of their project without relying on AI.
- The AI is not used to falsify, fabricate, or automate data collection, analysis, or conclusions.

Examples of acceptable AI use include:

- Using AI to brainstorm project ideas, research questions, or background topics.
- Getting help from an AI tool to revise grammar or improve writing clarity in the research paper or abstract, as long as the suggestions do not change the integrity of the original paper or abstract.
- Using an AI-based programming assistant to troubleshoot or suggest code—if the student understands and can explain the code.
- Generating a draft of a consent form, survey questions, or bibliography, as long as the student reviews and edits the final version.

AI tools must not be used in ways that:

- Misrepresent work as the student's own when it is not.
- Generate content for an abstract, report, conclusion, or display board (other than images that are properly cited)
- Write a full research paper or major sections of one without significant student authorship.
- Analyze experimental data on the student's behalf (unless the use of AI tools is a clearly defined part of the methodology and approved by an SRC).
- Falsify data, fabricate results, or create misleading visuals.

If a student uses AI tools in their project:

- The use must be described clearly in the Research Plan and on Form 1A under "Procedures."
- Any AI-generated content must be acknowledged and cited, whether text, code, or images.
- During interviews, judges may ask about how AI was used. Students must be prepared to explain their process and decisions.

## 4.4 PARENT CODE OF CONDUCT

This Code of Conduct for parents of students participating in AzSEF is intended to ensure a positive, respectful, and supportive environment for all participants.

### BEFORE THE SCIENCE FAIR:

**Encourage And Support:** Provide guidance, share ideas, and help with locating resources for their science fair project.

**Remain (Mostly) Hands-Off:** Let your child complete all parts of the project unless there is a part that is deemed "risky" and should be completed by an adult. Please consult AzSEF regulations if your child is considering projects that include human subjects (including surveys), vertebrate animals, and potentially hazardous biological agents. Learn more at azscience.org/AzSEF.

**Don't Stress Winning Or Awards:** Focus your conversations on the discovery, excitement, and learning of natural phenomena. Arizona's Academic Science Standards are built around the three dimensions of science—core ideas, crosscutting concepts, and science and engineering practices—which, when connected, enable students to make sense of the world around them.

### ATTENDING AZSEF:

**Respect All Participants:** Treat all children, parents, educators, judges, and staff with respect and courtesy. Refrain from negative comments or behavior.

**Integrity:** Avoid any actions that may give your child an unfair advantage, such as tampering with other projects or influencing judges.

**Supervision:** Ensure your child's health and safety by supervising them when they are not in the judging hall. Parents are to remain outside the judging hall during official judging times.

**Respect Venue Rules:** Follow all rules and guidelines set by the event organizers, including designated areas, timing, and safety protocols.

**Model Good Behavior:** Set a positive example for your child and other participants through your behavior and interactions. Adults are not allowed to be near students during judging.

If your child requires special accommodations, please communicate that need to the Fair Director **at least two weeks prior to the event**. Some accommodations may need documentation of need, such as a doctor's note or copy of an IEP.

**Celebrate Efforts:** Celebrate your child's participation and effort, regardless of the outcome. Focus on the learning experience and growth.

**Provide Feedback:** Provide constructive feedback to organizers to help improve future events.

**Respect Judging Results**

Parents and educators must respect the decisions made by the judging team. Direct interaction with judges, whether regarding a student's project, another participant's project, or judging outcomes, is strictly prohibited. Any attempt to influence, question, or discuss results with judges may result in disqualification of the student's project and/or ineligibility to participate in future years.

We understand that judging outcomes may not always align with personal expectations. However, continued harassment of judges or AzSEF officials will not be tolerated.

If you have concerns, please use the official AzSEF Grievance Form to submit them through the appropriate channel.

## 4.5 EDUCATOR CODE OF CONDUCT

The Educator's Code of Conduct is a reminder to assist and support students with research that emphasizes ethics, support, guidance, and fostering independence.

### BEFORE THE SCIENCE FAIR:

**Integrity:** Encourage students to do authentic research. Talk to them about plagiarism and academic misconduct. Respect the confidentiality of students' data, and promote fairness and support to all students irrespective of their backgrounds. Avoid favoritism and provide equal opportunity to all students. Honesty, objectivity, and avoidance of conflicts of interest are expected during every phase of the research. The project should reflect independent research completed by the student(s) and represent only one year's work.

**Timely Guidance And Support:** Provide timely feedback on concerns and be willing to provide resources to students. Try to teach the students about data collection, analysis, and critical thinking.

**Legality:** Compliance with all federal, state, and local laws and regulations is essential. All projects must be approved by a Scientific Review Committee (SRC), and when necessary, must also be approved by an Institutional Review Board (IRB). You can find all the paperwork and rules for your reference at societyforscience.org/isef/international-rules.

**Create A Sense Of Independence And Professionalism:** Guide students to think critically and encourage them to try new things. Train them to embrace failure and encourage resilience in the face of challenges (lack of resources, etc.). Provide constructive feedback and teach them about professional boundaries while recognizing their effort and contributions.

**Respect For Confidentiality And Intellectual Property:** Confidential communications, as well as patents, copyrights, and other forms of intellectual property, must be honored. Unpublished data, methods, or results may not be used without permission, and credit must be given to all contributions to research.

**Cultural Sensitivity:** Try to look at problems or issues through the lens of the student. Build a relationship of trust and openness. Address any biases or stereotypes that may arise in your classroom (like non-STEM students afraid of scientific research) and discuss the relevance of inclusion, equity, and belonging.

**Proactive Decisions:** You, as an educator and/or mentor, have the responsibility to enable students to participate in your school/district/regional fair. If you need help identifying a science fair, reach out to your administrators or contact AzSEF@azscience.org. Look at the Educator Timeline of science fair milestones to help you through the process at azscience.org/AzSEF.

### ATTENDING AZSEF:

**Respect All Participants:** Treat all children, parents, educators, judges, and staff with respect and courtesy. Refrain from negative comments or behavior.

**Integrity:** Avoid any actions that may give your student an unfair advantage, such as tampering with other projects or influencing judges.

**Respect Venue Rules:** Follow all rules and guidelines set by the event organizers, including designated areas, timing, and safety protocols.

**Model Good Behavior:** Set a positive example for your student and other participants through your behavior and interactions. Adults are not allowed to be near students during judging.

If your student requires special accommodations, please communicate that need to the Fair Director **at least two weeks prior to the event**. Some accommodations may need documentation of need, such as a doctor's note or copy of an IEP.

**Celebrate Efforts:** Celebrate your student's participation and effort, regardless of the outcome. Focus on the learning experience and growth.

**Provide Feedback:** Provide constructive feedback to organizers to help improve future events.

**Respect Judging Results**
Educators are expected to respect the decisions made by the judging team. While we understand that not all outcomes may align with personal expectations, continued harassment of judges or AzSEF officials will not be tolerated and may result in student disqualification or ineligibility to participate in future years.

If you have concerns, please use the official AzSEF Grievance Form to submit them through the appropriate channel.

## 4.6 JUDGE CODE OF CONDUCT

The Judge's Code of Conduct is intended to ensure fairness, transparency, and professionalism during AzSEF.

**Equal Opportunity and Objective Evaluation:** All projects should be judged based on merit, without bias or favoritism. Evaluation should be impartial and use the criteria provided by the organization to assess the projects.

**Constructive Feedback:** Constructive, positive feedback reinforces the strengths of the projects and helps the students in the long term. Avoid Negative or discouraging comments while interacting with a student/project.

**Confidentiality:** Judges are to practice confidentiality before, during, and after judging at AzSEF. Judges are not to talk with participants, parents, or individuals who are not involved in the judging of a project about the process and/or deliberations. Discussion of results or anything other than constructive feedback with an individual student about their project is prohibited.

**Adherence to Rules:** Adhere to all rules and guidelines set by the event organizers. Ensure that your actions and decisions align with the established protocols. Report any issues, concerns, or irregularities to the organizers promptly.

**Conflict of Interest:** A conflict of interest occurs when a judge knows a participant in the category they are assigned to judge. If the judge discovers a potential conflict of interest due to knowing a student in the category they have been assigned to judge before AzSEF, it is the responsibility of the judge to notify the Judge Chair so that they can be assigned to a different category. If the judge becomes aware of a conflict of interest situation once arriving at AzSEF, it is their responsibility to immediately report that to the Judge Chair so they can be reassigned.

**Student Interviews:** Judges are representatives of the STEM community and are expected to engage with students in a professional, respectful, and encouraging manner. During interviews, ask open-ended questions that allow students to explain their process and understanding, while maintaining a neutral tone and avoiding personal questions or suggestions for improvement. Judging is not a coaching session. Treat all students equitably, gauge project complexity relative to grade level, and always honor student effort. Be punctual, prepared, and consistent in your evaluations. All project content and student responses must remain confidential. Any concerns about a project's content or appropriateness should be discreetly reported to the Judging Coordinator.

**Judging Responsibilities:**

1. The awarding of category **and special awards** is the decision of the judging team assigned to that category. The judging team will caucus, taking into consideration all judge's input. One individual will not determine category or special awards.
2. The determination of **Senior Division Best in Fair** awards will be made by a committee consisting of the Lead Judge from each category. The committee of Lead Judges will view and review all top projects and each category Lead judge is responsible for defending why that project should be named as one of the Best in Fair projects.

Failure to adhere to the Judge's Code of Conduct may result in removal as a Lead Judge, removal as a category judge, or being banned from judging AzSEF in future years.

## 5. AZSEF DISPLAY AND SAFETY REGULATIONS

To ensure a safe and professional environment for all participants and visitors, AzSEF follows strict display and safety regulations. All projects must be inspected and approved by the Display & Safety Committee before being exhibited at the fair.

Display Size Limits:
Projects must fit within the space provided and may not exceed the following dimensions:

- Width: 48 inches
- Depth: 30 inches
- Height: 94 inches (from the floor up, including table height)
- Anything that does not fit within these dimensions will not be allowed on display.

Items Allowed at the Project Display:

- Project board and abstract
- Photographs or diagrams (must have appropriate credit or permission)
- Models or devices only if they are safe and pre-approved
- Sealed non-hazardous samples (with prior SRC approval)

Prohibited Items at Display:

- Live animals, plants, or microbes
- Flames, heating elements, or batteries not properly enclosed
- Chemicals, liquids, or food items
- Sharp objects, glass, or pressurized containers
- Open or unsealed containers of any kind
- Personal information of participants (e.g., last names, addresses, schools)
- Any materials deemed unsafe or inappropriate by the use of commercial logos including known brands, institutional crests or trademarks, and flags unless integral or incidental to the project and approved by the Display & Safety Committee.
- Any reference to an institution or mentor that supported the finalist's research except as provided in an acknowledgement section of the poster and within official AzSEF paperwork, most notably Form 1C.

Safety Tips and Expectations:

- Moving parts must be securely fastened and shielded.
- No part of your project should pose a hazard to others attending the fair.
- The project display must be stable and not tip over easily.
- The project display must be visible during all operable hours of the exhibit hall without reliance on electricity or internet connections.

Inspection and Approval:

- All students must complete the Display & Safety inspection during check-in.
- Projects that do not meet requirements will not be allowed to compete until corrections are made.
- The Display & Safety Committee has the final say in what can and cannot be included.

For a full list of display rules and additional guidance, refer to the ISEF Display & Safety Regulations.

# 6. AZSEF SCIENTIFIC REVIEW COMMITTEES (SRC)

## 6.1 RESPONSIBILITIES OF THE SRC

All ISEF-affiliated fairs, including AzSEF and its regional partners, are required to have a Scientific Review Committee (SRC) responsible for reviewing student projects for compliance with rules, safety, and ethical standards. The SRC plays a critical role in ensuring that all projects meet the criteria set by the International Rules & Guidelines for Pre-College Science Research established by the Society for Science.

All schools, districts, or regional fairs are encouraged to assemble their own SRC. However, if a qualifying fair (a fair that sends students to AzSEF) is unable to assemble an SRC, then the AzSEF SRC at AzSEF@azscience.org will review and determine approval of a project prior to the start of any research.

- Pre-approval of Projects: Reviewing and approving required forms before the start of experimentation for projects involving:
  - ❍ Human participants
  - ❍ Vertebrate animals
  - ❍ Potentially hazardous biological agents (PHBAs)
  - ❍ Hazardous chemicals, devices, or activities

- Scientific Merit & Safety: Ensuring projects have sound methodology, pose no unnecessary risks, and follow all safety and ethical guidelines.
- Ongoing Oversight: Reviewing submitted paperwork throughout the process to ensure ongoing compliance.
- Final Review Prior to Competition: Verifying that all submitted projects meet the ISEF and fair-specific requirements before students are allowed to present at the competition.

## 6.2 SRC MEMBERS

An SRC must include a minimum of three members with varied backgrounds to provide a comprehensive review. This typically includes:

- A biomedical or behavioral sciences expert (especially important for projects involving human subjects).
- A science educator who is unaffiliated with the student/project being reviewed.
- At least one member with expertise in the subject matter of the project being reviewed.

Additional members may be added based on the types of projects submitted.

Teacher and Student Responsibilities regarding SRC

- Teachers and students must ensure all required forms are completed and submitted before starting any research that needs SRC approval.
- Projects that require SRC approval must be approved before testing can begin.
- The AzSEF SRC is available year-round to assist with questions and to provide reviews.
- AzSEF SRC contact: AzSEF@azscience.org

## 6.3 VERTEBRATE ANIMAL RULES

Projects involving vertebrate animals must be conducted with careful attention to animal welfare, and must follow all AzSEF and ISEF rules to ensure the humane and ethical treatment of animals in research.

**What Qualifies as a Vertebrate Animal?**

This includes any live, non-human animal with a backbone:

- Mammals
- Birds
- Reptiles
- Amphibians
- Fish
- Cephalopods

A project is not considered a vertebrate animal study if tissue is obtained from an animal that was euthanized for a purpose other than the student's project. (See ISEF's Tissue & Body Fluid Rules)

**Acceptable Research Settings**

Vertebrate animal studies are only allowed in the following settings:

- Home, School, or Field Settings
  - ❍ Only behavioral observations, supplemental feeding, or other non-invasive, non-harmful procedures are permitted.
  - ❍ No changes to diet, environment, or behavior that could cause stress, harm, or death are allowed.
- Regulated Research Institutions (e.g., universities, hospitals, veterinary clinics, zoos)
  - ❍ Must be supervised by a qualified scientist.
  - ❍ Must have Institutional Animal Care and Use Committee (IACUC) approval prior to the start of research.

**Prohibited Practices**

The following activities are strictly prohibited:

- Inducing stress, pain, or death, including the use of barbed hooks or live bait when catching fish
- Conducting predator-prey studies
- Performing surgeries (unless part of an approved institutional protocol)
- Euthanasia solely for research purposes
- Using embryos or fetuses from vertebrate animals in the third trimester or later without proper institutional oversight

**Approval Requirements**

All vertebrate animal studies must be reviewed and approved before research begins by:

- A Scientific Review Committee (SRC), and
- A Designated Supervisor familiar with animal care and handling
- Elementary and Junior Division require the Scientific & Institutional Review Form

Students working at regulated research institutions (RRI) must also:

- Obtain approval from an Institutional Animal Care and Use Committee (IACUC)
- Submit ISEF Form 5A (for research at regulated institutions)
- Submit ISEF Form 5B (supervisory information and protocols)

Care and Housing

- Animals must be provided with appropriate food, water, housing, and handling.
- Animals must not be subject to environmental stressors like extreme temperatures, overcrowding, or neglect.

Special Considerations

- Observation of animals in natural settings (such as wildlife studies) is allowed without SRC approval only if there is no interaction, trapping, or handling.
- Dissections of animals that were already deceased prior to the project may be allowed, but must still follow ethical guidelines and require SRC review.

Questions?

If you're unsure whether your project involves vertebrate animals or need guidance on the rules and approval process, email the AzSEF SRC at AzSEF@azscience.org.

## 6.4 POTENTIALLY HAZARDOUS BIOLOGICAL AGENTS (PHBA) RULES

Projects involving potentially hazardous biological agents (PHBA) require special oversight to protect student researchers, others, and the environment. PHBA include microorganisms (bacteria, viruses, fungi), recombinant DNA, human or animal tissues, and bodily fluids.

All PHBA projects must be approved by a Scientific Review Committee (SRC) before experimentation begins.

What is a PHBA?

PHBA includes:

- Microorganisms (wild-type or genetically modified)
- Human or animal tissues (e.g., blood, teeth, bones, hair with follicle)
- Bodily fluids (e.g., saliva, urine, feces, blood)
- Cultured cells (from humans or animals)
- Prion or prion-like proteins. This includes studies working with amyloid-b (Ab), tau, a-synuclein, transactive response DNA-binding protein of 43 kDa, and amyloid fibrils.
- Recombinant DNA
- Unknown environmental samples (e.g., pond water)

PHBA Project Requirements

- All PHBA projects must:
  - ❍ Be conducted using safe laboratory practices appropriate to the risk level (biosafety level).
  - ❍ Receive SRC approval before the project begins.
  - ❍ Use only non-pathogenic (non-disease-causing) strains unless working in an appropriate regulated research facility.

Projects involving PHBA may also require:

- Qualified scientist supervision
- Use of a regulated research institution (RRI) for higher-risk agents
- Proper disposal methods for cultures and agents

PHBA Biosafety Risk Assessment

The level of risk determines where and how research may be conducted. Use the Potentially Hazardous Biological Agents Biosafety Chart to understand biosafety levels (BSL) and requirements.

Research determined to be a Biosafety Level 2 (BSL-2) must be conducted in a laboratory rated BSL-2 or above and follow BSL-2 safety conditions throughout the study. (Commonly limited to a RRI).

Projects involving water samples collected from active Harmful Algal Blooms are considered BSL-2 studies.

Insect and arthropod vector-borne pathogens such as Malaria, Lyme, etc. are considered BSL-2 studies.

## 6.5 HAZARDOUS CHEMICALS, ACTIVITIES, OR DEVICES RULES

To protect the safety of all students, mentors, and the public, AzSEF follows strict guidelines for any research involving hazardous materials, activities, or devices. This includes—but is not limited to—experiments using:

- Hazardous chemicals (including acids, bases, flammable substances, and toxic compounds)
- Fire or explosives
- Controlled or dangerous equipment (e.g., lasers, firearms, high-voltage apparatus)
- Hazardous activities (e.g., operating machinery, handling sharp tools, or anything that could pose a risk of injury)

Requirements:

- All projects involving hazardous components must be approved by a Designated Supervisor and a Qualified Scientist if necessary.
- Students must complete Risk Assessment Form 3 and detail the safety precautions taken.
- Proper supervision and documented safety training are required before starting the project.
- Projects must comply with all local, state, and federal laws as well as school or lab safety policies.
- No hazardous materials, open flames, or potentially dangerous devices may be brought to the AzSEF fair site.
- Projects using chemicals with a Globally Harmonized System of Classification and Labelling of Chemicals (GHS) safety rating of 1, 2 or 3 or National Fire Protection Association (NFPA) safety rating of 3 or 4 must be conducted in a school or laboratory setting. Projects conducted with chemicals outside these ratings may be conducted in a home setting under the following conditions:
  a. Projects in a home setting must follow standard lab practices for chemical handling, safety, ventilation, and specific disposal procedures used as outlined in the Safety Data Sheets (SDS).
  b. Any cookware, utensils, and/or equipment used during the experimentation cannot be reused for food preparation.
  c. Be conducted with a Direct Supervisor with proper training and knowledge of the chemicals being used.
- Disposal procedures shall be described in sufficient detail to ensure compliance with EPA guidelines as outlined in the appropriate Safety Data Sheets. Examples include minimal quantities of chemicals that will require subsequent disposal; ensuring that all disposal is done in an environmentally safe manner. Proper chemical, sharps and other hazardous materials disposal must follow local, state, and federal guidelines.

Important Reminders:

- Projects involving firearms, explosives, or prescription drugs are generally prohibited.
- Safety is the top priority. If there's any uncertainty about whether a material or activity is hazardous, ask the SRC before beginning the project.
- All safety documentation must be submitted and approved before experimentation begins.
- The student researcher must minimize the impact of an experiment on the environment.

For more information on what qualifies as a hazardous chemical or activity, please refer to the ISEF Rules & Guidelines or contact the AzSEF Scientific Review Committee (SRC) for guidance at AzSEF@azscience.org.

# 7. THE INSTITUTIONAL REVIEW BOARD (IRB)

An Institutional Review Board (IRB) is a committee that evaluates the potential physical and/or psychological risks of research involving human participants. Any student project that includes human subjects—such as surveys, questionnaires, or interviews—must receive IRB approval before any research begins. At the school level, an IRB must consist of at least three members: a science educator not involved in the project(s) under review, a school administrator (ideally the principal or assistant principal), and one individual qualified to assess potential risks to participants. This third member must be a professional such as a physician, psychiatrist, physician's assistant, registered nurse, psychologist, or licensed social worker.

## 7.1 HUMAN PARTICIPANTS RULES

Research involving human participants must be conducted with the highest ethical standards and must comply with all AzSEF and ISEF guidelines to ensure the safety, rights, and well-being of all participants. This includes obtaining the appropriate approvals before any data is collected.

### Ethical Considerations

**Voluntary Participation:** All participants must take part voluntarily, with informed consent.

**Informed Consent:** Students must clearly explain the purpose, procedures, and any potential risks or benefits of the research to participants. Written consent must be obtained from participants (and their parents/guardians if they are under 18).

**Right to Withdraw:** Participants must be informed that they can withdraw from the study at any time, without penalty.

Review and Approval Requirements
All human participant research must be reviewed and approved by an Institutional Review Board (IRB) or an affiliated fair's Scientific Review Committee (SRC) before the project begins.
This includes projects involving:

- Surveys
- Questionnaires
- Behavioral studies
- Physical activities
- Taste tests
- Any use of medical or psychological procedures

### Prohibited Activities

Projects that pose more than minimal risk to participants are generally not allowed.

Studies involving the ingestion, inhalation, or injection of substances by human participants are strictly prohibited.

**Required Documentation**
Elementary and Junior Division must complete and submit:

- Research Plan
- Abstract
- Scientific and Institutional Review Form

Senior division students must complete and submit:

- ISEF Form 4 (Human Participants Form)
- A Research Plan detailing the study and methods
- Signed Informed Consent Forms from all participants and parent/guardian signatures for those under 18 years old
- When working with a facility where participants live or attend programming (e.g. retirement home, daycare, prison, etc.) written approval from the facility must be obtained as well as informed consents for the individual participants.

**Privacy and Confidentiality**
Personal information collected during the study must be kept confidential.

Data must be anonymized or coded to protect participants' identities.
Students are prohibited from disclosing results or data from their study to the participants.

Special Notes
Students must not begin recruiting participants or collecting data until official IRB or SRC approval has been granted.

Failure to obtain proper approval will result in the disqualification of the project from AzSEF.

If you have questions about your project or the required approval process, contact the AzSEF Scientific Review Committee at AzSEF@azscience.org.

# 8. ADDITIONAL INFORMATION

## 8.1 FORMS AND WHERE TO FIND THEM

Most student research projects require one or more official forms to ensure they are conducted ethically, safely, and in accordance with science fair rules. Completing the correct forms is an important part of the AzSEF and ISEF process, especially for projects involving human participants, animals, or potentially hazardous materials.

Senior Division students (grades 9–12) are required to follow the full ISEF rules and forms system. This ensures that high school-level projects—many of which involve more advanced research methods, sensitive topics, or increased levels of risk—meet national standards for scientific integrity, safety, and ethics. Proper documentation also prepares students for competition beyond the state level, including the Regeneron International Science and Engineering Fair.

**Elementary and Junior Division Forms:**

- **Research Plan:** Students in the Elementary and Junior Divisions must bring a brief written Research Plan to AzSEF. This document should summarize the project's purpose, hypothesis, procedures, and data collection method. It may be typed or handwritten and should show that the project was planned thoughtfully and conducted safely and ethically.
- **Abstract:** Students in the Elementary and Junior Divisions must bring a short abstract to AzSEF. This should be a brief summary of the project, including the purpose, what was done, and what was discovered. It does not need to follow the formal structure required in the Senior Division but should help students begin practicing how to communicate their work clearly and concisely. The abstract may be typed or neatly handwritten.
- **Scientific and Institutional Review Form:** Any Elementary or Junior Division student whose project involves human participants, animals, or potentially hazardous materials must complete a Scientific and Institutional Review Form and bring it to AzSEF. This form confirms that the project was reviewed and approved by a qualified adult or school-level review committee before the research began. It ensures that safety and ethical standards were followed and must be submitted alongside the Research Plan and Abstract, if required.
- You can find these and other important documents on our website at https://www.azscience.org/visit/events/arizona-science-engineering-fair-azsef/students/

**Senior Division Forms:**

All official forms for the Senior Division are provided by the Society for Science, the national organization that oversees ISEF. You can access them in two main ways:

- ISEF Rules Wizard (Recommended):
  - ❍ Use this step-by-step tool to find exactly which forms your project needs: https://ruleswizard.societyforscience.org
- ISEF Forms Page (Full list):
  - ❍ Download blank versions of all forms and instructions at: https://www.societyforscience.org/isef/forms

**Commonly Required Forms:**

Form 1: Checklist for Adult Sponsor – required for all projects

Form 1A: Student Checklist – required for all projects

Form 1B: Approval Form – required for all projects

Research Plan/Project Summary – required for all projects

Form 3: Risk Assessment – for projects using hazardous materials/devices

Form 4: Human Participants – for surveys, interviews, or other human testing
Form 5A/5B: Vertebrate Animals – for projects involving animals

Form 6A/6B: Potentially Hazardous Biological Agents – for projects using microorganisms, tissues, etc.

Form 7: Continuation Projects – if your project builds on previous research

Tips for Success:

- Complete all required forms before starting your research (with the exception of form 1C, the Regulated Research Institutional/Industrial Setting Form, which should be completed after experimentation is complete).
- Make sure your research plan is detailed and specific.
- If your project needs prior approval (e.g., human subjects), submit your forms to your school's SRC/IRB before beginning.

## 8.2 FREQUENTLY ASKED QUESTIONS

Q: **Who can participate in AzSEF?**
A: AzSEF is open to Arizona students in grades 5 through 12 who have completed a qualifying project and won first place at an approved regional or school-level science fair that feeds into AzSEF.

Q: **How do students qualify for AzSEF?**
A: Students qualify by winning first place at their school or regional feeder fairs. Each feeder fair sends a limited number of top projects to AzSEF.

Q: **What types of projects are allowed?**
A: Projects may cover any area of science, technology, engineering, or math, as long as they follow safety and ethical guidelines outlined by AzSEF and ISEF. A list of categories in each division can be found here:

- Elementary and Junior Division Categories
- Senior Division Categories

Q: **What forms are required for participation?**
A: Most projects require at least a Research Plan and Abstract. Projects involving human participants, animals, or hazardous materials also require additional approval forms, such as the Scientific and Institutional Review Form. See Chapter 8.1 for more information.

Q: **What if my child requires special accommodations?**
A: If your child requires special accommodations, please communicate that need to the Fair Director at AzSEF@azscience.org at least two weeks prior to the event. Some accommodations may need documentation of need, such as a doctor's note or copy of an IEP.

Q: **When and where is AzSEF held?**
A: AzSEF is typically held annually in the spring at a designated venue, most recently the Desert Financial Arena. Exact dates and locations are posted on the AzSEF website.

Q: **Can students submit continuation projects?**
A: Yes. Students who continue research from a previous year must clearly identify their project as a continuation and complete the necessary continuation form as well as include forms from all previous years. However, a continuation project should only present new data from the updated project. The raw data from a previous stage of the project

Q: **How are projects judged?**
A: Judges evaluate projects based on scientific thought, originality, thoroughness, skill, clarity, and presentation. They consider project complexity relative to the student's grade level.

Q: **What should students bring on the day of the fair?**
A: Students should bring their completed Research Plan, Abstract, any required forms, their project display, and any materials needed for demonstration.

Q: **What if I have a concern regarding judging, plagiarism, or inappropriate use of AI in a project?**
A: AzSEF has a formal grievance process. Concerns must be submitted in writing using the official grievance form.

## 8.3 SCIENCE FAIR PLANNING CHECKLIST FOR TEACHERS

### 1. Initial Planning

Get Approval – Obtain permission from the school administration to hold the science fair.

- ❍ Set a Date – Choose a date that allows students enough time to prepare for your fair and aligns with regional/state fair deadlines.
- ❍ Secure a Venue – Reserve a space such as the school gym, cafeteria, or library.
- ❍ Determine Fair Type – Decide if the fair will be competitive or non-competitive, individual or team-based.

### 2. Organizing Logistics

- ❍ Create a Budget – Determine funding sources for materials, awards, and fair setup.
- ❍ Recruit Volunteers & Judges – Find educators, parents, community members, or local professionals to help.
- ❍ Develop a Timeline – Set deadlines for project proposals, research, experiment completion, and display setup.
- ❍ Arrange Supplies – Ensure tables, display boards, and other necessary materials are available.

### 3. Establishing Guidelines

- ❍ Choose Project Categories – Decide on the types of projects (e.g., physical science, life science, engineering).
- ❍ Set Rules & Safety Guidelines – Ensure compliance with local/state fair regulations and safety standards.
- ❍ Provide a Project Handbook – Outline rules, expectations, and judging criteria for students, educators, and parents.

### 4. Student & Parent Engagement

- ❍ Announce the Fair – Send out flyers, emails, and announcements to students and parents.
- ❍ Hold an Informational Meeting – Explain the process, expectations, and answer questions.
- ❍ Distribute Project Proposal Forms – Require students to submit ideas for approval before starting experiments.
- ❍ Provide Resources – Share guides on the scientific method, engineering design process, and research tips.

### 5. Project Development Support

- ❍ Schedule Checkpoints – Set deadlines for project progress and offer educator feedback.
- ❍ Encourage Mentorship – Connect students with educators, parents, or professionals for guidance.
- ❍ Host Work Sessions – Provide time for students to ask questions or work on their projects in class.

**6. Fair Preparation**

- ❍ Confirm Judges & Volunteers – Finalize roles and provide training or guidelines.
- ❍ Prepare Score Sheets – Print rubrics for judging and feedback forms for students.
- ❍ Organize Displays – Assign tables or sections for project setup.
- ❍ Plan Awards & Recognition – Arrange for certificates, ribbons, or prizes for participants.

***7.* Fair Day Execution**

- ❍ Set Up the Venue – Arrange tables, signs, and necessary equipment.
- ❍ Welcome Participants & Judges – Provide instructions and schedules for the day.
- ❍ Oversee Judging – Ensure the process runs smoothly and fairly.
- ❍ Host an Awards Ceremony – Announce winners and recognize all participants.

**8. Post-Fair Wrap-Up**

- ❍ Thank Volunteers & Judges – Send appreciation emails or small tokens of gratitude.
- ❍ Gather Feedback – Collect input from students, parents, and judges for improvements.
- ❍ Encourage Further Participation – Help qualifying students advance to regional or state fairs.
- ❍ Document the Event – Take notes and save materials for planning next year's fair.

AZSEF

ARIZONA SCIENCE & ENGINEERING FAIR