# From Review to Approval: Navigating SRC

**Trudi Skinner**

*TXSEF SRC & Display and Safety Chair*

Sept. 2025

TEXAS A&M UNIVERSITY
Engineering

# *Allowed or Not??*

**Scan to play!**

# *Allowed or Not??*

Students can begin surveying peers for their research project before receiving SRC/IRB approval.

# *Allowed or Not??*

**Human participants can be used as part of the research project without signed informed consent/assent forms.**

# *Allowed or Not??*

**Students can use publicly available, de-identified human data (like from government health databases) without SRC/IRB approval.** ✅ *(Yes, because it is considered exempt — no identifiable information is involved.)*

# *Allowed or Not??*

**Students can make minor changes to their research plan after SRC approval without submitting an amendment.**

# *Allowed or Not??*

**Students are allowed to conduct an engineering project at home, such as designing and testing a prototype, as long as safety precautions are followed.**

# *Allowed or Not??*

Students can conduct projects with common bacteria or small blood samples at home.

Students choose an option

# *Objectives:*

- Look at what is new in SRC and Display and Safety for the 2026 fair season
- Discuss most common SRC “oopsies”
- Identify Form Fouls
- Demonstrate the SRC Process by looking at some project scenarios

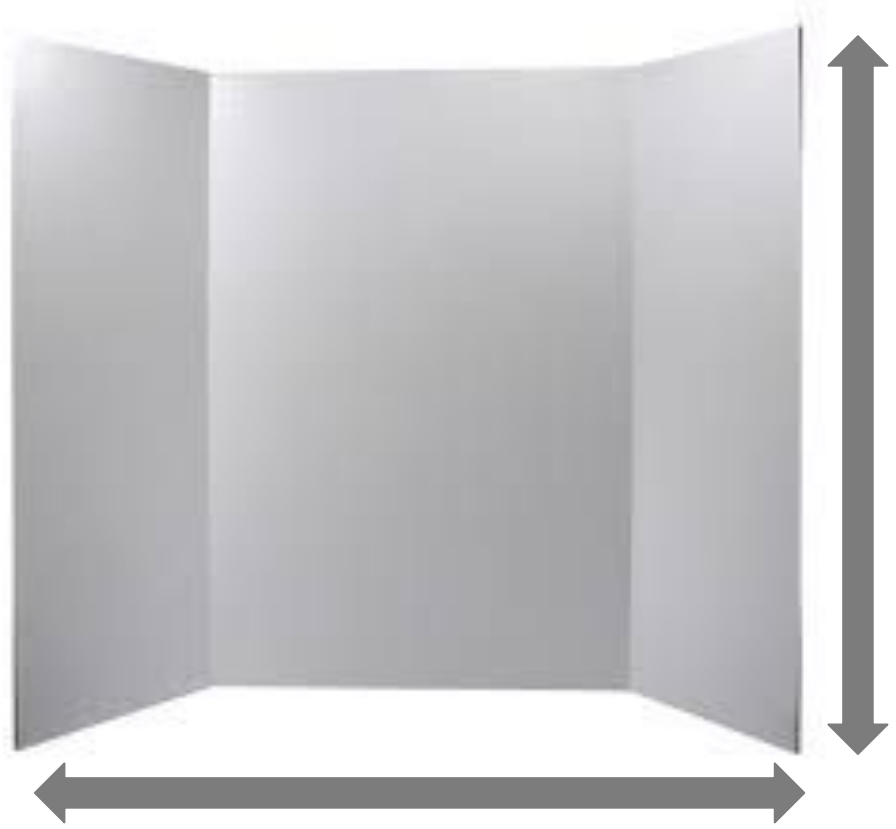

What’s New for SRC?

# Display and Safety: Board Height

TXSEF TEXAS Science & Engineering FAIR at TEXAS A&M UNIVERSITY

ISEF height = 240 cm (94.4 in)
**TXSEF** table height = 76.2 cm (30 in)

Depth: 76 cm (30 in)



163.8 cm (64.4 in)

122 cm (48 in)

ISEF Rules

# Human Participants

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**IRB= Internal Review Board**


**Consent and Accent for Everyone Under 18!**


If using a facility, must get written consent from the facility and parents.

ISEF Rules

# Vertebrate Animals

**Cephalopods are to be treated as animals.**

## Regarding Fishing

**Not Allowed:**

- Barbed Hooks
- Live Bait
- Electrofishing

ISEF Rules

# Potentially Hazardous Biological Agents

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BSL-2:

- procedures must be followed for the duration of the experiment and stated in research plan.
- Algae bloom water = BSL-2
- Arthropod vector-borne pathogens (Malaria, Lyme, ect.) = BSL-2

Prions Not Allowed:

- Amyloid-b (Ab)
- amyloid fibris
- tau
- a-synuclein
- transactive response DNA-binding of 43 kDa

C. elegans and Drosophila are permissible but in BSL-2 lab.

ISEF Rules

# Hazardous Chemicals, Activities or Devices

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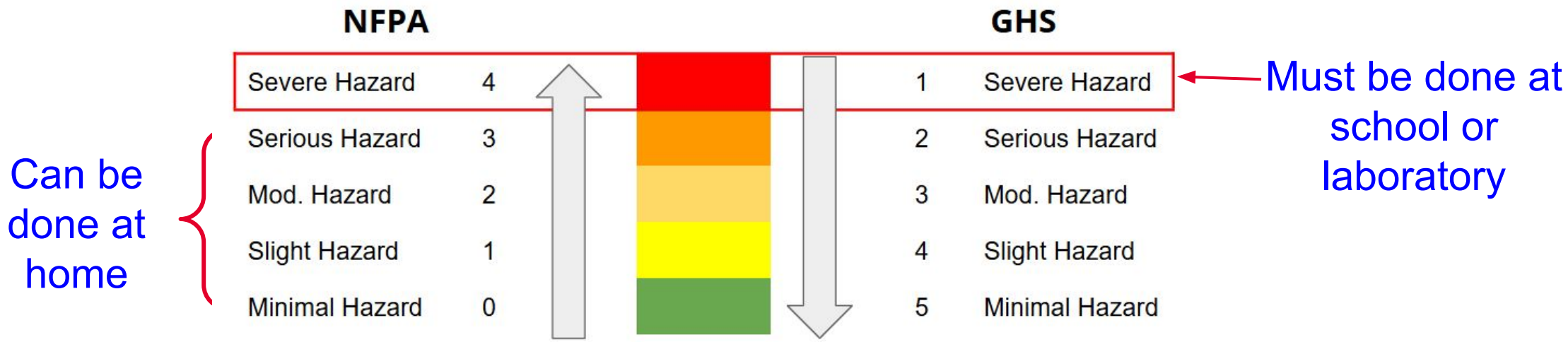
**National Fire Protection Association** **Globally Harmonized System**




- Home setting = still must follow all SDS procedures
- Any utensils/cookware used for experiment can not be reused for food
- Direct supervisor must be trained when chemicals are involved
- Follow all SDS instructions for use and disposal

ISEF Rules

# New Rules for 2026

Hazardous Chemicals, Activities, or Devices:

- Rules regarding chemical use has been added
- Projects using chemicals with a Globally Harmonized System of Classification and Labelling of Chemicals (GHS) safety rating of 1 or National Fire Protection Association (NFPA) safety rating of 4 must be conducted in a school, laboratory or RRI setting.
- Projects conducted with chemicals of a GHS rating of 2-5 may be done at home, school, or RRI if the chemical is used as intended.
- If chemical of GHS rating 2-5 is not being used as intended (i.e. mixed, increased temperature, use of large volumes, etc.) must be conducted in school or RRI.
- Always remember the following when using chemicals:

    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.

ISEF Rules

# AI

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Can be used to:

- compile data
- coding
- etc.

Cannot be used to:

- Write any portion of the Research Plan/project

**If used:**

Must state in procedures where/how it was used

Cite in bibliography in APA format

Good practice to have students print and have accessible the AI transcript in the event they are asked by a judge.

ISEF Rules

# Image and Graph Citations

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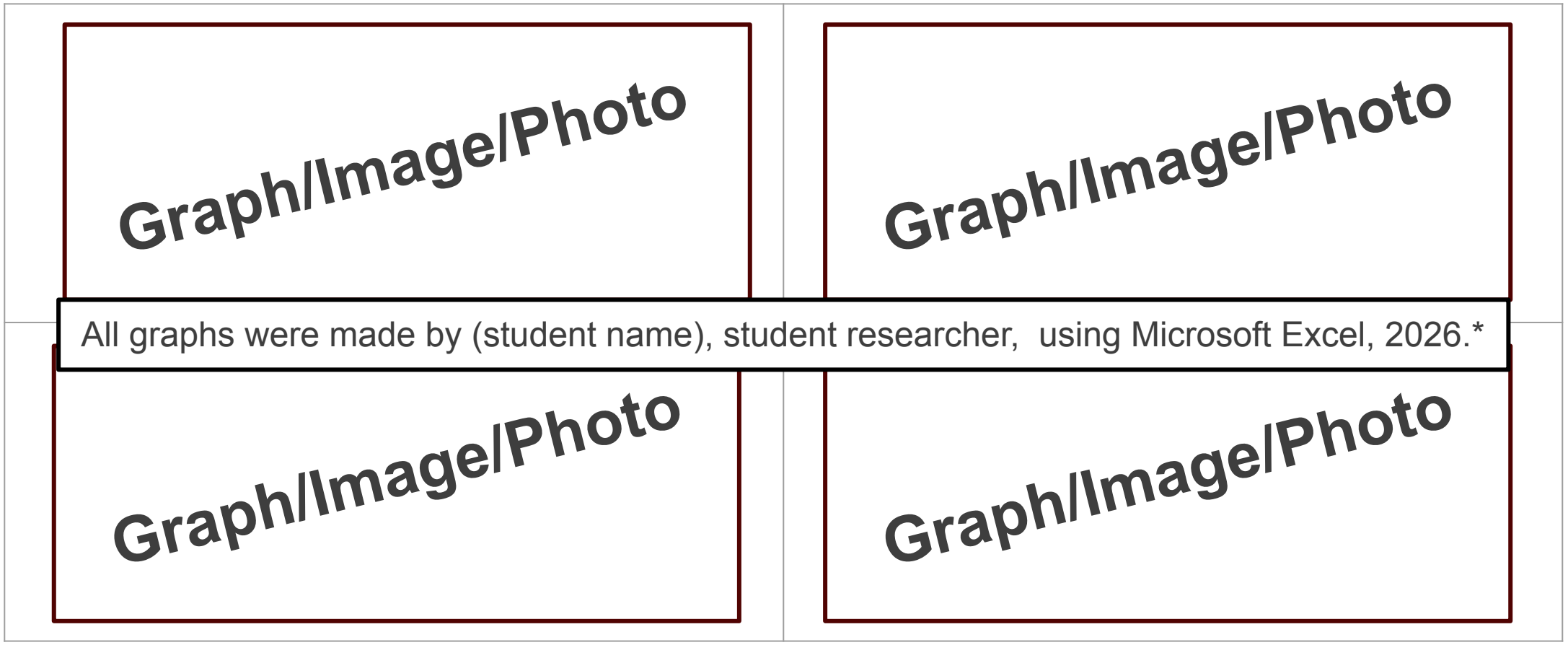
## Citation Examples

- Graphs made by student:
  The graphs (or tables) were created by (student name), student researcher using (insert the program/software used), 2026.
- Images show progression:
  Pictures 1-(however many) show progression and were taken by (student name), student researcher, 2026.
- If all images come from the internet and are from a journal article, then use citation protocol from a journal article, not image.
- Image made by student:
  Image was created by (student name), student researcher using (state the program), 2026.
- Image from internet:
  APA format, needs to be more specific than “Google images”
- Images/photos can be number/lettered and then cited all together on another location on the board.
- Must use font size that is large enough and easy to read.

ISEF Rules

# *Image and Graph Citations: Example 1*

TXSEF TEXAS Science & Engineering FAIR at TEXAS A&M UNIVERSITY




*All images were created by (student name), student researcher, using Canva, 2026.
*All photos were taken by (student name), student researcher, 2026.

ISEF Rules

# *Image and Graph Citations: Example #2*

TXSEF TEXAS Science & Engineering FAIR at TEXAS A&M UNIVERSITY

1

Internet Image

2

Internet Image

3

Internet Image

4

Internet Image

1: APA format Citation
2: APA format Citation
3: APA format Citation
4: APA format Citation

ISEF Rules

# Most Common SRC "Oopsies"

# *Most Common SRC "Oopsies"*

- **Opening unknown bacteria dishes:** Students may culture bacteria collected from surfaces, but the plates must remain sealed (taped shut) for the entire experiment, including during disposal, to stay within BSL-1 guidelines. If the plates are opened at any point, the work is considered BSL-2 and must be conducted in a BSL-2 laboratory.
- **Human participant:** If a student researcher collects data about themselves or includes themselves in the study, it is still considered a human participant study.
- **IRB Conflict:** A researcher's teacher cannot serve on the IRB for their project; it must be reviewed by someone else to ensure objectivity.
- **Signatures:** Make sure all paperwork has the correct signatures and are properly dated.


Project Reviews

# *Review Order*

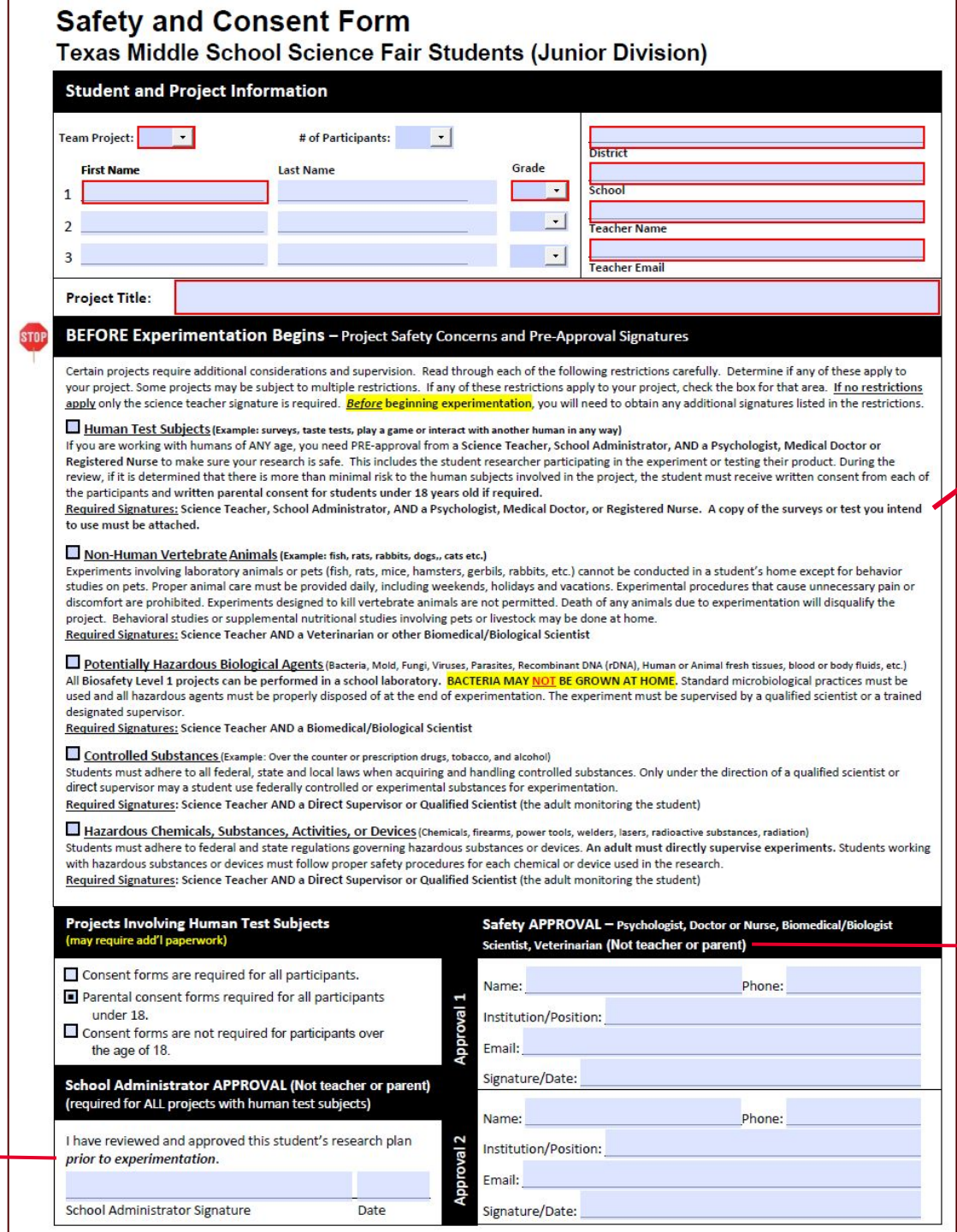
1. Abstract
2. Research Plan
    a. Separate Materials and Procedures
    b. Specific amounts should be used when referred to chemicals
    c. Safety precautions and disposal procedures should be stated
    d. Determine what other forms are needed
3. Check those forms thoroughly


Form Fouls

# *Abstract*

- ISEF is making slight changes that have not been released yet
- Stay tuned!

# *Jr. Division*



## Safety and Consent Form

### Texas Middle School Science Fair Students (Junior Division)

**Student and Project Information**

Team Project: ☐ # of Participants: ☐

| | First Name | Last Name | Grade |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| 3 | | | |

District

School

Teacher Name

Teacher Email

**Project Title:**

**BEFORE Experimentation Begins – Project Safety Concerns and Pre-Approval Signatures**

Certain projects require additional considerations and supervision. Read through each of the following restrictions carefully. Determine if any of these apply to your project. Some projects may be subject to multiple restrictions. If any of these restrictions apply to your project, check the box for that area. If no restrictions apply only the science teacher signature is required. *Before* beginning experimentation, you will need to obtain any additional signatures listed in the restrictions.

☐ **Human Test Subjects** (Example: surveys, taste tests, play a game or interact with another human in any way)
If you are working with humans of ANY age, you need PRE-approval from a **Science Teacher, School Administrator, AND a Psychologist, Medical Doctor or Registered Nurse** to make sure your research is safe. This includes the student researcher participating in the experiment or testing their product. During the review, if it is determined that there is more than minimal risk to the human subjects involved in the project, the student must receive written consent from each of the participants and **written parental consent for students under 18 years old if required.**
**Required Signatures: Science Teacher, School Administrator, AND a Psychologist, Medical Doctor, or Registered Nurse. A copy of the surveys or test you intend to use must be attached.**

☐ **Non-Human Vertebrate Animals** (Example: fish, rats, rabbits, dogs,, cats etc.)
Experiments involving laboratory animals or pets (fish, rats, mice, hamsters, gerbils, rabbits, etc.) cannot be conducted in a student's home except for behavior studies on pets. Proper animal care must be provided daily, including weekends, holidays and vacations. Experimental procedures that cause unnecessary pain or discomfort are prohibited. Experiments designed to kill vertebrate animals are not permitted. Death of any animals due to experimentation will disqualify the project. Behavioral studies or supplemental nutritional studies involving pets or livestock may be done at home.
**Required Signatures: Science Teacher AND a Veterinarian or other Biomedical/Biological Scientist**

☐ **Potentially Hazardous Biological Agents** (Bacteria, Mold, Fungi, Viruses, Parasites, Recombinant DNA (rDNA), Human or Animal fresh tissues, blood or body fluids, etc.)
All **Biosafety Level 1 projects can be performed in a school laboratory. BACTERIA MAY NOT BE GROWN AT HOME.** Standard microbiological practices must be used and all hazardous agents must be properly disposed of at the end of experimentation. The experiment must be supervised by a qualified scientist or a trained designated supervisor.
**Required Signatures: Science Teacher AND a Biomedical/Biological Scientist**

☐ **Controlled Substances** (Example: Over the counter or prescription drugs, tobacco, and alcohol)
Students must adhere to all federal, state and local laws when acquiring and handling controlled substances. Only under the direction of a qualified scientist or direct supervisor may a student use federally controlled or experimental substances for experimentation.
**Required Signatures: Science Teacher AND a Direct Supervisor or Qualified Scientist** (the adult monitoring the student)

☐ **Hazardous Chemicals, Substances, Activities, or Devices** (Chemicals, firearms, power tools, welders, lasers, radioactive substances, radiation)
Students must adhere to federal and state regulations governing hazardous substances or devices. **An adult must directly supervise experiments.** Students working with hazardous substances or devices must follow proper safety procedures for each chemical or device used in the research.
**Required Signatures: Science Teacher AND a Direct Supervisor or Qualified Scientist** (the adult monitoring the student)

**Projects Involving Human Test Subjects**
**(may require add'l paperwork)**

- ☐ Consent forms are required for all participants.
- ☐ Parental consent forms required for all participants under 18.
- ☐ Consent forms are not required for participants over the age of 18.

**School Administrator APPROVAL (Not teacher or parent)**
**(required for ALL projects with human test subjects)**

I have reviewed and approved this student's research plan *prior to experimentation*.

School Administrator Signature _____ Date _____

**Safety APPROVAL – Psychologist, Doctor or Nurse, Biomedical/Biologist Scientist, Veterinarian (Not teacher or parent)**

Approval 1
Name: _____ Phone: _____
Institution/Position: _____
Email: _____
Signature/Date: _____

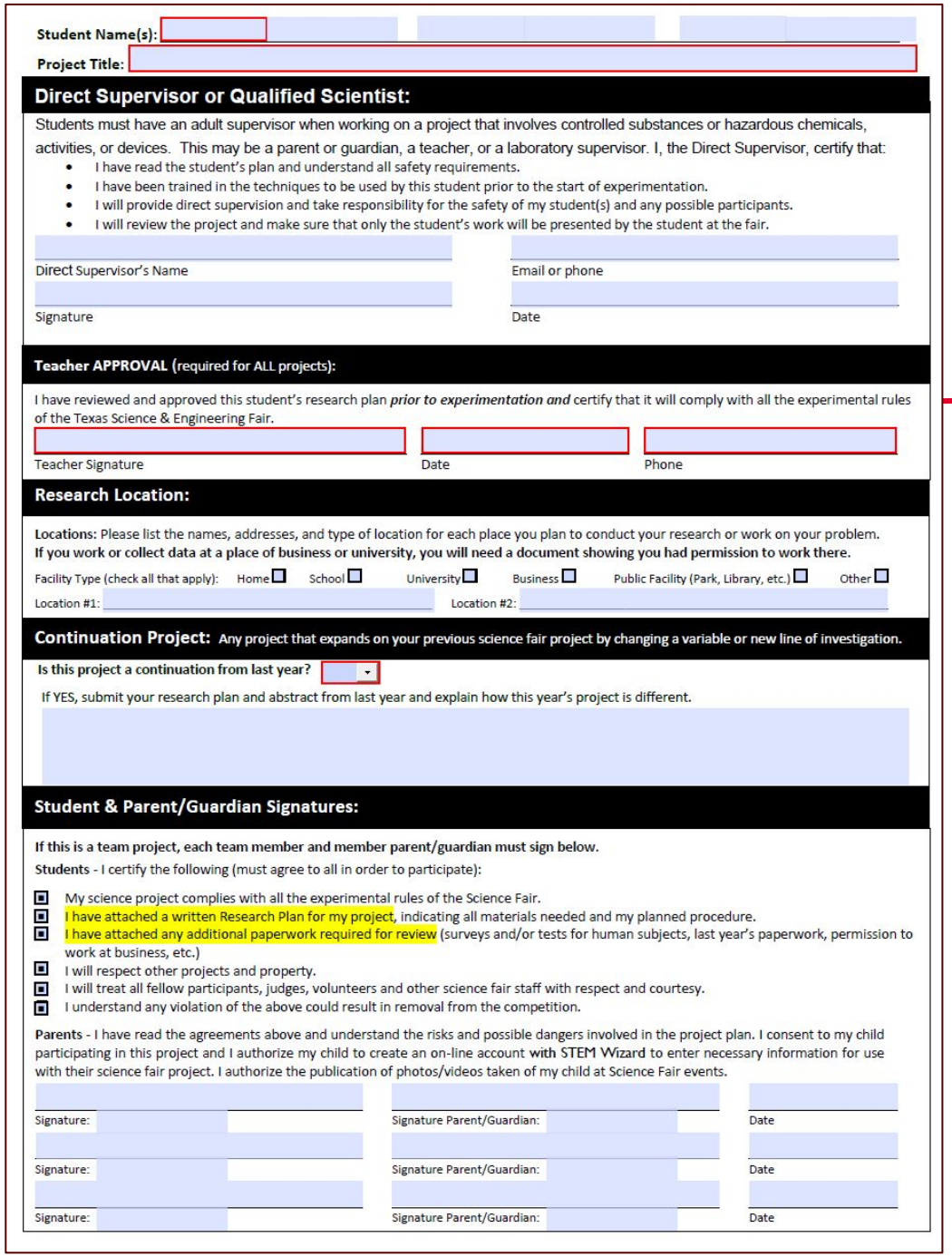
Approval 2
Name: _____ Phone: _____
Institution/Position: _____
Email: _____
Signature/Date: _____

A copy of the survey or test must be attached in STEM Wizard under Additional File.

Not teacher or parent

Prior to: date before experimentation start date

# *Jr. Division*



Student Name(s):

Project Title:

**Direct Supervisor or Qualified Scientist:**

Students must have an adult supervisor when working on a project that involves controlled substances or hazardous chemicals, activities, or devices. This may be a parent or guardian, a teacher, or a laboratory supervisor. I, the Direct Supervisor, certify that:

- I have read the student's plan and understand all safety requirements.
- I have been trained in the techniques to be used by this student prior to the start of experimentation.
- I will provide direct supervision and take responsibility for the safety of my student(s) and any possible participants.
- I will review the project and make sure that only the student's work will be presented by the student at the fair.

Direct Supervisor's Name | Email or phone

Signature | Date

**Teacher APPROVAL** (required for ALL projects):

I have reviewed and approved this student's research plan ***prior to experimentation and*** certify that it will comply with all the experimental rules of the Texas Science & Engineering Fair.

Teacher Signature | Date | Phone

**Research Location:**

**Locations:** Please list the names, addresses, and type of location for each place you plan to conduct your research or work on your problem. **If you work or collect data at a place of business or university, you will need a document showing you had permission to work there.**

Facility Type (check all that apply): Home ☐ School ☐ University ☐ Business ☐ Public Facility (Park, Library, etc.) ☐ Other ☐

Location #1: Location #2:

**Continuation Project:** Any project that expands on your previous science fair project by changing a variable or new line of investigation.

**Is this project a continuation from last year?**

If YES, submit your research plan and abstract from last year and explain how this year's project is different.

**Student & Parent/Guardian Signatures:**

**If this is a team project, each team member and member parent/guardian must sign below.**

**Students** - I certify the following (must agree to all in order to participate):

- ☐ My science project complies with all the experimental rules of the Science Fair.
- ☐ I have attached a written Research Plan for my project, indicating all materials needed and my planned procedure.
- ☐ I have attached any additional paperwork required for review (surveys and/or tests for human subjects, last year's paperwork, permission to work at business, etc.)
- ☐ I will respect other projects and property.
- ☐ I will treat all fellow participants, judges, volunteers and other science fair staff with respect and courtesy.
- ☐ I understand any violation of the above could result in removal from the competition.

**Parents** - I have read the agreements above and understand the risks and possible dangers involved in the project plan. I consent to my child participating in this project and I authorize my child to create an on-line account **with STEM Wizard** to enter necessary information for use with their science fair project. I authorize the publication of photos/videos taken of my child at Science Fair events.

Signature: | Signature Parent/Guardian: | Date

Signature: | Signature Parent/Guardian: | Date

Signature: | Signature Parent/Guardian: | Date

→ Prior to: date before experimentation start date

# *Jr. Division: Parent Consent? Minor Assent Template*

****SAMPLE ONLY! Make a copy to edit.****

**Human Informed Assent/Consent**
**Texas Middle School Science Fair Students (Junior Division)**

**Student Researcher(s):** _____
**Title of Project:** _____

Hi! I'm working on a science fair project and would like your help. Please read this form with your parent or guardian. It explains what I'll be doing in my project and what I'll be asking you to do. If you agree to participate, please sign at the bottom.

**About My Project**
**Why I'm doing this project:** (Write your project purpose in simple words.)

**What you'll be doing if you participate:** (Explain the activity, survey, experiment, etc.)

**How long it will take:** (Example: "About 10 minutes.")

**Are there any risks or things to watch out for?:** (Example: "Increase in heart rate or breathing rate due to exercise"

**How your privacy will be protected:** (Example: "Your answers will stay private. I won't use your name in my project.")

**Questions?**
If you or your parent/guardian have any questions, you can contact:
**Adult Sponsor/Teacher:** _____ **Phone or Email:** _____

**Your Participation is Voluntary**
You don't have to participate if you don't want to, and you can stop at any time. You don't have to answer anything you're uncomfortable with.

**Sign below if you agree to help me:**

| | |
|---|---|
| **Participant Assent:** | Date Reviewed & Signed: _____ |
| _____ | _____ |
| Research Participant Printed Name | Signature |
| **Parental/Guardian Permission:** (if applicable) | Date Reviewed & Signed: _____ |
| _____ | _____ |
| Parent/Guardian Printed Name | Signature |

Every human participant must have one of these.

# Form 1

## Checklist for Adult Sponsor (1)

**This completed form is required for ALL projects.**

**To be completed by the Adult Sponsor in collaboration with the student researcher(s):**

Student's Name(s): _____

Project Title: _____

1. ☐ I have reviewed the ISEF Rules and Guidelines, including the science fair ethics statement.
2. ☐ I have reviewed the student's completed Student Checklist (1A) and Research Plan/Project Summary.
3. ☐ I have worked with the student and we have discussed the possible risks involved in the project.
4. ☐ The project involves one or more of the following and requires prior approval by an SRC, IRB, IACUC or IBC:
   - ☐ Humans
   - ☐ Vertebrate Animals
   - ☐ Potentially Hazardous Biological Agents
     - ☐ Microorganisms ☐ rDNA ☐ Tissues
5. ☐ Items to be completed for **ALL PROJECTS**
   - ☐ Adult Sponsor Checklist (1)
   - ☐ Student Checklist (1A)
   - ☐ Research Plan/Project Summary
   - ☐ Approval Form (1B)
   - ☐ Regulated Research Institutional/Industrial Setting Form (1C) (when applicable; after completed experiment)
   - ☐ Continuation/Research Progression Form (7) (when applicable)

**Additional forms required if the project includes the use of one or more of the following** (check all that apply):

☐ **Humans,** including student designed inventions/prototypes. (Requires prior approval by an Institutional Review Board (IRB); see full text of the rules.)
- ☐ Human Participants Form (4) or appropriate Institutional IRB documentation
- ☐ Sample of Informed Consent Form (when applicable and/or required by the IRB)
- ☐ Qualified Scientist Form (2) (when applicable and/or required by the IRB)

☐ **Vertebrate Animals** (Requires prior approval, see full text of the rules.)
- ☐ Vertebrate Animal Form (5A)-for projects conducted in a school/home/field research site (SRC prior approval required
- ☐ Vertebrate Animal Form (5B)-for projects conducted at a Regulated Research Institution. (Institutional Animal Care and Use Committee (IACUC) approval required prior experimentation.)
- ☐ Qualified Scientist Form (2) (Required for all vertebrate animal projects at a regulated research site or when applicable)

☐ **Potentially Hazardous Biological Agents** (Requires prior approval by SRC, IACUC or IBC, see full text of the rules.)
- ☐ Potentially Hazardous Biological Agents Risk Assessment Form (6A)
- ☐ Human and Vertebrate Animal Tissue Form (6B)-to be completed in addition to Form 6A when project involves the use of fresh or frozen tissue, primary cell cultures, blood, blood products and body fluids.
- ☐ Qualified Scientist Form (2) (when applicable)
- ☐ The following are exempt from prior review but require a Risk Assessment Form 3: projects involving protists, archae and similar microorganisms, for projects using manure for composting, fuel production or other non-culturing experiments, projects using color change coliform water test kits, microbial fuel cells, and projects involving decomposing vertebrate organisms.

☐ **Hazardous Chemicals, Activities and Devices** (No SRC prior approval required, see full text of the rules.)
- ☐ Risk Assessment Form (3)
- ☐ Qualified Scientist Form (2) (required for projects involving DEA-controlled substances or when applicable)

☐ **Other**
- ☐ Risk Assessment Form (3)

☐ **I attest to the information checked above and that I have read and agree to abide by the science fair ethics statement.**

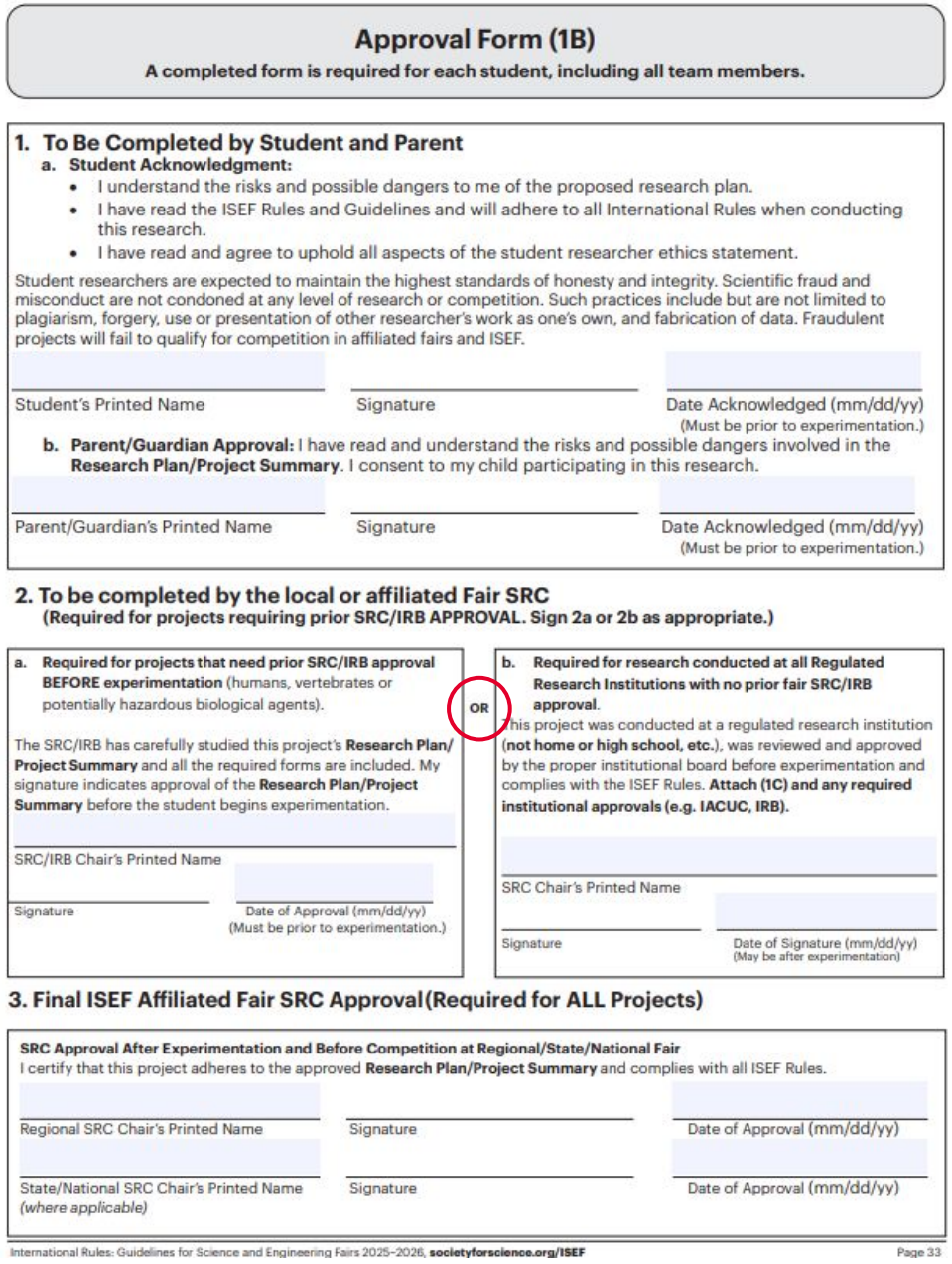
| Adult Sponsor's Printed Name | Signature | Date of Review (mm/dd/yy) |
|---|---|---|
| Phone | Email | |



Other forms are required if anything is checked in #4 or the bottom half of this form.

# Form 1B

This must be signed if the student's project requires SRC or IRB approval (Forms 4, 5A, or 6A) and the student did not work at a regulated research institution (RRI).



## Approval Form (1B)

**A completed form is required for each student, including all team members.**

**1. To Be Completed by Student and Parent**

**a. Student Acknowledgment:**

- I understand the risks and possible dangers to me of the proposed research plan.
- I have read the ISEF Rules and Guidelines and will adhere to all International Rules when conducting this research.
- I have read and agree to uphold all aspects of the student researcher ethics statement.

Student researchers are expected to maintain the highest standards of honesty and integrity. Scientific fraud and misconduct are not condoned at any level of research or competition. Such practices include but are not limited to plagiarism, forgery, use or presentation of other researcher's work as one's own, and fabrication of data. Fraudulent projects will fail to qualify for competition in affiliated fairs and ISEF.

Student's Printed Name | Signature | Date Acknowledged (mm/dd/yy) (Must be prior to experimentation.)

**b. Parent/Guardian Approval:** I have read and understand the risks and possible dangers involved in the **Research Plan/Project Summary**. I consent to my child participating in this research.

Parent/Guardian's Printed Name | Signature | Date Acknowledged (mm/dd/yy) (Must be prior to experimentation.)

**2. To be completed by the local or affiliated Fair SRC**
**(Required for projects requiring prior SRC/IRB APPROVAL. Sign 2a or 2b as appropriate.)**

**a. Required for projects that need prior SRC/IRB approval BEFORE experimentation** (humans, vertebrates or potentially hazardous biological agents).

The SRC/IRB has carefully studied this project's **Research Plan/Project Summary** and all the required forms are included. My signature indicates approval of the **Research Plan/Project Summary** before the student begins experimentation.

SRC/IRB Chair's Printed Name

Signature | Date of Approval (mm/dd/yy) (Must be prior to experimentation.)

OR

**b. Required for research conducted at all Regulated Research Institutions with no prior fair SRC/IRB approval.**

This project was conducted at a regulated research institution (**not home or high school, etc.**), was reviewed and approved by the proper institutional board before experimentation and complies with the ISEF Rules. **Attach (1C) and any required institutional approvals (e.g. IACUC, IRB).**

SRC Chair's Printed Name

Signature | Date of Signature (mm/dd/yy) (May be after experimentation)

**3. Final ISEF Affiliated Fair SRC Approval (Required for ALL Projects)**

**SRC Approval After Experimentation and Before Competition at Regional/State/National Fair**

I certify that this project adheres to the approved **Research Plan/Project Summary** and complies with all ISEF Rules.

Regional SRC Chair's Printed Name | Signature | Date of Approval (mm/dd/yy)

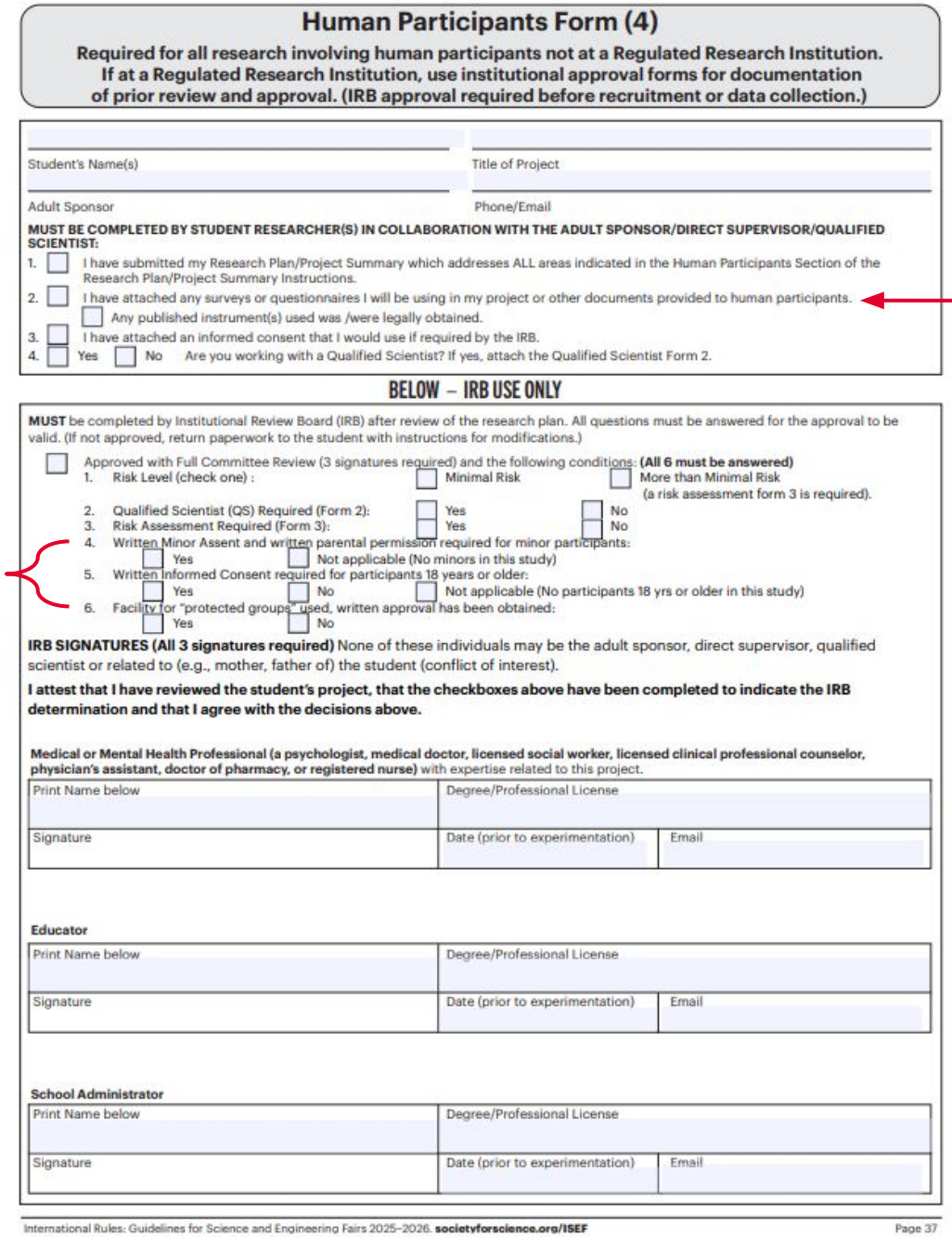
State/National SRC Chair's Printed Name *(where applicable)* | Signature | Date of Approval (mm/dd/yy)



This must be signed if the student worked at a regulated research institution (RRI), and the RRI was responsible for reviewing and approving the project before experimentation.

# Form 4

#4-6 have changed



## Human Participants Form (4)

**Required for all research involving human participants not at a Regulated Research Institution. If at a Regulated Research Institution, use institutional approval forms for documentation of prior review and approval. (IRB approval required before recruitment or data collection.)**

Student's Name(s) | Title of Project

Adult Sponsor | Phone/Email

**MUST BE COMPLETED BY STUDENT RESEARCHER(S) IN COLLABORATION WITH THE ADULT SPONSOR/DIRECT SUPERVISOR/QUALIFIED SCIENTIST:**

1. ☐ I have submitted my Research Plan/Project Summary which addresses ALL areas indicated in the Human Participants Section of the Research Plan/Project Summary Instructions.
2. ☐ I have attached any surveys or questionnaires I will be using in my project or other documents provided to human participants.
   ☐ Any published instrument(s) used was /were legally obtained.
3. ☐ I have attached an informed consent that I would use if required by the IRB.
4. ☐ Yes ☐ No Are you working with a Qualified Scientist? If yes, attach the Qualified Scientist Form 2.

**BELOW – IRB USE ONLY**

**MUST** be completed by Institutional Review Board (IRB) after review of the research plan. All questions must be answered for the approval to be valid. (If not approved, return paperwork to the student with instructions for modifications.)

☐ Approved with Full Committee Review (3 signatures required) and the following conditions: **(All 6 must be answered)**

1. Risk Level (check one) : ☐ Minimal Risk ☐ More than Minimal Risk (a risk assessment form 3 is required).
2. Qualified Scientist (QS) Required (Form 2): ☐ Yes ☐ No
3. Risk Assessment Required (Form 3): ☐ Yes ☐ No
4. Written Minor Assent and written parental permission required for minor participants: ☐ Yes ☐ Not applicable (No minors in this study)
5. Written Informed Consent required for participants 18 years or older: ☐ Yes ☐ No ☐ Not applicable (No participants 18 yrs or older in this study)
6. Facility for "protected groups" used, written approval has been obtained: ☐ Yes ☐ No

**IRB SIGNATURES (All 3 signatures required)** None of these individuals may be the adult sponsor, direct supervisor, qualified scientist or related to (e.g., mother, father of) the student (conflict of interest).

**I attest that I have reviewed the student's project, that the checkboxes above have been completed to indicate the IRB determination and that I agree with the decisions above.**

**Medical or Mental Health Professional (a psychologist, medical doctor, licensed social worker, licensed clinical professional counselor, physician's assistant, doctor of pharmacy, or registered nurse)** with expertise related to this project.

| Print Name below | Degree/Professional License | |
|---|---|---|
| Signature | Date (prior to experimentation) | Email |

**Educator**

| Print Name below | Degree/Professional License | |
|---|---|---|
| Signature | Date (prior to experimentation) | Email |

**School Administrator**

| Print Name below | Degree/Professional License | |
|---|---|---|
| Signature | Date (prior to experimentation) | Email |



A copy of the survey or test must be attached in STEM Wizard under Additional File.

# Form 6A

## Potentially Hazardous Biological Agents Risk Assessment Form (6A)

**Required for research involving microorganisms, rDNA, fresh/frozen tissue (including primary cell lines, human and other primate established cell lines and tissue cultures), blood, blood products and body fluids. SRC/IACUC/IBC approval required before experimentation.**

Student's Name(s)_____

Title of Project_____

**To be completed by the QUALIFIED SCIENTIST/DIRECT SUPERVISOR in collaboration with the student researcher(s). All questions are applicable and must be answered; additional page(s) may be attached.**

**SECTION 1: PROJECT ASSESSMENT**

1. Identify potentially hazardous biological agents to be used in this experiment. Include the strain, source, quantity and the biosafety level risk group of each microorganism.
2. Describe the biosafety level of the experimentation site.
3. Describe the procedures that will be used to minimize risk (personal protective equipment, safety cabinet type, etc.).
4. Describe the method of disposal of all cultured materials and other potentially hazardous biological agents. If BSL-2 laboratory, not at an RRI, include the **BSL-2 checklist**

**SECTION 2: TRAINING**

1. What training will the student receive for this project?
2. Experience/training of Direct Supervisor as it relates to the student's area of research (if applicable).

**SECTION 3: For ALL CELL LINES, MICROORGANISMS AND TISSUES – To be completed by the QUALIFIED SCIENTIST or Direct Supervisor - Check the appropriate box(es) below:**

- ☐ Experimentation on the microorganisms/cell lines/tissues to be used in this study will NOT be conducted at a Regulated Research Institution, but will be conducted at a (check one) ☐BSL-1 or ☐BSL-2 laboratory (include a copy of the **checklist for BSL-2**. [This study has been reviewed by the local SRC and the procedures have been approved prior to experimentation.]
- ☐ This project involves the culturing of Multi Drug Resistant Organisms (MDROs). It has been conducted in a BSL-2 or higher lab at a Regulated Research Institution and the required IBC pre-approval is attached. Date of IBC approval _____
- ☐ Experimentation on the microorganisms/cell lines/tissues to be used in this study will be conducted at a Regulated Research Institution and was approved by the appropriate institutional board prior to experimentation; institutional approval forms are attached. Origin of cell lines:_____ Date of IBC/IACUC approval _____
- ☐ Experimentation on the microorganisms/cell lines/tissues to be used will be conducted at a Regulated Research Institution, which does not require IACUC or IBC approval for this type of study.

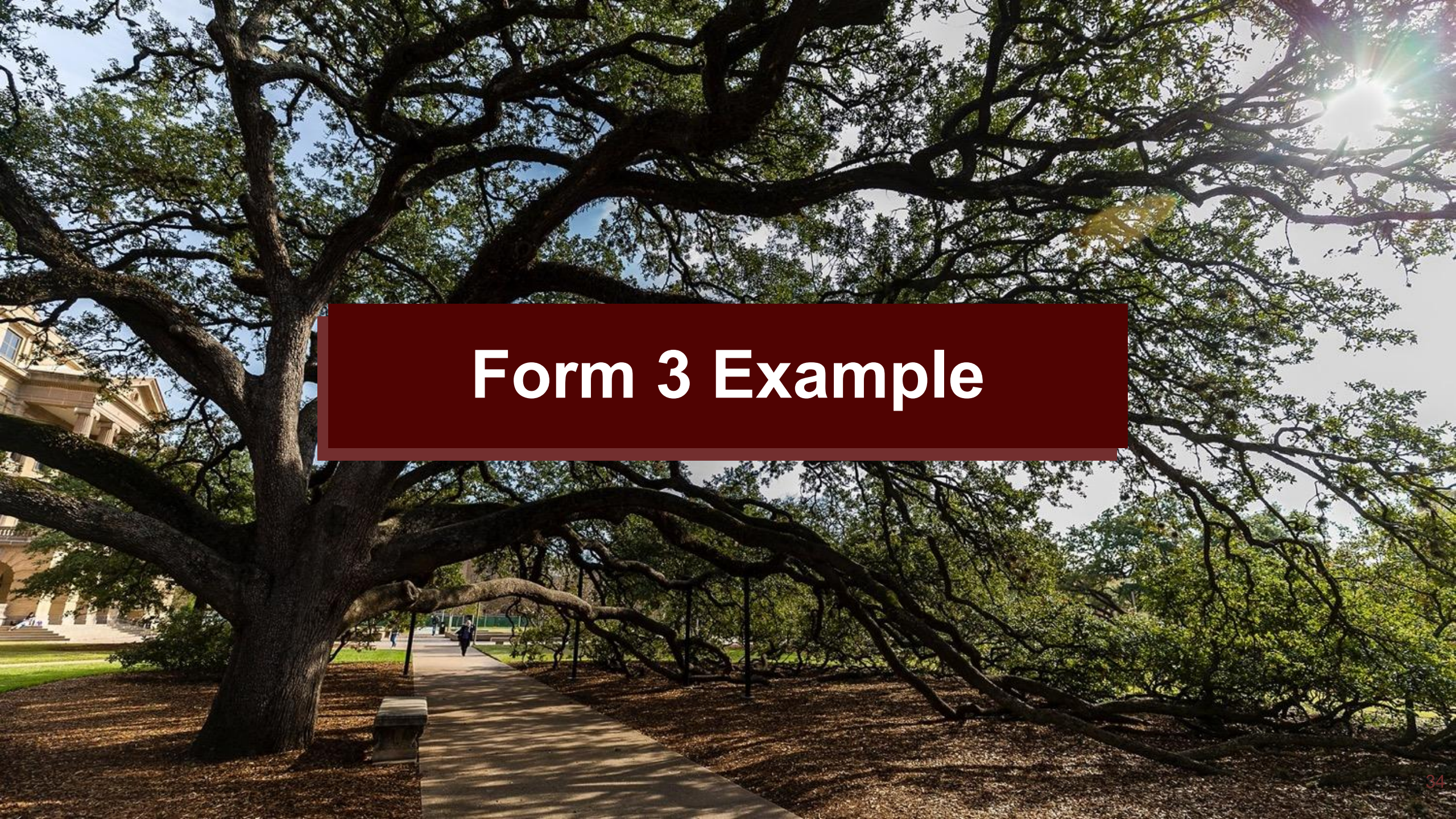
**CERTIFICATION – To be SIGNED by the QUALIFIED SCIENTIST or Direct Supervisor**

The QS/DS has seen this project's research plan and supporting documentation and acknowledges the accuracy of the information provided above. This study has been approved as a (check one) ☐BSL-1/ ☐BSL-2 study, and will be conducted in an appropriate laboratory.

QS/DS Printed Name | Signature | Date of review (mm/dd/yy)



Checklist attached in Additional Files


Form 3 Example

# Form 3

## Risk Assessment Form (3)

**Must be completed before experimentation; recommended for all projects. May be required for projects involving Human Participants, Hazardous Chemicals, Materials or Devices or Potentially Hazardous Biological Agents.**

Student's Name(s) Elias Navarro

Title of Project The Effect of Concentration on the Rate of reaction Between Hydrochloric Acid and Magnesium

**To be completed by the Student Researcher(s) in collaboration with Direct Supervisor/Qualified Scientist:** (All questions must be answered; additional page(s) may be attached.)

1. Identify and assess the risks and hazards involved in this project.

   Hydrochloric Acid GHS 2, NFPA 0; Magnesium Ribbon GHS 1, NFPA 4;
   Hydrochloric acid (HCl) is corrosive and can cause burns or irritation if it contacts skin or eyes. Reaction produces hydrogen gas, which is flammable. Use of glassware introduces risk of cuts from breakage. Magnesium ribbon may ignite if exposed to open flame.

2. a) List all hazardous chemicals, activities or devices to be used; b) identify and list all microorganisms to be used that are exempt from pre-approval (see Potentially Hazardous Biological Agent rules).

   a) 100 mL Hydrochloric acid (1.0 M, dilute). 10 g Magnesium ribbon (solid metal strips).Standard laboratory glassware (test tubes, beakers, graduated cylinders).
   b) None

3. Describe the safety precautions and procedures that will be used to reduce the risks. If you conducted field work, include permits received and safety plans, as applicable.

   Wear goggles, lab coat, and gloves at all times when handling chemicals. Conduct experiment in a well-ventilated area or fume hood. Keep hydrogen gas away from flames or sparks. Neutralize acid spills immediately with sodium bicarbonate solution. Handle glassware carefully; dispose of broken glass in designated container. Teacher supervision will be provided throughout experimentation.

4. Describe the specific disposal procedures that will be used (when applicable).

   Neutralize leftover hydrochloric acid with sodium bicarbonate before disposal. Magnesium residues will be collected and disposed of in solid waste according to school lab protocols. Glassware will be rinsed and cleaned with water in designated lab sinks.

5. List the source(s) of safety information.

   Safety Data Sheet (SDS) for Hydrochloric Acid (Fisher Scientific)
   Safety Data Sheet (SDS) for Magnesium Metal
   Flinn Scientific Laboratory Safety Guidelines
   Teacher-provided school laboratory safety contract


SRC Practice

# SRC Practice

TXSEF TEXAS Science & Engineering FAIR at TEXAS A&M UNIVERSITY

## ISEF Website for Rules:

## ISEF Forms:

ISEF Rules

# *Scenario 1*

A student collects water from a local pond to test for microbial growth due to eutrophication. They plate the samples on nutrient agar, incubate them for several days, and plan to compare colony growth from different pond locations (near a dock, near runoff from a golf course, and in open water).

Form 6A: PHBA Risk Assessment
Form 2: Qualified Scientist
Form 3: Risk Assessment

# *Scenario 2*

A student wants to see whether lemon juice, vinegar, and salt can slow bacterial spoilage on raw chicken muscle tissue. They purchase chicken breast from a grocery store, cut it into small samples, apply the preservatives, and observe microbial growth over time by plating swabs from the tissue onto agar.

Form 6A - PHBA Risk Assessment
Form 3 - Risk Assessment
Form 2 - Qualified Scientist

# *Scenario 3*

A student wants to test how 15 minutes of jogging affects blood glucose levels in teen volunteers. Participants agree to have a small amount of blood drawn with a finger prick both before and after exercising. The student plans to compare glucose levels using a glucometer.

**Is SRC needed?**

Form 4 - Human Participant From Human Informed Consent
Form 6A - PHBA Risk Assessment
Form 3 - Risk Assessment
Form 2 - Qualified Scientist

# *Scenario 4*

A student wants to test the fan blade shape in CAD, run Computational Fluid Dynamic simulations, then 3D-print prototypes to test on a fan to analyze airflow patterns, drag, and lift forces.

No forms needed.

# Q&A Time

TXSEF TEXAS Science & Engineering FAIR at TEXAS A&M UNIVERSITY

:Padlet

**Trudi Skinner**
**Spark! TAMU Engineering**
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ISEF Rules

# *Session Feedback*

How helpful was this session?

TEXAS A&M UNIVERSITY

Engineering

# *THANK YOU*