



2022-23

**State Science & Engineering Fair of Florida
RULES SUPPLEMENT**

to the International Science & Engineering Fair Rules

<https://ssefflorida.com/>

It is the responsibility of the affiliated Regional Science & Engineering Fair Directors, Scientific Review Committees and Institutional Review Boards, students, and teachers to develop a complete knowledge and understanding of both the ***ISEF Rules & Regulations*** & the ***SSEF Rules Supplement***.

1. **SSEF has the right to make rules stricter than those stated by ISEF.**
2. **Review this SSEF Rules Supplement carefully so that you are aware of these additional requirements.**
3. The Regional Director **MUST** ensure that each person and committee involved in science research or intending to participate in an affiliated science fair receive copies of both *ISEF & SSEF Rules Supplement* documents and follow **ALL** the rules outlined within them.
4. All of the **RULES, REGULATIONS, and PROCEDURES** of the *ISEF* are in effect at each affiliated regional science fair and at the *SSEF of Florida*.
5. Regional and local fairs may also adopt more restrictive rules.
6. Teachers/Adult Sponsors are to critically review and approve projects/Research Plans **BEFORE** research/experimentation begins.

SSEF of Florida Scientific Review Committee

All Projects entering the SSEF of Florida are required to be reviewed and **APPROVED** by the SSEF of Florida Scientific Review Committee (SRC) before competition. In addition, all SSEF affiliated fair directors and selected representatives are required to participate in the final review process.

Only **APPROVED** projects are eligible for competition in the SSEF of Florida.

Members of the Scientific Review Committee (SRC) for the State Science and Engineering Fair of Florida are available to assist students, teachers, and Fair directors with rules questions.

For ISEF or SSEF of Florida rules questions, students, teachers, and fair directors may contact the SSEF of Florida Scientific Review Committee. Please reference the ISEF/SSEF rule(s) for which you need clarification.

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Eligibility for SSEF of Florida (In addition to ISEF rules p. 3)

1. Each SSEF of Florida affiliated fair may send to SSEF of Florida the number of projects allocated.
2. A student must be selected by the SSEF of Florida affiliated fair.
3. Each student is only allowed to enter one project. That project may include **NO MORE** than 12 months of continuous research and may **NOT** include research performed before January 2022.

4. Team projects must have no more than three members. Teams competing at SSEF of Florida must be composed of the original members who competed at the SSEF of Florida affiliated fair.
5. Students may compete in only one SSEF of Florida affiliated fair.
6. A research project may be 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.**

Abstracts (In addition to ISEF rules p. 30)

1. All abstracts for the **2023 SSEF MUST** be on the **approved 68th SSEF Abstract Form** which is available at www.ssefflorida.com.
2. The Official Approved and Stamped SSEF Abstract received on-site at SSEF must be displayed at or on the project board or in a non glass frame in front of display.
3. **No copies of the Abstract or Research Plan may be distributed to judges or to the public.**

Research Plan (In addition to ISEF rules p. 33)

The Research Plan is a detailed step-by-step outline of the student's involvement in procedures utilized during the research process, written prior to experimentation, and is required. The Research Plan should not include data and conclusions.

1. The Research Plan must include:
 - a. a materials list to include chemicals (with quantities and concentrations), apparatus, and organisms or subjects involved;
 - b. procedures written as specific steps that include safety precautions, aseptic techniques and disposal methods (if applicable);
 - c. procedures in which the student researcher is directly involved and/or if someone else performs a step, it must be clearly identified in the research plan;
 - d. A Project Summary is only required if the student makes a substantial change or clarification to the procedures outlined in the student's original Research Plan.

Bibliography (In addition to ISEF rules p. 33)

If a student uses procedures taken from a published study, laboratory standards, or equipment/kit manual, a complete citation **MUST** be included with the **Research Plan**; or the procedure **MUST** be completely written into the Research Plan.

1. If a student uses humans, non-human vertebrates, or PHBAs (Potentially Hazardous Biological Agents) in their research, a reference to the protection of human subjects, vertebrate subject care, or a reference to appropriate microbiological technique **MUST** be cited in their bibliography (see pages 23-25 ISEF Rules).
2. List the sources for safety information (ie: Safety Data Sheet (SDS), safety manuals). Do NOT include the printed SDS Sheets with the submitted Research Plan unless it is unavailable for reviewing online.

Human Participants Projects (In addition to ISEF rules pp. 8-11)

1. **Ethical concerns must always be considered by the local IRB.** Not all areas of study are appropriate for PreCollegiate Research. See ISEF Rule Book pages 8- 11.
2. Projects with greater than minimal risk require a Qualified Scientist. See ISEF Rule Book page 5 and Risk Assessment Guide (<https://sspcdn.blob.core.windows.net/files/Documents/SEP/ISEF/Resources/Risk-Assessment-Guide.pdf>)
3. Written parental consent is required for **ALL** projects involving minor human participants.

4. Student researchers with assent or consent forms must supply to the SSEF SRC the quantity of assent/consent forms using the **Verification of Informed Consent Form (VICF)** (www.ssefflorida.com) and a photo-copy of the earliest signed **Informed Consent Form** with names and signatures blacked out but NOT the dates blacked out.
5. If a student's project includes media, scripts, surveys, songs or lyrics, these must be reviewed by an IRB prior to experimentation and must be available for subsequent review at each level of participation. Rating of videos and/or video games must be provided in the research plan and on the informed consent form.
6. The only allowable options for informed consent procedures involving digital surveys are those outlined in ISEF's Online Survey Consent Procedures (<https://sspcdn.blob.core.windows.net/files/Documents/SEP/ISEF/Resources/Online-Survey-Consent-Procedures.pdf>).

Non-Human Vertebrates (In addition to ISEF rules pp. 12-14)

1. If the project includes non-human vertebrates, the **Mortality Report Form** (www.ssefflorida.com) must be submitted along with all other required forms **regardless of whether or not any deaths occurred**.
2. For the purposes of ISEF rules regarding non-human vertebrates (pages 12-14), "experimental procedures" include both adequate husbandry as well as experimental treatments.
3. For all projects using non-human vertebrates the bibliography **MUST** include an animal care reference (such as those on ISEF Rules pages 23-25).
4. Animals obtained from commercial sources or any captured invasive species may **NOT** be released into the environment.

Potentially Hazardous Biological Agents (PHBA) (In addition to ISEF rules pp. 15-18)

1. The following PHBAs are PROHIBITED for use in projects that participate in the SSEF of Florida:
 - a. A project involving research with any **Coronavirus particle is prohibited**.
 - b. The use of **wild-collected mushrooms** is prohibited.
 - c. Use of carbapenem-resistant Enterobacteriaceae (CRE), methicillin-resistant *Staphylococcus aureus* (MRSA), vancomycin-resistant *Enterococcus* (VRE), *Klebsiella pneumoniae* Carbapenemase (KPC) producing bacteria, and *Candida auris* and other related **resistant microbes is prohibited**.
 - d. Contact with emerging pathogens carried by arthropods (**mosquitoes, flies, etc.**) **vectors is prohibited**.
2. **Junior Section** researchers may NOT conduct BSL-2 PHBA projects. Junior section researchers may NOT work with virus particles, cyanobacteria, nor red tide.
3. **Senior Section** researchers may only conduct projects that involve virus particles, cyanobacteria, or red tide if conducted at a Regulated Research Institute (except bacteriophages, which require a minimum of a BSL-2 facility). See also "Work in the Field" rule #3 in this document.
4. Student researchers may only conduct projects that involve sub-culturing from Microbial Fuel Cells if conducted at a **Regulated Research Institute (RRI)**.
5. For PreCollegiate research, if a student opens an actively growing culture or subcultures, whether known or unknown microorganisms, the project will be treated as BSL-2, **even if opened for the purposes of disposal**.
 - a. An **initial subculture** from a known stock culture may be performed by **either a designated supervisor or qualified scientist mentoring the project**.
 - b. To retain BSL-1 designation, the **Designated Supervisor must perform the final disposal** so the student is not opening an active culture.
 - c. An example of **proper disposal** by a designated supervisor includes submerging sealed plates in 10% bleach solution, removing the seals, and opening the plates to be soaked for at least 30 minutes.

6. SSEF does not recognize ISEF exemptions of PHBA organisms (see ISEF Rulebook page 17) **when cultured**. Prior SRC approval is required for PHBA organisms. Students must also complete a Form 3 and Form 6A.
7. All PHBA projects **MUST include detailed, step-by-step procedures that include:**
 - a. personal protective equipment (PPE) to reduce risks to the researcher;
 - b. aseptic technique (standard microbiological procedures that prevent cross contamination);
 - c. sterilization of work surfaces before and after use as well as reusable equipment;
 - d. disposal of cultures and culture media in accordance with either ISEF rules or a Regulated Research Institution's published biohazard disposal procedure with appropriate documentation.
8. All PHBA projects **MUST include in the bibliography a reference for microbiological practices and aseptic techniques** (such as those on ISEF Rules pages 23-25).
9. All PHBA projects must include a **BSL1 or BSL2 checklist**, as appropriate, (www.ssefflorida.com) unless the work is conducted at a Regulated Research Institute (RRI). See ISEF rules, page 7, for the definition of an RRI.

Use of Hazardous Chemicals, Activities, or Devices (In addition to ISEF rules pp. 19-21)

1. Projects involving hazardous activities or devices **MUST include a Form 3** and be reviewed by the local SRC **PRIOR** to experimentation. Examples included by not limited to:
 - a. water-based or near-water venues including but not limited to operation or passage in a water-craft;
 - b. motorized vehicles.
2. Projects involving hazardous CHEMICALS **MUST** include a Form 3 and be reviewed by the local SRC **PRIOR** to experimentation. These are chemicals with a National Fire Protection Association (NFPA) ranking of 2 or higher. <https://www.flinnsci.com/sds/>
3. **Chemicals regulated by the state of Florida or a federal agency** must have documented permission and knowledge of legal requirements submitted with project paperwork for SRC prior approval to experimentation (ex. pesticides, fertilizer, petrochemical disposal, etc.).
4. **Junior Section** researchers may NOT work with Schedule 1 or 2 drugs.
5. **Senior Section** researchers may only work with Schedule 1 or 2 drugs at a Regulated Research Institute under the supervision of a Qualified Scientist that provides copies of the DEA Research License and completed DEA Form 222 as attachments to ISEF Form 2. DEA Controlled Substances (<https://www.dea.gov/drug-information/drug-scheduling>).
6. Projects involving the use of any projectile devices must be supervised by a qualified Designated Supervisor.
 - a. Projects involving firearms or archery must be conducted on a range and supervised by certified range personnel. A copy of the certification should be provided as an attachment to Form 3.
 - b. Range parameters must be described in the Research Plan.
7. Projects involving the use of CBD oil, Hemp oil, or related products are only permitted in the **Senior Section** and must be done at a Registered Research Institution (RRI).
8. Projects involving laser light (in the visible range OR above/ below) must include the following:
 - a. citation for eye-safety of the laser (for example: <http://www.lasersafetyfacts.com/laserclasses.html>);
 - b. for any/all lasers used: manufacturer, model name/number, class, emission wavelength and wattage (mW);
 - c. any amplification or focusing techniques used for ANY part of the project involving laser light;
 - d. a detailed description of the environment in which the experiment will be performed that includes:
 - i. eye safety, with explanation of rationale for the level of safety used;
 - ii. any shielding of laser equipment, including safety of power sources;
 - iii. the removal or covering of all reflective surfaces in the environment;
 - iv. the containment of laser emissions within a controlled area, such as covering all windows and doors.

include
reflective
surfaces

9. Additional rules regarding the use of drones (in addition to ISEF rules page 20):
 - a. All unmanned remote operated aircraft, subsequently referred to as drones, must be registered with the FAA at <https://faadronezone.faa.gov/#/>
 - b. All drone flights require the **presence** of the Designated Supervisor.
 - c. A description of the safe environment in which the drone is operated must be included in the Research Plan.
 - d. Use of drones must adhere to **Florida State Statute 934.50** as well as all local and ISEF rules on such craft. If drones are used in a research project, documentation of adherence to local and state requirements must be included in the Research Plan procedures and on Form 3.
(http://www.leg.state.fl.us/statutes/index.cfm?App_mode=Display_Statute&URL=0900-0999/0934/Sections/0934.50.html).

Work in the Field

1. When research is carried out on private property, prior written permission from the property owner must be secured and submitted with project paperwork. City, county, and/or state parks may require prior approval for students to collect samples. If so, all approvals must be secured and submitted with project paperwork.
2. **Environmental water sample collections:** Because of the seriousness of the effects of exposure to water containing cyanobacteria or red tide:
 - a. under NO circumstances may any student make collections or samplings during an active cyanobacteria or red tide bloom. Current blooms: <https://floridadep.gov/AlgalBloom>.
 - b. documentation must be provided that confirms samples were collected during nonbloom periods.
3. Any project involving the collection of protected/regulated organisms, whether plants or animals, **MUST** include documentation from appropriate governmental agencies in their original paperwork submission to the SRC.
 - a. Collection of aquatic animals or plants must be made under the supervision of a holder of the state's Educator's Aquatic Collection Permit. (<https://myfwc.com/license/saltwater/special-activity-licenses/>)
 - b. Anything on the noxious weed or prohibited plant lists would require a permit from FDACS, unless the plant is growing on the researcher's own property and will not be transported from that property.
Invasive species: <https://floridainvasivespecies.org/plantlist.cfm>
Endangered and protected species:
<https://www.fdacs.gov/Consumer-Resources/Protect-Our-Environment/Botany>
4. Appropriate disposal methods for organisms used MUST be listed in the Research Plan.
 - a. Aquatic plants should be frozen for at least 24 hours or dried completely before being disposed of in the household garbage. Non-native plants should be sealed in plastic bags before being disposed of in the household garbage. **NEVER** compost or dispose of non-native plants with landscaping waste.
 - b. Non-native animals **MUST NOT** be released, even if they were caught in the wild. BEFORE starting a project involving non-native animals (example - Cuban tree frogs, lionfish), contact the Florida Fish and Wildlife Conservation Commission for appropriate disposal techniques (remember, student researchers cannot euthanize vertebrates).
 - c. Organisms collected from the wild or purchased and subjected to experimental treatments may not be released into the environment after experimentation.
5. When collecting organisms with potential toxicity, precautions must be documented in the Research Plan.

6. Projects involving archeological or paleontological excavations **MUST** be accompanied by appropriate documentation from the state organization or governmental agency responsible for oversight of such procedures. This documentation must be submitted with other required paperwork to the SRC.
 - a. It is illegal to dig for artifacts without the landowner's permission.
 - b. On state-owned and controlled lands, including sovereignty-submerged lands, a **permit** from the **Divisions of Historical Resources (DHR), Bureau of Archaeological Research is required** to conduct archeological investigations. Digging for artifacts on **state** lands without a permit from DHR is a felony (*Sections 267.061 and 267.12-13, Florida Statutes, and Chapter 1A-32, Florida Administrative Code.*)
<https://dos.myflorida.com/historical/archaeology/public-lands/research-permits/>
Permits for vertebrate fossil excavation:
<https://www.floridamuseum.ufl.edu/vertpaleo/amateur-collector/fossil-permit/permit-application/>
 - c. Digging on **federal** land requires a permit and illegal digging is a felony offense. Contact the federal land manager for more information on obtaining permission to dig on federal lands.

Display and Safety (In addition to ISEF rules pp. 26-28)

1. There will be no electricity available at the SSEF of Florida.

OFFICIAL 68th SSEF OF FLORIDA ABSTRACT & CERTIFICATION

Project Title

(must match Display & Entry Title)

Student/Team Leader Name

School, City, State

Team Project?

Yes ☐ No ☐

Category

Pick one only -
Mark an "X" in
Box at right

- Animal Sciences ☐
- Behavioral & Social Sciences ☐
- Biomedical & Health Sciences ☐
- Cellular/Molecular Biology & Biochemistry ☐
- Chemistry ☐
- Earth & Environmental Sciences ☐
- Engineering ☐
- Environmental Engineering ☐
- Intelligent Machines, Robotics & Systems Software ☐
- Mathematics & Computational Sciences ☐
- Microbiology ☐
- Physics and Astronomy ☐
- Plant Sciences ☐

1. As a part of this research project, the student directly handled, manipulated, or interacted with (check ALL that apply):
 - ☐ human subjects ☐ potentially hazardous biological agents
 - ☐ vertebrate animals ☐ microorganisms ☐ rDNA ☐ tissue
2. This abstract describes only procedures performed by me/us, reflects my/our own independent research, and one year's work only.
☐ Yes ☐ No
3. I/we worked or used equipment in a regulated research institution or industrial setting. ☐ Yes ☐ No **Form 1C required**
4. This project is a continuation of previous research. ☐ Yes ☐ No **Form 7 required**
5. The display board includes non-published photographs/visual depictions of humans (other than myself): ☐ Yes ☐ No
6. All photos on display were taken by: (check ALL that apply) **Citation required on display**
☐ Researcher(s) ☐ Research Teacher(s) ☐ Parent(s) ☐ Other
7. All charts/graphs/illustrations were produced by the researcher(s). **Citation required on display**
☐ YES ☐ NO

I/We hereby certify that the above statements are correct and the information provided in the Abstract is the result of one year's research. I/We also attest that the above properly reflects my/our own work.

Finalist or Team Leader Signature

Date

FOR
OFFICIAL
USE ONLY

State Science and Engineering Fair of Florida

Verification of Informed Consent Form VICF (assent or consent) For a Human Participants' Research Study

This form confirms the number of human participants involved in this study.

I verify that _____ has collected _____ appropriately
Student researcher # of forms
signed and dated informed consent forms (assent or consent) for the research
project for the _____ academic year.

Attached is a copy of a completed consent form with the name and signature redacted and date showing.

A completed Verification of Informed Consent Form (VICF) must be presented to the Display and Safety Committee at project check in. It must list the quantity of assent or consent forms completed by human participants, as well as the date range for the forms. One completed consent form with name and signature redacted and date showing must also be presented at check in with the VICF. Note: The VICF with the redacted consent form attached must also be included with the paperwork submitted to SRC.

The student researcher has been informed about the requirement to hold original forms for a period of no less than 3 years.

Adult Sponsor Signature

Date

Student Researcher Signature

Date

SSEF of Florida Mortality Report

- This form is required for all research involving vertebrate animals. This form must be completed at the conclusion of research even if no deaths occurred.
- **NO vertebrate animal deaths due to the experimental procedures are permitted in any group or subgroup.** Such a project will fail to qualify (FTQ) for competition. *See Intel ISEF Rules and Guidelines.*
- If there was any weight loss or death of an animal during the experimentation, the cause must be investigated.
- If a member of any experimental group or subgroup dies during experimentation a **degreed professional with experience in necropsy** must document cause of death and absence of connection to experimentation.
- Mortality must be calculated for each group, subgroup, and the total research population.

Registrant's Name: _____ Region _____
First Name Middle Initial Last Name Sir Title (Jr., II, etc)

Project Title: (must match ABSTRACT title)

Genus/Species Name: _____ Common Name: _____

Study Group Statistics: NUMBER Used NUMBER Deaths

Control Group: _____ _____

Experimental Factor: (No Exposure or Treatment)

Cause(s) of Death (*attach official Letter*): _____

Study Group Statistics: NUMBER Used NUMBER Deaths

Experimental Group #1 _____ _____

Experimental Factor: _____

Cause(s) of Death (*attach official Letter*): _____

Study Group Statistics: NUMBER Used NUMBER Deaths

Experimental Group #2 _____ _____

Experimental Factor: _____

Cause(s) of Death (*attach official Letter*): _____

Study Group Statistics: NUMBER Used NUMBER Deaths

Experimental Group #3 _____ _____

Experimental Factor: _____

Cause(s) of Death (*attach official Letter*): _____

TOTAL NUMBER USED: _____ TOTAL DEATHS: _____

*Attach **required** letter-* if a member of any experimental group or subgroup dies during experimentation **a degreed professional with experience in necropsy** must document cause of death and absence of connection to experimentation.